



MINERAL RESOURCES AND RESERVES REPORT

as at December 31, 2014

June, 2015



Dear Stakeholders,

With undisguised pleasure and satisfaction, I have the privilege to present you with the first edition of our Mineral Resources and Reserves Report. This report consolidates and systematizes information regarding the mineral resources and mineral reserves managed by KGHM Polska Miedź S.A. (KGHM).

By applying clear and consistent methodology in its preparation, we hope the report will provide you with a complete and comprehensive picture of the Company's portfolio of mining assets and mine development projects.

The development of KGHM over the past 60 years has been based on the quality and quantity of its resource base. Thanks to effective exploration and management, during the last decade KGHM has become a global, geographically diversified mining company. The mineral resources and reserves presented in this report ensure KGHM of sustainable global operations in the coming decades. As the development of our resource base is fundamental for achievement of our strategy, in the coming years we intend to carry out one of the most extensive exploration campaigns in our history, in order to enable us to identify additional mineral deposits to be described in subsequent editions of this report.

Sincerely,

A handwritten signature in blue ink, appearing to read 'H. Wirth' with a stylized flourish at the end.

Herbert Wirth
President and CEO

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This report is a translation from the original Polish version.
In the event of differences, reference should be made to the official Polish version.

Disclaimer

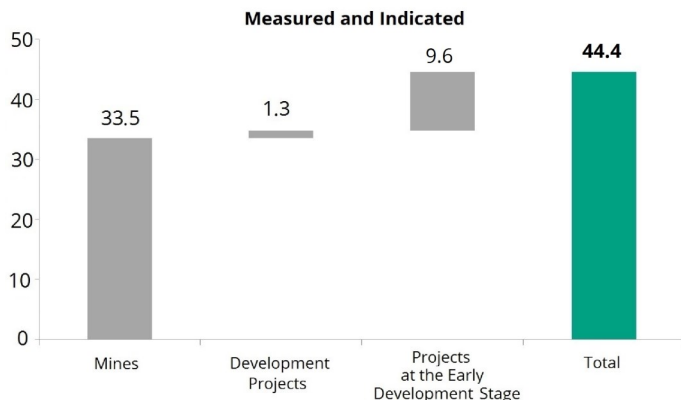
This report of KGHM Polska Miedź S.A. ("KGHM" or the "Company") constitutes fulfillment of the reporting obligations, is for informational purposes, and under no circumstances does it constitute or should be treated as an offer to sell or purchase any of KGHM's securities, or an invitation to submit such offers in any jurisdiction. No part of the report constitutes any basis for KGHM concluding any agreement or accepting any obligation. It must not be construed as investment advice or a recommendation within the meaning of the Ordinance of the Minister of Finance on information constituting recommendations on financial instruments and their issuers dated 19 October 2005. Recipients of the report bear sole responsibility for their own analyses and assessments on the market situation and the market itself, as well as the potential future results of KGHM.

The information concerning the quantity and quality of the mineral deposits referred to in this report was prepared based in part on data from the third parties indicated in the report. The statements on mineral reserves and resources included in this report were made on the basis of information available as at the dates indicated in the report, and they were formulated based on accepted standards of the professional estimation of mineral reserves and resources. However, the standards may vary depending on the mineral reserves and resources classification system applied to estimating mineral reserves and resources of individual assets of the Company. It should also be noted that any assessment, in particular an assessment on the exploration of mineral deposits covered by this report, and any related future events comes with some uncertainty related to the interpretation of geological and geophysical data, and may change significantly. Therefore, the assessment included in this report on the quantity of the mineral reserves and mineral resources should be treated as estimates only, which may change as new information on the progress of mining or other additional data emerge. Please also note that as a result of truncating or rounding values, in this report there may occur differences in the total and subtotal values.

In addition, certain statements contained in the report may constitute forward-looking statements. Forward-looking statements are based on the current assessment made by KGHM and, inevitably, on circumstances that will occur only in the future, which by their nature are dependent on a number of known and unknown risks beyond the Company's control. This means that some material risks may cause the actual mining, results, achievements and events that will occur in the future to be different from the data directly included or implied in this report. To the extent not required by the binding provisions of law, the Company does not undertake to publicly update or verify any forward-looking statements, whether as a result of obtaining new information or due to future events or other circumstances occurring.

Introduction

Resource Base of KGHM

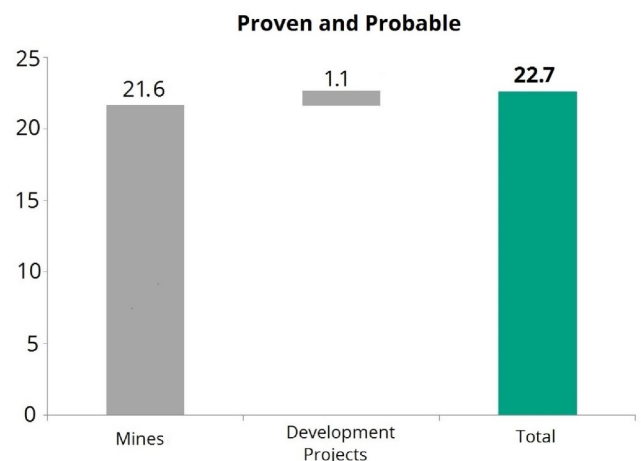


44.4 million tonnes of copper in identified measured and indicated resources*

8.7 million tonnes of copper in identified inferred resources

22.7 million tonnes of copper in identified proven and probable mineral reserves

* The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Proven and Probable Mineral Reserves.



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Independent expert opinion

Prof. Adam Piestrzyński, an independent expert, has verified the information regarding the mineral resources and reserves presented in the report. He has the appropriate experience related with these types of deposits and the associated mineralization, and based on his current professional activities Prof. Piestrzyński is a Qualified Person as defined by the Canadian National Instrument 43-101.

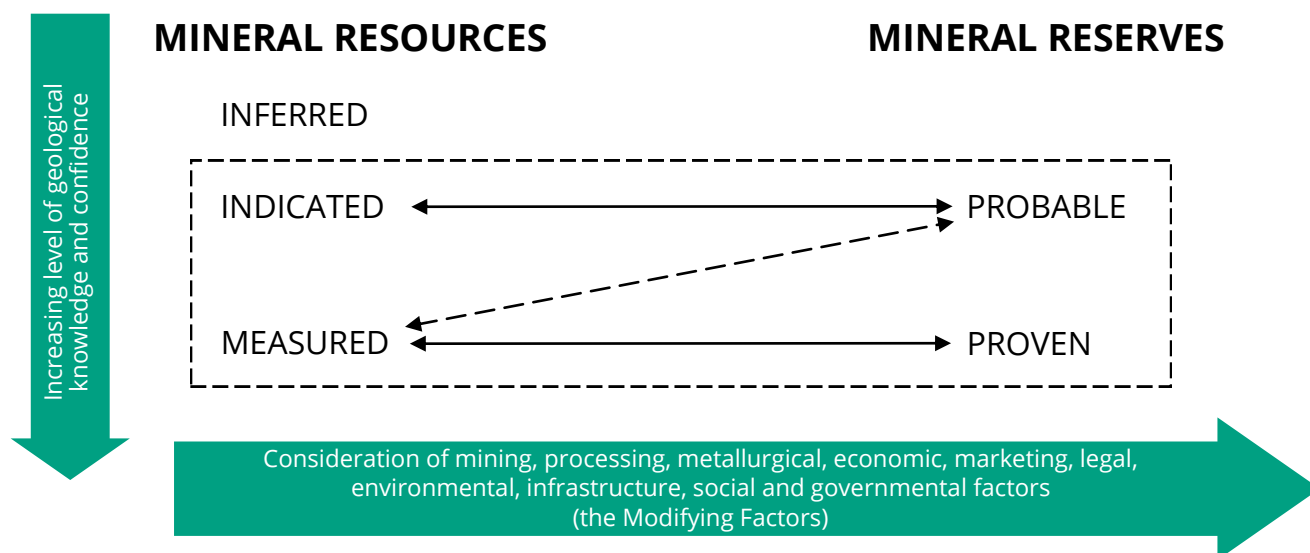


Prof. Adam Piestrzyński

Conversion of Resources and Reserves

Resources confidence categories

The specific confidence category applied depends on the degree of confidence in the quantity and quality of geological data and the degree of completion of relevant technical and economic analyses performed, which determine the criteria for estimating resources and the established method for interpreting data. In this report **the inclusive (hierarchical) method of resources presentation** is used, i.e. the Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Proven and Probable Mineral Reserves.



Canadian National Instrument 43-101

MINERAL RESOURCES

- ◆ Inferred Mineral Resources
- ◆ Indicated Mineral Resources
- ◆ Measured Mineral Resources

MINERAL RESERVES

- ◆ Probable Mineral Reserves
- ◆ Proven Mineral Reserves

Confidence categories according to Polish law*

MINERAL RESOURCES

- ◆ Category D
- ◆ Category C₂
- ◆ Category C₁
- ◆ Category B
- ◆ Category A

MINERAL RESERVES

- ◆ Inclusive method of presentation - Mineral Resources are inclusive of Mineral Reserves

The classifications of mineral resources and mineral reserves used in this report have been prepared in accordance with the standards set forth in Canadian National Instrument 43-101 and on the definitions established by the Canadian Institute of Mining, Metallurgy and Petroleum as CIM Definition Standards.

* The methodology of converting Polish confidence categories into NI 43-101-compliant confidence categories is described on page 33

Confidence categories according to NI 43-101 — Mineral Resources*

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

Inferred Mineral Resources

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of geological evidence and limited sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Indicated Mineral Resources

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors* in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve. Economic and sub-economic resources classified under Polish **category C₁ are equivalent to Indicated Mineral Resources**.

Measured Mineral Resources

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors* to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve. In terms of Polish confidence categories, economic and sub-economic resources classified under **category B are equivalent to Measured Mineral Resources**.

* definitions are described in detail on page 32

Confidence categories according to NI 43-101 — Mineral Reserves*

Mineral Reserves are sub-divided in order of increasing confidence into Probable Mineral Reserves and Proven Mineral Reserves. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve. A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors*. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

Proven and Probable Mineral Reserves

A 'Probable Mineral Reserve' is the economically mineable part of an Indicated (**equivalent to the Polish category C₁**), and in some circumstances, a Measured Mineral Resource (**equivalent to the Polish category B**). The confidence in the Modifying Factors* applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve. Probable Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study.

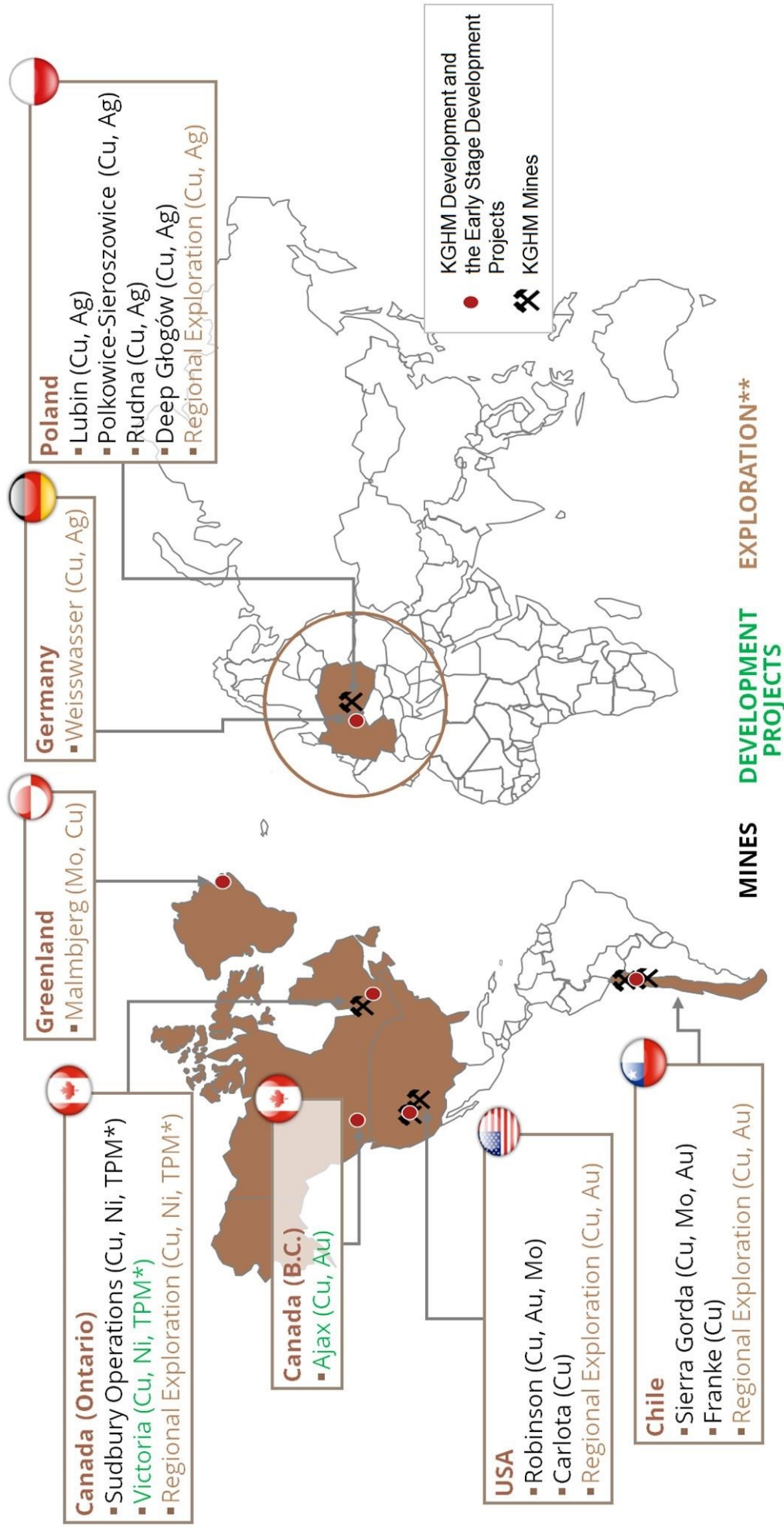
A 'Proven Mineral Reserve' is the economically mineable part of a Measured Mineral Resource (**equivalent to the Polish category B**). A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors*. The term should be restricted to that part of the deposit where production planning is taking place and for which any variation in the estimate would not significantly affect the potential economic viability of the deposit. Proven Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study.

* definitions are described in detail on page 32

Company Assets and Resources and Reserves Statement



Location Map of KGHM Assets



*TPM = TOTAL PRECIOUS METALS (PLATINUM, PALLADIUM, GOLD)

**REFERS TO PROJECTS AT THE EARLY DEVELOPMENT STAGE AND REGIONAL EXPLORATION

MINES

POLAND



In Poland KGHM operates three wholly-owned mines: Lubin, Polkowice-Sieroszowice and Rudna. All three mines work in a single deposit located between Lubin and Głogów in south-west Poland (Lower Silesia district), which for administrative reasons has been divided into **6 concessioned areas: Lubin-Małomice, Polkowice, Sieroszowice, Radwanice East, Rudna and Deep Głogów**. Each mine may conduct mining in adjacent areas, in accordance with accepted technical concept management for all of the mining areas.

The descriptions of individual mines presented herein include information regarding the actual mineral resources and reserves at their disposal. However, KGHM provides a statement on the mineral resources and reserves that are allocated to particular deposits, specified in the concession decisions, since due to formal and legal reasons, the balance of mineral resources and reserves is kept that way.

Deep Głogów Technical Project (100% ownership KGHM)

The Deep Głogów Technical Project develops the Deep Głogów concession, which is located south of the town of Głogów in south-west Poland (Lower Silesia district).

Technical Project uses the existing infrastructure of the Rudna and Polkowice-Sieroszowice mines for developing the Deep Głogów deposit. The identified copper mineral reserves amount to 235,816 kt of ore with average copper content of 1.88% per tonne and average silver content of 61.6 g/t, which amounts to 4,434,690 t of copper. **The resource base of the Deep Głogów concession for administrative purposes is divided in half (50/50) and included in the resource bases of Rudna and Polkowice-Sieroszowice mines.** The Deep Głogów concession is a continuation of the deposit occurring in the areas of the aforementioned mines and is a sediment-hosted stratiform type of copper deposit. The Deep Głogów area borders on the north with the Retków-Ścinawa and Głogów concessions which are currently under exploration.



Lubin (100% ownership KGHM)

The Lubin mine is located north of the town of Lubin in south-west Poland (Lower Silesia district). It is the oldest of KGHM's mines in Poland. The mine extracts ore from the Lubin-Małomice concession, which is classed as a sediment-hosted stratiform copper deposit. The mine borders the Polkowice-Sieroszowice mine on the west and the Rudna mine on the north. In 2014 the mine produced over 67,000 t of copper and 373,242 kg of silver. The current amount of identified reserves allows continuation of mine production for the next 30 to 40 years.



LUBIN - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	205,331	173,561	378,892	-
Grade				
Cu (%)	1.22	1.43	1.32	-
Ag (g/t)	58.40	50.70	54.87	-
Contained metal				
Cu (t)	2,506,603	2,475,525	4,982,128	-
Ag (kg)	11,990,261	8,800,095	20,790,356	-

LUBIN - MINERAL RESERVES			
Category	Proven	Probable	Total
Ore (kt)	167,334	171,799	339,133
Grade			
Cu (%)	1.01	0.90	0.95
Ag (g/t)	47.60	32.70	40.05
Contained metal			
Cu (t)	1,683,232	1,540,214	3,223,446
Ag (kg)	7,965,781	5,609,859	13,575,640

Polkowice-Sieroszowice (100% ownership KGHM)

The Polkowice-Sieroszowice mine is located west of the town of Polkowice in south-west Poland (Lower Silesia district). The mine is one of the most important production assets of KGHM in Poland. It extracts ore from the Polkowice concession, most (85%) of the Sieroszowice concession and the Radwanice East concession. Moreover, in 2014 the mine started to mine copper ore from the Deep Głogów concession, in which half of the mineral resources and reserves are allocated to the Polkowice-Sieroszowice mine (the other half is allocated to the Rudna mine). The concessions being mined are classed as the same sediment-hosted stratiform copper deposit. In the Sieroszowice deposit, a thick deposit of rock salt occurs several tens of meters above the copper-bearing horizon. In 2014 the mine produced more than 202,000 t of copper, almost 500,000 t of rock salt and over 451,000 kg of silver. The current amount of identified reserves allow continuation of mine production for the next 30 to 40 years. On the west, the mine borders the Radwanice and Gaworzyce concessions which are currently under exploration.



POLKOWICE-SIEROSZOWICE - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	116,861	378,795	495,656*	-
Grade				
Cu (%)	2.75	2.46	2.53	-
Ag (g/t)	51.00	66.50	62.85	-
Contained metal				
Cu (t)	3,218,587	9,307,402	12,525,989	-
Ag (kg)	5,954,687	25,199,144	31,153,831	-

POLKOWICE-SIEROSZOWICE - MINERAL RESERVES			
Category	Proven	Probable	Total
Ore (kt)	116,316	314,223	430,539*
Grade			
Cu (%)	1.80	1.84	1.83
Ag (g/t)	31.70	50.10	45.13
Contained metal			
Cu (t)	2,096,800	5,788,553	7,885,353
Ag (kg)	3,686,442	15,729,171	19,415,613

* presented mineral resources and reserves of Polkowice-Sieroszowice Mine include 50% of resource base of the Deep Głogów Technical Project

Rudna (100% ownership KGHM)

The Rudna mine is located north of the town of Polkowice in south-west Poland (Lower Silesia district). Rudna is the largest copper mine in Europe and one of the largest underground copper mines of its type in the world. The mine extracts ore from the Rudna concession, part (15%) of the Sieroszowice concession, half of the mineral resources and reserves of Deep Głogów concession and a small part of Lubin-Małomice deposit. In 2014 the mine produced over 202,000 t of copper and more than 693,608 kg of silver. The Rudna mine stands out due to the thickness of its orebody, reaching more than ten meters, with an average deposit thickness at present of over 4 meters. All of the deposits mentioned are classed as the same sediment-hosted stratiform copper deposit. The current amount of identified resources allow continuation of mine production for the next 30 to 40 years. On the north, the mine borders with the Retków-Ścinawa concession which is currently under exploration.



RUDNA - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	294,163	255,179	549,342*	-
Grade				
Cu (%)	1.70	2.08	1.88	-
Ag (g/t)	45.00	69.90	56.57	-
Contained metal				
Cu (t)	5,013,447	5,312,781	10,326,228	-
Ag (kg)	13,233,543	17,843,703	31,077,246	-

RUDNA - MINERAL RESERVES			
Category	Proven	Probable	Total
Ore (kt)	190,704	188,047	378,751*
Grade			
Cu (%)	1.57	1.80	1.68
Ag (g/t)	42.50	60.10	51.24
Contained metal			
Cu (t)	2,988,402	3,381,666	6,370,068
Ag (kg)	8,096,084	11,300,763	19,396,847

* presented mineral resources and reserves of Polkowice-Sieroszowice Mine include 50% of resource base of the Deep Głogów Technical Project



Sierra Gorda (55% ownership KGHM)

The Sierra Gorda mine, which is the flagship mining project of KGHM, is located in the Antofagasta region, 60 km south-west of Calama in northern Chile. The mine is situated in the Atacama desert, where some of the largest porphyry copper-type deposits in the world are located, including Sierra Gorda. Construction of the mine is being carried out in two stages. The first stage was completed in June 2014 and comprised the construction of an open-pit mine with an output of 110 kt of ore per day, with all necessary infrastructure. The second stage will consist of increasing production capacity to over 220 kt of ore per day. The Sierra Gorda Oxide project involves the processing of the oxide ore that was and will be pre-stripped during mine development and will be processed in an SX-EW treatment plant. The mine is a joint venture of KGHM (55%), Sumitomo Metal Mining (31.5%) and Sumitomo Corporation (13.5%). The mineral resources and reserves presented represent 55% of all mineral resources of this deposit (in accordance with KGHM stake in the mine). The mine's target production will be over 220,000 t of copper, 11,000 t of molybdenum and 2,000 kg of gold per year. Currently the project team is conducting exploration aimed at identifying additional mineral resources in the areas adjacent to the mine.



SIERRA GORDA - SULPHIDE - MINERAL RESOURCES*				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	200,503	683,135	883,638	46,036
Grade				
Cu (%)	0.41	0.40	0.40	0.35
Au (g/t)	0.07	0.06	0.06	0.04
Mo (%)	0.03	0.02	0.02	0.01
Contained metal				
Cu (t)	818,053	2,712,045	3,530,098	161,127
Au (kg)	13,835	40,305	54,140	1,749
Mo (t)	58,146	129,796	187,942	2,762

* The resources presented only represent the 55% ownership stake of KGHM out of the actual total mineral resource estimate

SIERRA GORDA - SULPHIDE - MINERAL RESERVES*			
Category	Proven	Probable	Total
Ore (kt)	189,135	610,669	799,804
Grade			
Cu (%)	0.41	0.40	0.40
Au (g/t)	0.07	0.06	0.06
Mo (%)	0.03	0.02	0.02
Contained metal			
Cu (t)	775,454	2,442,674	3,218,128
Au (kg)	13,239	36,640	49,879
Mo (t)	56,741	122,134	178,875

* The reserves presented only represent the 55% ownership stake of KGHM out of the actual total mineral reserve estimate

SIERRA GORDA - OXIDE - MINERAL RESOURCES*				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	13,241	39,052	52,292	540
Grade				
Cu (%)	0.38	0.33	0.34	0.26
Contained metal				
Cu (t)	50,579	129,262	179,841	1,403

* The resources presented only represent the 55% ownership stake of KGHM out of the actual total mineral resource estimate

SIERRA GORDA - OXIDE - MINERAL RESERVES*				
Category	Proven	Probable	Total	Stockpiled Ore**
Ore (kt)	12,884	37,378	50,263	24,687
Grade				
Cu (%)	0.38	0.33	0.35	0.33
Contained metal				
Cu (t)	49,300	124,307	173,607	81,009

* The reserves presented only represent the 55% ownership stake of KGHM out of the actual total mineral reserve estimate.
**Stockpiled oxide ore is included in the estimation of the Sierra Gorda Oxide Mineral Reserves

Franke (100% ownership KGHM)

The Franke mine is located 65 km north of the town of Diego de Almagro, in the southern part of the Atacama region – the largest copper basin in Chile. The identified mineral reserves will allow production to continue until at least 2018. In 2014 the mine produced over 19,000 t of copper. At present mining is carried out using conventional open-pit methods in two deposits: China and Franke. These two deposits form a complex hydrothermal system associated with an IOCG (*iron oxide-copper-gold*) type deposit.



FRANKE - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	8,290	18,374	26,665	3,259
Grade				
Cu (%)	0.95	0.76	0.82	0.72
Contained metal				
Cu (t)	79,164	139,778	218,942	23,314

FRANKE - MINERAL RESERVES			
Category	Proven	Probable	Total
Ore (kt)	8,400	10,552	18,953
Grade			
Cu (%)	0.91	0.82	0.86
Contained metal			
Cu (t)	76,840	86,670	163,510



Robinson (100% ownership KGHM)

The Robinson mine is located west of the town of Ely, White Pine County, Nevada, USA, in the Egan Range, at an average altitude of 2130 m.a.s.l. Mining is carried out using conventional open-pit methods. The mine extracts ore from a porphyry copper-type deposit with associated skarn. The identified mineral reserves will allow production to continue until at least 2020. Production in 2014 was 39,300 t of copper and 776 kg of gold.



ROBINSON - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	317,942	40,173	358,115	11,942
Grade				
Cu (%)	0.47	0.34	0.45	0.38
Au (g/t)	0.18	0.15	0.18	0.18
Contained metal				
Cu (t)	1,479,157	138,345	1,617,502	45,371
Au (kg)	57,890	5,873	63,763	2,101

ROBINSON - MINERAL RESERVES			
Category	Proven	Probable	Total
Ore (kt)	110,513	8,860	119,374
Grade			
Cu (%)	0.42	0.28	0.41
Au (g/t)	0.15	0.12	0.15
Contained metal			
Cu (t)	464,831	24,458	489,289
Au (kg)	16,949	1,066	18,016

Carlota (100% ownership KGHM)

The Carlota mine is located in the western part of the Miami-Globe mining region, 10 km to the west of Miami, on the border between Gila and Pinal counties in eastern Arizona, USA. 2014 was the last year of mining production for the Carlota mine. It extracted ore from a deposit characteristic of a complex hydrothermal system with some features of a porphyry-copper type. Over the subsequent years the leaching of already-extracted copper ore and copper cathode production in the SX-EW plant will be carried out. In 2014 the mine produced over 10,000 t of copper.



CARLOTA - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	1,230	3,657	4,887	159
Grade				
Cu (%)	0.53	0.42	0.45	0.47
Contained metal				
Cu (t)	6,521	15,358	21,879	751



Sudbury Operations (100% ownership KGHM)

The Sudbury Basin is located in Ontario Province, Canada, about 400 km north of Toronto. It is a unique, geological structure in the world, including one of the largest nickel and copper ore deposits also containing large amounts of precious metals. KGHM owns Morrison, McCreedy West, Levack, and Podolsky underground mines.

The Morrison mine with the neighboring McCreedy West and Levack mines is situated in the North Range of the Sudbury Basin, about 35 km north-west of Sudbury. 2014 production was 15,600 t of copper, 2,800 t of nickel and 1,275 kg of precious metals. The McCreedy West mine extracts a contact-type deposit of nickel ore, also rich in copper and precious metals. In 2014 1,300 t of copper, 1,700 t of nickel and 128 kg of precious metals were produced. The Levack mine, which also operates on the Morrison deposit, extracts a contact-type deposit of copper and nickel ore.

The Podolsky mine is located in the North Range, about 35 km north-east of Sudbury. In 2013 KGHM suspended mining in Podolsky, and intends to complete the closure of the mine in the near future. In addition, situated in the South Range about 15 km north-east of Sudbury is the former Kirkwood mine. Exploration in its vicinity is currently underway.



SUDBURY OPERATIONS - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	1,732	11,240	12,972	4,594
Grade				
Cu (%)	1.27	0.86	0.91	1.16
Au (g/t)	0.08	0.07	0.07	0.16
Ni (%)	1.88	1.15	1.25	1.43
Pt (g/t)	0.18	0.16	0.17	0.41
Pd (g/t)	0.18	0.23	0.23	0.58
Contained metal				
Cu (t)	21,914	96,553	118,467	53,095
Au (kg)	133	791	924	757
Ni (t)	32,547	129,227	161,773	65,529
Pt (kg)	315	1,827	2,142	1,863
Pd (kg)	304	2,618	2,923	2,642

SUDBURY OPERATIONS - MINERAL RESERVES			
Category	Proven	Probable	Total
Ore (kt)	-	486	486
Grade			
Cu (%)	-	7.92	7.92
Au (g/t)	-	1.01	1.01
Ni (%)	-	1.49	1.49
Pt (g/t)	-	2.27	2.27
Pd (g/t)	-	4.91	4.91
Contained metal			
Cu (t)	-	38,459	38,459
Au (kg)	-	493	493
Ni (t)	-	7,232	7,232
Pt (kg)	-	1,101	1,101
Pd (kg)	-	2,386	2,386

SUMMARY TABLES

MINES

KGHM - MINES - MINERAL RESOURCES

Category	Measured	Indicated	M&I	Inferred
Contained metal				
Cu (t)	13,194,025	20,327,049	33,521,074	285,061
Au (kg)	71,858	46,969	118,827	4,607
Mo (t)	58,146	129,796	187,942	2,762
Ni (t)	32,547	129,227	161,773	65,529
Ag (kg)	31,178,491	51,842,943	83,021,434	-
Pt (kg)	315	1,827	2,142	1,863
Pd (kg)	304	2,618	2,923	2,642

KGHM - MINES - MINERAL RESERVES

Category	Proven	Probable	Total
Contained metal			
Cu (t)	8,134,859	13,427,002	21,642,870*
Au (kg)	30,188	38,199	68,388
Mo (t)	56,741	122,134	178,875
Ni (t)	-	7,232	7,232
Ag (kg)	19,748,308	32,639,792	52,388,100
Pt (kg)	-	1,101	1,101
Pd (kg)	-	2,386	2,386

* The amount includes oxide ore stored in heaps at the Sierra Gorda mine.

DEVELOPMENT PROJECTS

Mining projects approved by the Company for further development

CANADA



Ajax (80% ownership KGHM)

The Ajax project is located in British Columbia, Canada, about 400 km north-east of Vancouver in the vicinity of the town of Kamloops. Ajax deposit is a copper porphyry type. The project's partners are KGHM (80%) and Abacus Mining & Exploration (20%) with its head office in Vancouver. The identified mineral reserves will allow for a 23-year mine life. Annual production for KGHM (80% of production) will be about 40,000 t of copper and almost 2,500 kg of gold in concentrate.



AJAX - MINERAL RESOURCES*

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	204,600	205,000	409,600	59,000
Grade				
Cu (%)	0.31	0.30	0.31	0.27
Au (g/t)	0.19	0.20	0.19	0.17
Contained metal				
Cu (t)	629,133	621,422	1,250,555	159,211
Au (kg)	38,693	40,746	79,439	10,109

AJAX - MINERAL RESERVES*

Category	Proven	Probable	Total
Ore (kt)	223,600	178,800	402,400
Grade			
Cu (%)	0.27	0.26	0.27
Au (g/t)	0.17	0.17	0.17
Contained metal			
Cu (t)	609,628	464,479	1,074,107
Au (kg)	37,822	30,606	68,428

* The Ajax Resources and Reserves presented in this report are based on the estimate prepared under Canadian National Instrument 43-101 and publically reported in a Technical Report for Abacus Mining & Exploration Corp. by Wardrop Engineering titled "Ajax Copper/Gold Project - Kamloops, British Columbia Feasibility Study Technical Report", dated January 6, 2012. The Ajax Mineral Resources and Mineral Reserves reported here represent the 80% stake of KGHM of the actual total estimated mineral resources and mineral reserves. KGHM is currently in the process of updating the feasibility study prepared by Wardrop Engineering as well as the resources and reserves of the project accordingly.

Victoria (100% ownership KGHM)

The Victoria project is located in Ontario, Canada, about 35 km southwest of Sudbury. Currently identified mineral resources indicate a possible mine life of around 14 years. Victoria is a part of world-class Sudbury deposit and contains copper-nickel ore with significant amount of precious metals. The present project plan foresees sinking a shaft which will allow access to the deposit and provide a drilling platform for an intensive exploration campaign, aimed at confirming, identifying, and increasing confidence in the copper and nickel resources. It is estimated that, once production begins, the mine will annually extract about 15,000 t of copper, 16,000 t of nickel, and 3,732 kg of precious metals.



VICTORIA - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Ore (kt)	-	482	482	13,081
Grade				
Cu (%)	-	1.41	1.41	2.64
Au (g/t)	-	0.22	0.22	0.97
Ni (%)	-	1.23	1.23	2.76
Ag (g/t)	-	-	-	14.40
Co (%)	-	0.03	0.03	0.06
Pt (g/t)	-	0.47	0.47	3.08
Pd (g/t)	-	1.35	1.35	4.45
Contained metal				
Cu (t)	-	6,798	6,798	345,839
Au (kg)	-	105	105	12,677
Ni (t)	-	5,915	5,915	360,508
Ag (kg)	-	-	-	188,376
Co (t)	-	147	147	7,243
Pt (kg)	-	228	228	40,262
Pd (kg)	-	652	652	58,153

SUMMARY TABLES

DEVELOPMENT PROJECTS

KGHM - DEVELOPMENT PROJECTS - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Contained metal				
Cu (t)	629,133	628,220	1,257,353	505,050
Au (kg)	38,693	40,851	79,544	22,786
Ni (t)	-	5,915	5,915	360,508
Ag (kg)	-	-	-	188,376
Co (t)	-	147	147	7,243
Pt (kg)	-	228	228	40,262
Pd (kg)	-	652	652	58,153

KGHM - DEVELOPMENT PROJECTS - MINERAL RESERVES			
Category	Proven	Probable	Total
Contained metal			
Cu (t)	609,628	464,479	1,074,107
Au (kg)	37,822	30,606	68,428

PROJECTS AT THE EARLY DEVELOPMENT STAGE

Projects with the largest potential approved by the Company for exploration

POLAND



Radwanice-Gaworzyce (100% ownership KGHM)

In the years 2008-2014, KGHM performed a wide range of work in the Radwanice and Gaworzyce concession areas located in Lower Silesia, Poland, aimed at exploring and evaluating the copper deposits. The Radwanice and Gaworzyce areas border on the east with the currently mined concessions of Polkowice, Radwanice East, Sieroszowice and Deep Głogów. The Radwanice-Gaworzyce area represent the same type of sediment-hosted stratiform deposit as those currently being mined. As a result of a completed exploration program, the mineral resources were identified and geological documentation was forwarded for approval to the Ministry of the Environment. In 2015 legal and technical design work will be carried out aimed at gaining concessions for mining the copper in this area by the Polkowice-Sieroszowice mine.

RADWANICE-GAWORZYCE - MINERAL RESOURCES*

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	-	236,720	236,720**	14 360
Grade				
Cu (%)	-	1.80	1.80	0.84
Ag (g/t)	-	32.94	32.94	21.91
Contained metal				
Cu (t)	-	4,254,081	4,254,081	120,810
Ag (kg)	-	7,884,845	7,884,845	309,590

* The mineral resources were estimated in October, 2014; geological documentation is awaiting the approval from the Ministry of Environment

** The presented mineral resources do not include the mineral resources of the Radwanice East deposit

Retków-Ścinawa and Głogów (100% ownership KGHM)

The explored areas are adjacent to areas currently mined by KGHM in Lower Silesia, Poland. The aim of the planned exploration is to identify copper mineralization in the area already evaluated as well as to find economically-feasible mineralization north of the areas currently being mined. Planned work will allow the estimation of resources and raising of the confidence category from inferred to indicated. Furthermore, it should increase knowledge about the variability of deposit parameters as well as about geological and mining conditions related to the deposit.

RETKÓW - MINERAL RESOURCES

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	-	267,290	267,290	188,387
Grade*				
Cu (%)	-	1.39	1.39	1.67
Ag (g/t)	-	58.22	58.22	52.66
Contained metal				
Cu (t)	-	3,707,037	3,707,037	3,147,529
Ag (kg)	-	15,561,000	15,561,000	9,921,000

* Due to lack of access to data, certain grades were calculated based on available indirect data

GŁOGÓW - MINERAL RESOURCES

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	-	45,001	45,001	231,950
Grade*				
Cu (%)	-	1.34	1.34	1.75
Ag (g/t)	-	53.00	53.00	74.00
Contained metal				
Cu (t)	-	560,589	560,589	4,219,816
Ag (kg)	-	1,994,000	1,994,000	17,556,000

* Due to lack of access to data, certain grades were calculated based on available indirect data

Wartowice and Niecka Grodziecka (100% ownership KGHM)

KGHM is carrying out exploration and evaluation work in the Synklina Grodziecka and Konrad concession areas, located 10 km south-east of the town of Bolesławiec in Lower Silesia, Poland, aimed at identifying new copper resources and at the precise exploration of the already-evaluated concessioned areas Wartowice and the adjacent Niecka Grodziecka. Both represent sediment-hosted stratiform copper deposits. Geophysical surveys and drilling work will enable determination of the boundaries of the deposit outside the contouring boreholes, increase confidence in their estimation and provide detailed data about tectonics and hydrogeology.

WARTOWICE - MINERAL RESOURCES

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	-	62,634	62,634	33,968
Grade*				
Cu (%)	-	1.50	1.50	1.23
Ag (g/t)	-	48.88	48.88	50.23
Contained metal				
Cu (t)	-	953,000	953,000	413,000
Ag (kg)	-	2,782,000	2,782,000	1,700,000

* Due to lack of access to data, certain grades were calculated based on available indirect data

NIECKA GRODZIECKA - MINERAL RESOURCES

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	2,253	10,243	12,496	-
Grade				
Cu (%)	1.66	1.31	1.37	-
Ag (g/t)	47.04	45.34	45.65	-
Contained metal				
Cu (t)	36,800	134,400	171,200	-
Ag (kg)	106,000	465,000	571,000	-

* Due to lack of access to data, certain grades were calculated based on available indirect data

GREENLAND



Malmbjerg (100% ownership KGHM)

The Malmbjerg Project is located about 200 km northwest of the settlement of Ittoqqortoormiit in central-east Greenland. The project is situated at latitude 72 degrees north, located in the central part of Scoresby Sund Land within the longest fjord system in the world and on the border of Northeast Greenland National Park, the largest such park in the world. Malmbjerg is a world-class, high quality *Climax*-type molybdenum deposit.



MALMBJERG - MINERAL RESOURCES

Category	Measured	Indicated	M&I	Inferred
Ore (kt)	73,040	255,830	328,870	35,186
Grade				
Mo (%)	0.13	0.09	0.10	0.07
Contained metal				
Mo (t)	91,620	225,660	317,280	23,040

SUMMARY TABLE

PROJECTS AT THE EARLY DEVELOPMENT STAGE - MINERAL RESOURCES

KGHM - PROJECTS AT THE EARLY DEVELOPMENT STAGE - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Contained metal				
Cu (t)	36,800	9,609,107	9,645,907	7,901,155
Ag (kg)	106,000	28,686,845	28,792,845	29,486,590
Mo (t)	91,620	225,660	317,280	23,040

SUMMARY TABLES

MINES, DEVELOPMENT PROJECTS AND PROJECTS AT THE EARLY DEVELOPMENT STAGE

KGHM - MINES, DEVELOPMENT PROJECTS AND PROJECTS AT THE EARLY DEVELOPMENT STAGE - MINERAL RESOURCES				
Category	Measured	Indicated	M&I	Inferred
Contained metal				
Cu (t)	13,859,958	30,564,376	44,424,334	8,691,266
Au (kg)	110,551	87,820	198,371	27,393
Mo (t)	149,766	355,456	505,222	25,802
Ni (t)	32,547	135,142	167,688	426,037
Ag (kg)	31,284,491	80,529,788	111,814,279	29,674,966
Co (t)	-	147	147	7,243
Pt (kg)	315	2,055	2,370	42,125
Pd (kg)	304	3,270	3,575	60,795

KGHM - MINES, DEVELOPMENT PROJECTS AND PROJECTS AT THE EARLY DEVELOPMENT STAGE - MINERAL RESERVES			
Category	Proven	Probable	Total
Contained metal			
Cu (t)	8,744,487	13,891,481	22,716,977*
Au (kg)	68,010	68,805	136,816
Mo (t)	56,741	122,134	178,875
Ni (t)	-	7,232	7,232
Ag (kg)	19,748,308	32,639,792	52,388,100
Pt (kg)	-	1,101	1,101
Pd (kg)	-	2,386	2,386

* The amount includes oxide ore stored in heaps at the Sierra Gorda mine.

EXPLORATION POTENTIAL

Beyond the areas comprised by the exploration and prospection concessions, where the copper resources were identified, KGHM carries out the works related with the evaluation of areas, having the exploration potential, which may result in enlarging the resource base in future.

The Company is focused on numerous exploration projects in the contiguity of currently mined deposits, both in Poland and in North and South American countries. The most important exploration programs of near mine type are located near Sierra Gorda mine in Chile and Weisswasser-Stojanów area, where copper-mineralization occurs, developed like on the concessions Synklina Grodziecka and Konrad near the town Bolesławiec, Lower Silesia, Poland. Additionally, the Company concentrates on evaluating the accessory mineralization within the mining areas of Robinson, Carlota, Franke and in Sudbury Basin.



KGHM is committed to expanding its resource base by engaging in 4 main types of activity

- Greenfield Exploration - prospecting for new deposits
- Brownfield Exploration - exploration of already-identified deposits
- In-mine and near-mine exploration - exploration of areas adjacent to mining assets in order to extend their mine life
- Mergers and the acquisitions of new projects

Exploration criteria

Main criteria:

- Contained metal: At least 1.5 mn tonnes of copper equivalent in mineral resources
- Annual production: At least 50 kt of copper (preferred 100 kt of copper)
- Exploitation period: At least 10 years (preferred more than 15 years)
- Production cost: Low, below the 75th percentile of the global cost curve (preferred below the 50th percentile)

Additional criteria:

- Location: Mining-friendly jurisdictions
- Project status: Preliminary Economic Assessment or higher
- Partner: Preferably together with a technically-competent sector partner

OTHER PROJECTS

Additional mineral properties of the Company

POLAND



Rock Salt Mineral Deposits* – Mining Projects and Projects at the Early Development Stage

Rock Salt Mineral Resources (kt)						
Deposit	Category					
	A	B	C ₁	C ₂	D	estimated
Bądzów	Economic resources					
	-	288,736	541,889	-	-	-
	Subeconomic resources					
	-	-	-	-	-	-
Sieroszowice	Estimated resources					
	-	-	-	-	-	-
	Economic resources					
	-	-	2,908,614	-	549,274	-
Rudna	Subeconomic resources					
	-	-	1,230,269	-	295,226	-
	Estimated resources					
Deep Głogów	-	-	-	-	-	1,504, 529
	Estimated resources					
	-	-	-	-	-	9,798,849
Total	Economic resources					
	-	288,736	3,450,502	-	549,274	-
	Subeconomic resources					
	-	-	1,230,269	-	295,226	-
	Estimated resources					
- - - - - 11,303,378						
ESTIMATED RESOURCES (kt)						
Radwanice - Gaworzyce						7,564,467
Retków						9,582,078
Głogów						12,981,866
Zatoka Pucka **						16,336,032
TOTAL (kt)						
	Economic resources					
	-	288,736	3,450,502	-	549,274	-
	Subeconomic resources					
	-	-	1,230,269	-	295,226	-
	Estimated resources					
- - - - - 50,203,354						

* detailed description is given on page 35

** Based on *Balance of Mineral Resources in Poland (dated to: 31.XII.2013)* [1]

Potassium & Magnesium Rock Salt Mineral Deposits* – Project at the Early Development Stage

Puck Area

Potassium and magnesium salt resources, which were identified and evaluated in 1960s, occur in the area covered by a concession. The initial deposit structure concept evolved over time, with the result that there now exist reasons to review the assumed model and the previously estimated resources. The work planned is also aimed at raising the confidence category from C₂ (the equivalent of *inferred resources*) to C₁ (the equivalent of *indicated resources*).

POTASSIUM & MAGNESIUM SALT RESOURCES (kt)					
Deposit	A	B	Category C ₁	C ₂	D
Mieroszyno polyhalite - grade "S" average K ₂ O content – 8.95%	Economic resources				
	-	-	-	344,022	-
	Subeconomic resources				
	-	-	-	3,023	-
Chłapowo polyhalite - grade "S" average K ₂ O content – 13.78%	Economic resources				
	-	-	-	32,478	-
	Subeconomic resources				
	-	-	-	2,407	-
Zdrada average K ₂ O content – 8.42%	Economic resources				
	-	-	-	79,170	-
	Subeconomic resources				
	-	-	-	-	-
TOTAL (kt)					
average K ₂ O content – 9.20%	Economic resources				
	-	-	-	455,670	-
average K ₂ O content – 11.09%	Subeconomic resources				
	-	-	-	5,430	-

* detailed description is given on page 35

Backfill Sands Mineral Deposit*

BACKFILL SAND MINERAL RESOURCES (kt)					
Deposit	A	B	Category C ₁	C ₂	D
Obora	Economic resources				
	-	29,026	-	-	-
	Subeconomic resources				
	-	-	-	-	-

* detailed description is given on page 35

Definitions And Methodologies



METHODOLOGY

The classifications of mineral resources and mineral reserves used in this report have been prepared in accordance with the standards set forth in Canadian National Instrument 43-101 and on the definitions established by the Canadian Institute of Mining, Metallurgy and Petroleum as CIM Definition Standards.

The specific confidence category applied depends on the degree of confidence in the quantity and quality of geological data and the degree of completion of relevant technical and economic analyses performed, which determine the criteria for estimating resources and the established method for interpreting data.

CONFIDENCE CATEGORIES ACCORDING TO THE CIM DEFINITION STANDARDS [2]

Mineral Resources are sub-divided, in order of increasing geological confidence, into **Inferred**, **Indicated** and **Measured** categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A **Mineral Resource** is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for **eventual economic extraction**. The location, quantity, grade or quality, continuity and other geological characteristics of Mineral Resource are known, estimated or interpreted from specific geological knowledge and evidence, including sampling.

An **Inferred Mineral Resource** is that part of Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not to verify geological and grade or quality continuity.

An Inferred Mineral Resource has lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is estimated basing on limited geological information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of **Modifying Factors** in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing, and is sufficient to confirm geological and grade or quality continuity between observation points.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral

Resource and may only be converted to a Probable Mineral Reserve.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of **Modifying Factors** to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Modifying Factors are considerations used to convert Mineral Resources (Indicated or Measured) to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

Mineral Reserves are sub-divided in order of increasing confidence into **Probable Mineral Reserves** and **Proven Mineral Reserves**. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve.

A **Mineral Reserve** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study [2].

CONFIDENCE CATEGORIES UNDER POLISH LAW

Under the Polish classification of resources, which is based on the Geological and Mining Law dated 9 June 2011 (Journal of Laws no. 163, item 981), and after changes dated 27 September 2013 and 11 July 2014 and the still-binding Decree of the Minister of the Environment dated 22 December 2011 regarding the geological documentation of mineral deposits (Journal of Laws no. 291, item 1712) [8] in geological reports regarding mineral deposits, the following confidence categories are used: D, C₂, C₁, B and A. Furthermore, the categories E (D₃), D₂ and D₁ are used informally, to evaluate projected and potential resources.

Category D

Geological structure, potential resources and the boundaries of mineral deposits are defined based on the available geological data, taking into consideration the data from isolated workings, outcrops and natural exposures as well as by interpreting the data from geophysical surveys using extrapolation methods. The acceptable error in estimating average parameters of a deposit and its resources may exceed 40%.

Category C₂

Exploration includes the major characteristics of form, structure and area tectonics. The parameters of a mineral deposit, including its boundaries, should be derived from processing the data from natural exposures, from the exploration of workings or from geophysical surveys using interpolation methods. Additionally, in justified cases extrapolation methods may be applied. The geological and mining conditions of possible extraction are defined preliminarily, while methodical sampling which takes into account all uses of the mineral enables evaluation of its quality. The acceptable error in estimating the average deposit parameters and its resources may not exceed 40%.

Category C₁

Parameters of a mineral deposit such as detailed geological structure, form, tectonics and quality are defined using data from natural exposures, exploratory workings or surveys using geophysical methods (interpolation or, to a limited extent, extrapolation). The comprehensiveness of the data enables development of a deposit management plan, the evaluation of geological and mining conditions of extraction and environmental impact. The error in estimating the average deposit parameters and its resources may not exceed 30%.

Category B

As a result of dedicated exploratory workings or geophysical surveys, the boundaries of a mineral deposit may be precisely defined. Elementary characteristics of tectonics as well as form and structure of a deposit, including correlation of strata, must be unequivocally defined. The grade and technological parameters of a mineral deposit should be confirmed by semi-technical or industrial tests. The estimated parameter averages for a mineral deposit and its resources may not exceed 20%.

Category A

The extent to which information regarding a mineral deposit is developed enables mining to be planned and operated in the most efficient possible manner while making use of the resources. The tectonics, form and structure of a deposit must be identified. Data acquired from openings, developments and mine workings are used to calculate the volume of reserves, while the type, grade and technological properties are determined through methodical sampling of workings and based on production data. Estimated average values of mineral parameters and resources must be included with a margin of error of up to 10%.

Deposit variability groups

The degree to which information regarding a deposit's resources is developed depends, first of all, on the density of the exploration boreholes network, which in turn depends on the type of mineral as well as on the variability, continuity and complexity of the deposit structure. Determination as to which group a deposit should be assigned is quite subjective, and this occasionally results in certain difficulties, as a descriptive classification is used. The deposits are assigned to an appropriate variability group by analogy with other

similar deposits if there is little geological data. Sometimes assignment to the proper group is possible only after detailed exploration of a deposit, and such assignment may be changed along with the degree of its exploration. Based on these assumptions, there are three types of deposits:

Variability group I

Deposits which are easy to interpret, have a continuous geological structure, without tectonic disturbances (or only small disturbances), with uncomplicated hydrogeological and geoengineering conditions. The coefficient of deposit variability V is small and amounts up to 30%.

Variability group II

Mineral deposits which have a varied structure, in places are discontinuous and tectonically disturbed. The resulting difficulty in the interpretation of hydrogeological and geoengineering conditions is due to changes in mineral type within the deposit. The coefficient of deposit variability V is estimated as being from 30% to 60%.

Variability group III

Deposits which have a complex structure, are often discontinuous, bunched and severely disturbed tectonically. The very difficult interpretation of geological structure makes it impossible to show an unambiguous presentation on maps and cross-sections. Similar difficulties result from the complex hydrogeological and geoengineering conditions. The coefficient of deposit variability V is judged as very high and amounts to more than 60% [8].

In Poland, the vast majority of solid mineral deposits for which KGHM has exploration and mining concessions belong to variability group II. The resource assessment methodology for them is similar. Deposit resources assigned to category C₁ are evaluated by processing data from boreholes drilled from the surface (the Boldyriev blocks and geological blocks methods), while the reserves estimated under categories A+B are based mostly on data from mine workings (geological blocks method).

CONVERSION OF RESOURCES AND RESERVES FROM POLISH CLASSIFICATION INTO NI 43 - 101

At the beginning of the 1990s the Company began to consider the possibility of presenting the resources of the Polish deposits using the Canadian system of classification. After detailed analyses it was concluded that the **Polish system of classification, even if it was different, was based on similar principles and could be synchronized with NI 43-101** [7].

By making a detailed comparison of international system of resources and reserves classification with the Polish system, one may notice in the latter the following characteristics [6]:

- a hierarchical (inclusive) as opposed to a complementary (exclusive) manner of presenting information about the mutual relations between identified types (classes) of resources and reserves,
- attaching too much importance to separating the sub-economic resources which are not distinguished in international classifications,
- a detailed division of resources not qualified for justifiable extraction,
- no formal discrimination of mineable resources (particularly in the case of solid mineral deposits) which are defined in Anglo-Saxon nomenclature as *reserves*.

CUT-OFF GRADES UNDER POLISH LAW

In this report **so-called economic criteria were used to evaluate the resources**. Due to various periods of time in which individual geological reports were prepared, which at the same time form the basis for the on-going identification and evaluation of resources, the economic criteria used for sediment-hosted stratiform copper deposits are varied. Geological reports prepared prior to 2002 were based on economic criteria set forth by the Minister of Environmental Protection and Natural Resources dated 22 June 1993 (no. KZK/012/W/6192/93). This is only in respect of one deposit being mined – Radwanice, in that part called Radwanice East. From 2002 to 2012, the economic criteria set forth by a Decree of the Minister of the Environment dated 28 December 2001 (Journal of Laws 2001.153.1774) were in force, including an immaterial change in 2005 (Journal of Laws 2005.116.978). These rules were in force while completing the reports for other deposits i.e. the report for Deep Głogów from 2004, for which a separate decision of the Minister of the Environment was obtained, allowing a change in the criteria regarding the maximum depth of the deposit floor for economically viable resources, along with annexes prepared in 2011 for the following concessions: Lubin-Małomice, Polkowice, Rudna and Sieroszowice. In spite of the varied means of formulating the criteria for determining deposit boundaries, since 1993 these rules have remained unchanged for all currently mined copper deposits. They set the minimal copper content at 0.7% and the concentration cut-off grade as 50 kg/m². The term „economic criteria” was annulled by a Decree of the Minister of the Environment dated 22 December 2011 regarding the geological documentation of mineral deposits (Journal of Laws 2011 no. 291 item 1712) [8], and was defined as the „boundary values of parameters defining a deposit and its extent”. In this decree, the minimal average copper content in the contouring sample and the weighted average copper equivalent content was reduced to 0.5%, while the deposit concentration cut-off grade was reduced to 35 kg/m². These criteria, however, have not been used to estimate the resources of any of the deposits presented in this report.

CUT-OFF GRADES DESCRIBED IN THE CIM STANDARD

Contrary to Polish law, in the Canadian NI 43-101 and in CIM guidelines, cut-off criteria are not imposed by government agencies to estimate Mineral Resources or Mineral Reserves. Such a decision is typically made by mining professionals evaluating the Resources and Reserves. Cut-off criteria are strongly related to forecasted prices and production costs. Different types of ore may have different cut-off grades, due to, for example, various metal recoveries.

Resources in the case of open-pit mines are estimated by applying optimistic prices and costs for assigned levels, and using the ultimate pit Lerchs-Grossmann (L-G) algorithm to determine the final volumes, tonnes, and grades. The resources of underground deposits are estimated applying a similar approach, using other algorithms. Mineral Reserves, as opposed to Mineral Resources, are estimated mainly with a more realistic price approach, resulting from short term and medium-term market forecasts.

In preparing NI 43-101 reports, the method applied in calculating resources and reserves and their amounts must be disclosed [5].

In calculating Mineral Resources for KGHM the following prices were used: 4.20 USD/lb Cu, 11.00 USD/lb Ni, 16.40 USD/lb Mo, 19.00 USD/lb Co, 1900 USD/oz Pt, 700 USD/oz Pd, 1700 USD/oz Au and 33.00 USD/oz Ag.

In order to calculate the Mineral Reserves, prices established by the Market Risk Committee in the fall of 2014 were used. These are: 3.08 USD/lb Cu, 8.50 USD/lb Ni, 12.50 USD/lb Mo, 13.00 USD/lb Co, 1700 USD/oz Pt, 800 USD/oz Pd, 1200 USD/oz Au and 17.00 USD/oz Ag. The exceptions to this are that 3.00 USD/lb Cu was used at Sierra Gorda and Ajax, 3.00 to 3.60 USD/lb Cu was used at Robinson depending on when the reserves are planned to be mined, and 0.055% MoS₂ was used at Malmbjerg.

SYNCHRONIZATION OF MINERAL RESOURCES CLASSIFICATION

Compilation of part of the resources of KGHM in accordance with CIM standards was done for the first time in 2013 [9]. That report presented the resources and reserves statement as at 31 December 2011. The report only took into consideration the copper deposits being mined in south-west Poland from the concessions Lubin-Małomice, Polkowice, Sieroszowice, Radwanice East, Rudna and Deep Głogów.

All of the economic and sub-economic resources of the deposits mined by KGHM were estimated with a level of confidence higher than for category *Inferred Mineral Resources*, according to CIM standards and definitions [9]. Economic and sub-economic resources in the C₁ category were explored by drill holes and sampled in intervals, which were found in the past to be reliable ones, and therefore it was determined that the above resources in the **C₁ category are equivalent with *Indicated Mineral Resources*** according to CIM standards and definitions. Since classification to category B requires at least partial defining of a deposit's boundary through underground exploration, **B category economic and sub-economic resources are equivalent with the category *Measured Mineral Resources*** according to CIM standards and definitions. Mineable reserves, including losses as well as dilution, presented in KGHM's estimates represent *Mineral Reserves* according to CIM standards and definitions. **Part of the resources classified as *Indicated Mineral Resources* (Polish category C₁), which is included in mineable resources, is equivalent to *Probable Mineral Reserves* according to CIM standards and definitions. Part of the reserves classified as *Measured Mineral Resources* (Polish category B), which are included in mineable resources, are equivalent to *Proven Mineral Reserves* according to CIM standards and definitions.** In the report [9] it was stated that „(...) although there are noticeable differences for individual blocks, **B category resources estimated based on samples from underground workings are equivalent to C₁ category resources, estimated based initially on surface boreholes.** Thus it was decided that the density of surface boreholes was sufficient for reliable evaluation of resources in category C₁”.

This is confirmed by analysis [4] where the estimation of resources in the central part of the mined concessions Rudna, Polkowice, Sieroszowice and Lubin-Małomice was compared. The comparison comprised a 10 x 10 km square, where almost complete exploration through underground mine workings had been made. To estimate the resources based on exploration boreholes, the data from 94 boreholes with an average exploration density of 1.03 x 1.03 km were used, while the calculation of resources based on

underground exploration used data from 137,362 channel profiles, spaced in an average 27 x 27 m exploration network. Comparison of deposit parameters from these estimations shows a relative variation in estimating deposit thickness on the order of 6.8%, and a 4.7% relative difference with regard to average Cu concentration, while the difference in resources volume estimation was 2.5 %.

A similar approach to Polish resources classification was used by Prof. Marek Nieć [6]. It was also pointed out that there are two modes of presenting the resources, inclusive and exclusive.

Deposit resources calculated under the Polish classification system were always presented in hierarchical (inclusive) form, which means that within Mineral Resources as a whole, economic and (if they are defined) sub-economic resources are separated [6]. The economic (and sub-economic) resources are divided into industrial reserves and non-industrial reserves. In industrial reserves, operational (mineable) reserves and losses are distinguished. Thus, the information about resources has the following form: economic resources, including industrial reserves (and non-industrial reserves), including operational reserves. In international classifications, it is common to use an exclusive (complementary) method for presenting resources. **According to CIM standards [2] inclusive and exclusive systems may be used**, but it should be clearly defined which system is used, i.e. whether *Mineral Reserves* were, after reclassification, excluded from *Mineral Resources*, or are still presented in them. CIM guidelines give ready-made statements, which should be used: *"The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Mineral Reserves"* – in the inclusive configuration, or *"The Measured and Indicated Mineral Resources are additional to the Mineral Reserves"* – in the exclusive configuration.

In this report the inclusive (hierarchical) method of resources presentation is used.

CIM guidelines [2] also recommended defining for which *reference point* the *Mineral Reserves* are calculated. In this report, as is accepted in Canada, *Mineral Reserves* are defined as the amount of ore which will be supplied to the processing plant (mill).

Measured mineral resources of copper ore estimated within category C₂ within the deposit but outside of the areas being mined, based on data from boreholes located more sparsely than in category C₁, were found, by the authors, as equivalent to *Inferred Mineral Resources*, according to CIM standards and definitions. Also, the resources evaluated in category D, in the case of the Wartowice concession, were classified to the category *inferred*.

Sub-economic resources, which are not distinguished in foreign classifications, including the CIM classification, were classified as *Mineral Resources* according to relevant confidence category. Cut-off grade criteria for this part of the resources are concurrent with criteria for economic resources.

All of the above-mentioned conclusions concerning the currently mined deposits were found to be proper and were used in this report of resources.

MINERAL RESOURCES OF ROCK SALT, POTASSIUM AND MAGNESIUM ROCK SALTS AND BACKFILL SANDS

Mineral Resources of other minerals, for which KGHM has mining rights (or exploration rights as in the case of potassium & magnesium salts), were presented under the Polish Resources Classification. Efforts aimed at converting these resources into NI 43-101-compliant data are in progress.

Rock salt

The operations of KGHM include mining of the Będzów rock salt deposit. There are also proven salt deposits in the following mining concessions: Sieroszowice, Rudna and Deep Głogów [3].

Rock salt resources were estimated in accordance with the Decree of the Minister of the Environment regarding economic criteria (deposit feasibility) dated 18 December 2001 (Journal of Law no. 153, item 1774) for stratified rock salt, i.e.:

- minimal deposit thickness with intercalations is 30 m,
- minimal weighted average NaCl content in the deposit section with intercalations is 80%.

Due to the fact that rock salt in the Foresudetic Monocline is a mineral accompanying the copper deposit and its mining may be carried out using the copper mines infrastructure, the condition of maximal rock salt deposit depth, amounting to 1200 m, was withdrawn.

Potassium & magnesium salts

KGHM owns an exploration license in the vicinity of Puck, and is carrying out work aimed at identifying and evaluating a potassium and magnesium salts deposit. The concessioned area includes the deposits Mieroszyno and Zdrada as well as part of the Chłapowo deposit, whose identified borders extend into a marine zone, which is not included in KGHM's exploration concession. Within the concessioned area is part of a rock salt deposit – Zatoka Pucka – whose identified range is slightly bigger than the concessioned area owned by KGHM.

In archival reports, the resources of individual rock salt deposits, in the Łeba Elevation (Zatoka Pucka, Mieroszyno, Chłapowo, Zdrada) were calculated according to economic criteria issued by the Minister of the Chemical Industry on 27 September 1967 (ref. ZKSChem/IMG/40.17.1/149/67), i.e.

for polyhalite:

- economic resources – ore horizon thickness of over 1.9 m and minimal average content of 7% K₂O for the entire deposit,
- sub-economic – ore horizon thickness of 1.0-1.9 m and with minimal average content of 6% K₂O for the entire deposit;

for rock salt:

- economic – ore horizon thickness of over 5.0 m and minimal average content of 96.5% NaCl for the entire deposit,
- sub-economic – ore horizon thickness of 3.0 – 5.0 m and minimal average content for entire deposit 94.0% of NaCl.

Backfill Sands

Sandy-gravel sediments occurring in the vicinity of Lubin, in Obora, are almost 40 meters thick and are identified as a backfill sands deposit. They are mined by KGHM and are used to prepare hydraulic backfill, i.e. a mixture of sand and water, which is used to fill the mined out workings. One of the criteria used in classifying the sand deposit as a backfill sands deposit is its location, which is within 50 km from the site of their utilization.

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ABBREVIATIONS AND UNITS USED IN THIS DOCUMENT

kg	kilogram (1000 grams)
t or tonne	metric ton (1000 kilograms)
kt	kiloton
mn	million
g/t	grams per tonne
SX-EW	Solvent Extraction and Electrowinning production technology of copper cathodes
m.a.s.l.	meters above sea level
m	meters
km	kilometers (1000 meters)
m ²	square meters (measure of area)
USD	United States Dollar
Cu	copper
Au	gold
Ag	silver
Pt	platinum
Pd	palladium
Ni	nickel
Mo	molybdenum
MoS ₂	molybdenum disulfide
lb	imperial pound
oz	troy ounce
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
NI 43-101	Canadian National Instrument 43-101
M&I	Measured and Indicated Mineral Resources

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