Pan American SILVER CORP.

Technical Report for the Huaron Property, Pasco, Peru

Effective date: June 30 2014

Prepared by:

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1 Summary

This technical report has been prepared by Pan American Silver Corp. ("Pan American") in compliance with the disclosure requirements of Canadian National Instrument 43-101 ("NI 43-101"), to disclose current information about the Huaron Property.

1.1 Property description and ownership

This technical report refers to the Huaron Property (the "Property" or "Huaron"), an underground silver-copper-lead-zinc mine located in the province of Pasco in the Central Highlands of Peru. Pan American is the 100% owner of Huaron and the mining concessions, through its wholly owned subsidiary, Pan American Silver Huaron S.A.

1.2 Geology and mineralization

The Property is located within the Western Cordillera of the Andes Mountains and the regional geology is dominated by Cretaceous aged Machay Group limestones and Tertiary aged Pocobamba continental sedimentary rocks, which are referred to as the Casapalca Red Beds.

These groups have been deformed by the Huaron anticline, the dominant structural feature of the local area. The limestones and sedimentary rocks are strongly folded and intruded by quartz monzonite and quartz monzonite dikes with associated fracturing. Following the intrusion of the dikes, the sedimentary rocks were further compressed and fractured, and subsequently altered and mineralized by hydrothermal fluids.

Huaron is a hydrothermal polymetallic deposit of silver, lead, zinc, and copper mineralization hosted within structures likely related to the intrusion of monzonite dikes, principally located within the Huaron anticline. Mineralization is encountered in veins parallel to the main fault systems, in replacement bodies known as "mantos" associated with the calcareous sections of the conglomerates and other favourable stratigraphic horizons, and as dissemination in the monzonitic intrusions at vein intersections.

1.3 Status of exploration, development, and operations

The central part of the mineralization at Huaron is well defined by over 1,300 drillholes and has been the subject of mineral resource and mineral reserve estimates. Typical near mine exploration takes place on an annual basis, including testing of the open regions of the deposit at depth and along strike as well as infill drilling to upgrade the confidence categories of mineral resource and mineral reserve estimates.

The underground mine, mill, and supporting villages at Huaron were originally built in 1912 and operated until 1998, when a portion of the bed of a nearby lake collapsed and flooded the neighbouring underground mine. Through interconnected tunnels, the lake water entered and flooded the Huaron Mine as well, causing its closure.

After the 1998 flooding, the Huaron mine operations were shut down and work was undertaken to clean up the flood damage, drain the workings, and prepare for an eventual mine re-opening. The water level in the lake, which provided the source of floodwater, is currently maintained well below the level where it flooded into the old workings and no further flooding is expected.

Pan American acquired a majority interest in Huaron from Mauricio Hochschild and Cía Ltda. ("Hochschild") in 2000 and began full scale operations in 2001. Production rates vary, but over the past several years the Huaron processing plant has processed between 600,000 to 800,000 tonnes of ore annually, producing copper, lead, and zinc concentrates containing approximately 4 million silver ounces, 2,000 tonnes of copper, 5,000 tonnes of lead, and 12,000 tonnes of zinc. Pan American expects to process approximately 870,000 tonnes per annum over the course of the remaining life of the mine.

No economic analyses or engineering studies are currently underway.

1.4 Mineral resource and reserve estimates

Pan American conducts infill and near-mine drilling through much of the year and updates mineral resource estimates on an annual basis following reviews of metal price trends, operational performance and costs experienced in the previous year, and forecasts of production and costs over the life of the mine. The drillhole data cut-off date for the commencement of the geological interpretation and the mineral resource estimate was December 31, 2013. Other than normal course changes in metal prices, which fluctuate from time to time, no new material information has become available between June 30, 2014 and the signature date given on the certificates of the qualified persons.

Mineral resource estimates are prepared on an annual basis by Pan American staff under the supervision of and reviewed by Michael Steinmann, P. Geo., Executive Vice President, Corporate Development and Geology of Pan American Silver, who is a qualified person as that term is defined by NI43-101.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral resources. Mineral resources that are not mineral reserves do not have demonstrated economic viability. Mineral resources reported here are in addition to mineral reserves.

Mineral resources for Huaron as at June 30, 2014 are given in Table 1.1. This tabulation includes material classified as measured, indicated, and inferred, using metal prices of $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. The mineral resources were estimated as of December 31, 2013 and depleted for mining as of June 30, 2014.

Table 1.1 Huaron mineral resources as at June 30, 2014

Classification	Tonnes (Mt)	Ag ppm	Ag contained metal (Moz)	Cu%	Pb%	Zn%
Measured	1.5	162	7.9	0.20	1.85	3.06
Indicated	1.0	166	5.2	0.24	1.89	3.22
Measured + Indicated	2.5	164	13.2	0.21	1.86	3.13
Inferred	8.5	161	44.0	0.29	1.61	2.72
Notes: Mineral resources do not have demonstrated economic viability. Totals may not add up due to rounding. Mineral resource estimates were prepared under the supervision of or were reviewed by Michael Steinmann, P. Geo., Executive Vice President, Business Development and Geology of Pan American. Metal prices used for the mineral resource estimate were $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. Mineral resources are in addition to mineral reserves.						

Pan American updates mineral reserve estimates on an annual basis following reviews of metal price trends, operational performance and costs experienced in the previous year, and forecasts of production and costs over the life of the mine. Other than normal course changes in metal prices, which fluctuate from time to time, no new material information has become available between June 30, 2014 and the signature date given on the certificates of the qualified persons.

Mineral reserve estimates were prepared by Pan American technical staff under the supervision of and reviewed by Martin Wafforn, P. Eng., Vice President, Technical Services of Pan American, who is a qualified person as that term is defined by NI 43-101.

Mineral reserve estimates are based on assumptions that included mining, metallurgical, infrastructure, permitting, taxation, and economic parameters. Increasing costs and taxation and lower metal prices will have a negative impact on the quantity of estimated mineral reserves. There are no other known factors that may have a material impact on the estimate of mineral reserves at Huaron.

Mineral reserves for Huaron as at June 30, 2014, comprising material classified as proven and probable reserves using metal prices of $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper, are given in Table 1.2. The mineral reserves were estimated as of December 31, 2013 and depleted for mining as of June 30, 2014.

Table 1.2 Huaron mineral reserves as at June 30, 2014

Classification	Tonnes (Mt)	Ag ppm	Ag contained metal (Moz)	Cu%	Pb%	Zn%
Proven	6.5	170	35.5	0.42	1.44	2.98
Probable	4.7	163	24.9	0.42	1.50	2.89
Proven + Probable	11.2	167	60.4	0.42	1.46	2.94

Notes: Totals may not add up due to rounding. Mineral reserve estimates were prepared under the supervision of or were reviewed by Martin Wafforn, P. Eng., Vice President, Technical Services of Pan American. Metal prices used for the mineral reserve estimate were $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. Mineral reserves are in addition to mineral resources.

1.5 Conclusions and recommendations

Pan American has been operating Huaron since 2001, processing between 600,000 to 800,000 tonnes of ore annually, producing copper, lead, and zinc concentrates containing approximately 4 million silver ounces, 2,000 tonnes of copper, 5,000 tonnes of lead, and 12,000 tonnes of zinc. Pan American expects to process approximately 870,000 tonnes per annum over the course of the remaining life of the mine.

Pan American conducts infill and near-mine drilling through much of the year and updates mineral resource and mineral reserve estimates on an annual basis following reviews of metal price trends, operational performance and costs experienced in the previous year, and forecasts of production and costs over the life of the mine.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral resources. Mineral reserve estimates are based on assumptions that included mining, metallurgical, infrastructure, permitting, taxation, and economic parameters. Increasing costs and taxation and lower metal prices will have a negative impact on the quantity of estimated mineral reserves. There are no other known factors that may have a material impact on the estimate of mineral reserves at Huaron.

Huaron is a producing mine and there is no proposed material expansion of the current production at Huaron. No economic analyses or engineering studies are currently underway. Therefore, the authors of this report have no further recommendations to make at this time.

2 Introduction

This technical report has been prepared by Pan American in compliance with the disclosure requirements of NI 43-101 to disclose current information about the Huaron Property.

The effective date of the mineral resource and mineral reserve estimates disclosed in this technical report is June 30, 2014. Other than normal course changes in metal prices, which fluctuate from time to time, no new material information has become available between this date and the signature date given on the certificate of the qualified persons.

Pan American is a silver mining and exploration company listed on the Toronto (TSX:PAA) and NASDAQ (NASDAQ:PAAS) stock exchanges.

Unless otherwise stated, all information, data, and illustrations contained in this report or used in its preparation have been provided by Pan American for the purpose of this technical report. This technical report has been prepared by Martin Wafforn, P. Eng., Vice President, Technical Services for Pan American, Michael Steinmann, P. Geo, Executive Vice President, Corporate Development and Geology for Pan American, and Americo Delgado, Director, Metallurgy for Pan American. Messrs. Wafforn, Steinmann, and Delgado are qualified persons as defined by NI 43-101 and are not independent of Pan American. The responsibilities of each co-author as they relate to this technical report are provided in Table 2.1.

Mr. Wafforn visited Huaron most recently on January 30th, 2012, June 20th and 21st, 2012, April 24th, 2013, October 15th, 2013, February 4th, 2014, and June 24th, 2014. He also met with mine technical staff in Pan American's Lima office in April 2013 and February 2014 to review the mine budget and long term plan. During the site visits Mr. Wafforn reviewed operating costs, cut-off grade calculations, reconciliation, mining parameters, mine planning, budgeting, grade control and blasting protocols, interpretations of the vein structures, and the mineral reserve estimation processes and parameters. He also reviewed the mining progress relative to the annual plan and estimated mining costs, and visited the underground operations to review key production areas, ground conditions, ventilation, development and pumping requirements, and the nature of the structures being mined. Other reviews included the plant facilities, the site layout and logistics for mining and processing, safety protocols and indicators, the environmental layout, and general business performance.

Mr. Steinmann visited Huaron most recently on January 30th, 2012 and February 6th, 2013, and met with site technical staff in Pan American's Lima office on October 25th, 2013, and February 4th, 2014. During these visits Mr. Steinmann reviewed operating costs, cut-off grade calculations, reconciliation, mining parameters, geological interpretations of the veins and mineralized structures, drill planning and the location of existing and planned drillholes, and the mineral resource estimation process and parameters. Additionally Mr. Steinmann reviewed the channel sampling, exploration drilling, sampling, and sample security protocols, drill core and the core cutting and storage facilities, the onsite geochemical laboratory, geological mapping, grade control protocols, the operational mine plan, actual mine operation data, and general business performance.

Mr. Delgado has made no site visits to Huaron.

Unless otherwise stated, all units are metric and currencies are expressed in United States dollars.

Table 2.1 Responsibilities of each qualified person

Qualified person	Company	Responsible for sections
Martin Wafforn, P. Eng. Vice President, Technical Services	Pan American Silver Corp.	1: Summary; 2: Introduction; 3: Reliance on Other Experts; 4: Property Description and Location; 5: Accessibility, Climate, Local Resources, Infrastructure and Physiography; 12: Data Verification; 15: Mineral Reserve Estimates; 16: Mining Methods; 19: Market Studies and Contracts; 20: Environmental Studies, Permitting and Social or Community Impact; 21: Capital and Operating Costs; 22: Economic Analysis; 24: Other relevant data and information; 25: Interpretation and Conclusions; 26: Recommendations; 27: References
Michael Steinmann, P. Geo. Executive Vice President, Corporate Development and Geology	Pan American Silver Corp.	1: Summary; 2 :Introduction; 6: History; 7: Geological Setting and Mineralization; 8: Deposit Types, 9: Exploration; 10: Drilling; 11: Sample Preparation, Analyses and Security; 12: Data Verification: 14: Mineral Resource Estimates; 23: Adjacent Properties; 25: Interpretation and Conclusions; 26: Recommendations
Americo Delgado, P. Eng., Director, Metallurgy	Pan American Silver Corp.	1: Summary; 2: Introduction; 12: Data Verification; 13:Mineral Processing and Metallurgical Testing; 17: Recovery Methods; 18: Project Infrastructure; 21: Capital and Operating Costs; 25: Interpretation and Conclusions; 26: Recommendations

3 Reliance on other experts

The qualified persons preparing this technical report have not relied on the reports, opinions, and statements of other experts for the preparation of this technical report.

4 Property description and location

4.1 Location, issuer's interest, mineral tenure, and surface rights

Huaron is an underground polymetallic silver mine located at a latitude of 11°00'S and a longitude of 76°25'W in the province of Pasco in the Central Highlands of Peru. The nearest city of Cerro de Pasco is a major mining centre and the capital of the region, with a population of approximately 70,000. A location map is given in Figure 4.1.

Pan American is the 100% owner of Huaron and the mining concessions, through its wholly owned subsidiary, Pan American Silver Huaron S.A. The mineral rights are held by 187 mining concessions with a combined area of 29,343.7 hectares covering all of the mineral resources, mineral reserves, and surface infrastructure, as well as one processing concession. The concessions are permanently granted provided that the holder complies with an annual payment to the Institute of Geology, Mining, and Metallurgy (INGEMMET), which is a branch of the Peruvian Ministry of Energy and Mines. Pan American makes the required annual payments to maintain the mining concessions and has agreements in place granting surface rights and legal access to the mining operations. To Pan American's knowledge, all obligations required for the conduct of mining operations at Huaron are currently in good standing.

There are three types of concessions present on the Property, including mining concessions, which grant holders of the concessions the right to explore and exploit the mineral resources within the concession; processing concessions, which grant the right to process minerals, and concessions which grant the right to provide auxiliary services to the mining concessions. Details of the 187 mining concessions and the processing concession are given in Table 4.1. The mining concessions are subdivided into Economic Administrative Units, which are differentiated in Table 4.1. Five of the concessions are non-metallic mining concessions, 121 of the concessions are concessions covered by the mine operations, and the remaining 61 mining concessions are outside of the Economic Administrative Units.

Figure 4.1 Huaron location map

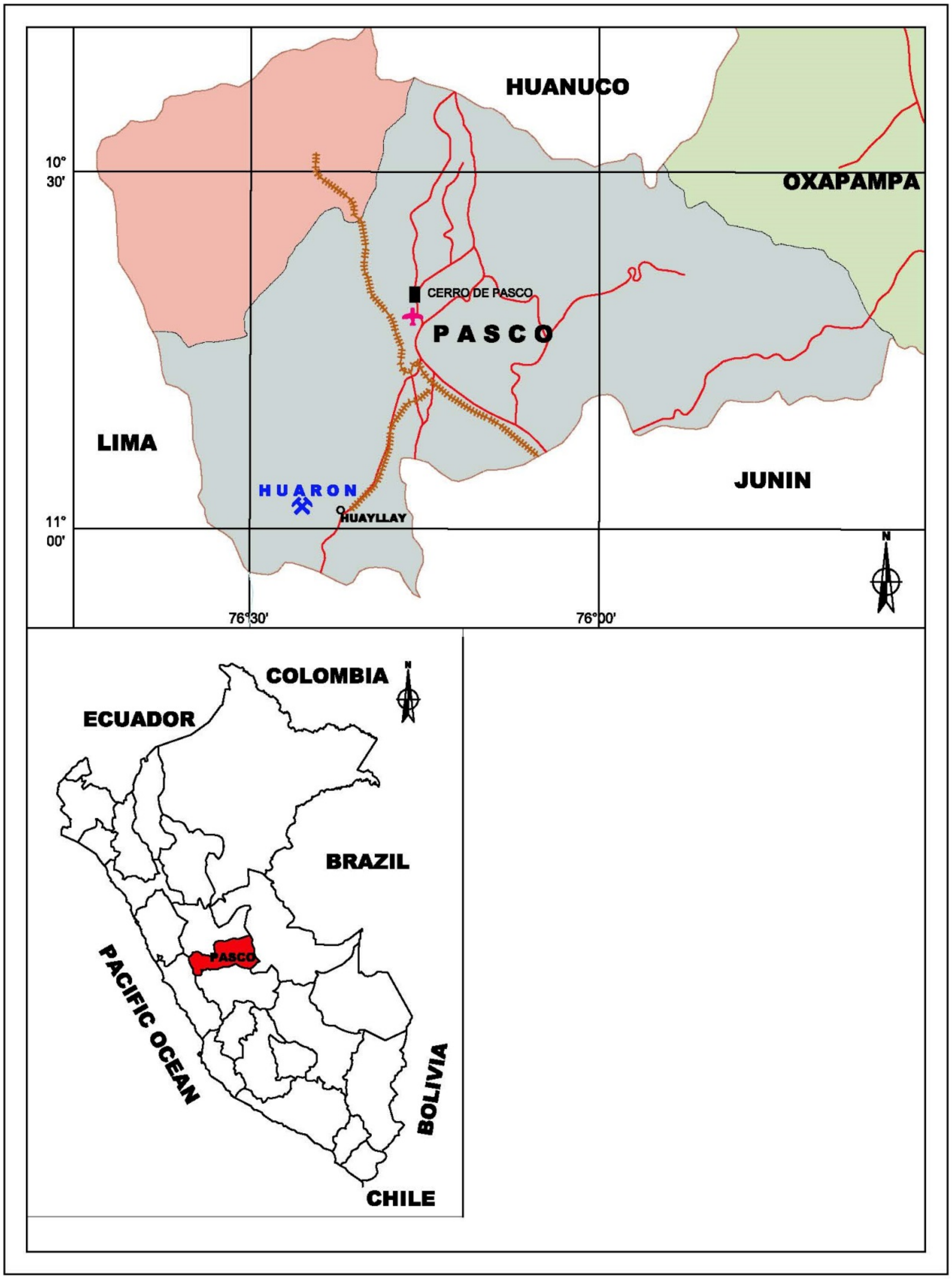


Table 4.1 Mining concession details

Concession number	Concession name	Area (ha)	Concession type	Concession number	Concession name	Area (ha)	Concession type
P0100085	Concentradora Francois	n/a	Processing	04001001X01	La Central	1.9966	Mining
04009964X01	C.M.H. Chasqui-Huasi	32.0003	Mining	04006749X01	La Huaca	0.7078	Mining
04009995X01	C.M.H. Chasquihuasi Numero Dos	15.9997	Mining	0403589AY01	La Huaca - A	0.0883	Mining
04008978X01	C.M.H. Nº 18	7.9999	Mining	0403589BY01	La Huaca - B	0.0486	Mining
04009045X01	C.M.H. Nº 19	16.0000	Mining	04004599X01	La Pedrera	0.5145	Mining
04009911X01	C.M.H. Tipish	60.0003	Mining	04000099X01	La Providencia	0.0114	Mining
04003370Y01	Abundancia	0.1603	Mining	04000998X01	La Tapada	3.9931	Mining
0403370AY01	Abundancia A	0.0486	Mining	04770771X01	Labor y Constancia	23.9590	Mining
04013284X01	Acumulacion Huaron - 1	795.6725	Mining	04001486X01	Manlincher	5.9959	Mining
04013285X01	Acumulacion Huaron - 2	540.4909	Mining	04006337X01	Maria	0.0836	Mining
04013286X01	Acumulacion Huaron - 3	534.3813	Mining	04000632X01	Marte	0.0798	Mining
04013287X01	Acumulacion Huaron - 4	96.6606	Mining	04008014X01	Max	0.0627	Mining
04013289X01	Acumulacion Huaron - 6	251.6261	Mining	04008013X01	Michel	0.5375	Mining
04013290X01	Acumulacion Huaron - 7	787.1053	Mining	04002570X01	Morococha	0.0677	Mining
04002265Y01	Alianza y Firmeza	0.0639	Mining	04007963X01	Nuestra Señora del Milagro	11.9793	Mining
0402265AY01	Alianza y Firmeza - A	0.0169	Mining	04002435Y01	Nuestra Señora del Rosario	0.1614	Mining
04004655X01	Alicia	0.7654	Mining	04002617X01	Olvido	2.4026	Mining
04002572X01	Alpamina	0.0506	Mining	04000999X01	Oraculo	3.9930	Mining
0402572AX01	Alpamina - A	0.8525	Mining	04006436X01	Pachitea	0.7729	Mining
04000997X01	Animas	0.1872	Mining	04007960X01	Pandora	1.9966	Mining
04003431X01	Apuro	0.3709	Mining	04000811X01	Planeta	1.9965	Mining
04000466X01	Balcon de Judas	17.9689	Mining	04001253Y01	Rosario	2.1132	Mining
04001000X01	Balsamo	1.9965	Mining	04007524X01	Rosario Numero Cinco	0.0100	Mining
04008319X01	C.M.H. Nº 2	0.9388	Mining	04008019X01	Rosario Numero Cuatro	0.0246	Mining
04008320X01	C.M.H. Nº 3	0.5161	Mining	04001130X01	Sacerdotiza	0.1416	Mining
0403885AY01	C.M.H. Nº 3-A	0.7375	Mining	04004654X01	Santiago	0.0341	Mining
04008593X01	C.M.H. Nº 5	0.2413	Mining	04008039X01	Sevilla	0.0608	Mining
04008823X01	C.M.H. Nº 7	0.1435	Mining	04012512X01	Teutonia 79	0.0425	Mining
04010514X01	C.M.H. Nº 15	125.7841	Mining	04012513X01	Teutonia Dos - 79	3.5061	Mining
04008913X01	C.M.H. Nº 16	0.7284	Mining	04012514X01	Teutonia Tres - 79	0.0100	Mining
04009299X01	C.M.H. Nº 25	21.6565	Mining	10346806	Union 7	44.2112	Mining
04009300X01	C.M.H. Nº 27	2.7139	Mining	04004857X01	Veinte de Febrero	0.1448	Mining
04009301X01	C.M.H. Nº 28	29.6141	Mining	04002221Y01	Venus	1.2216	Mining
04009303X01	C.M.H. Nº 30	0.3297	Mining	0413290AX01	Acumulacion Huaron 7 A1	7.9708	Mining
04009433X02	C.M.H. Nº 33	1.7925	Mining	11023860X01	Aurora 10	878.5532	Mining
04009435X01	C.M.H. Nº 35	0.2543	Mining	07000365X01	C.M.H. Limonita Norte	56.0001	Mining
04009481X01	C.M.H. Nº 44	0.8016	Mining	07000367X01	C.M.H. Limonita Sur	39.9995	Mining
04009488X01	C.M.H. Nº 51	0.1332	Mining	10127409	Caujul Veintidos	599.3084	Mining
04009495X01	C.M.H. Nº 52	0.8838	Mining	07000366X01	CMH Cuestas	17.9997	Mining
04009581X01	C.M.H. Nº 57	0.0967	Mining	04013464X01	Don Juan Nº 4-88	239.9996	Mining

Concession number	Concession name	Area (ha)	Concession type	Concession number	Concession name	Area (ha)	Concession type
04009589X01	C.M.H. Nº 65	0.0837	Mining	10225706	Flor Maria	6.0000	Mining
04009591X01	C.M.H. Nº 67	0.0288	Mining	10188012	Gatita 02-A	200.0000	Mining
04009595X01	C.M.H. Nº 71	7.6848	Mining	10644507	Herbert 1	19.7756	Mining
04009596X01	C.M.H. Nº 72	9.3854	Mining	10644207	Herbert 2	23.7851	Mining
04009843X01	C.M.H. Nº 74	26.1679	Mining	10644407	Herbert 3	464.4003	Mining
04009844X01	C.M.H. Nº 75	0.2346	Mining	10644307	Herbert 4	446.2397	Mining
04009846X01	C.M.H. Nº 76	0.1020	Mining	10235798	Horizonte 4	1000.0000	Mining
04010746X01	C.M.H. Nº 79	0.5570	Mining	10236398	Horizonte 10	500.0000	Mining
04010978X01	C.M.H. Nº 84-Dos	0.9983	Mining	10236498	Horizonte 11	992.0001	Mining
04013394X01	C.M.H. Nº 101	0.5690	Mining	10236698	Horizonte 13	699.2807	Mining
04013495X01	C.M.H. Nº 102	1.1554	Mining	10236798	Horizonte 14	947.6313	Mining
04013496X01	C.M.H. Nº 103	0.1834	Mining	10237298	Horizonte 19	700.0000	Mining
04007533X01	C.P.H. Nº 1	0.0601	Mining	10237398	Horizonte 20	1000.0000	Mining
0407533AX01	C.P.H. Nº 1-A	0.1651	Mining	10237498	Horizonte 21	1000.0000	Mining
04007534X01	C.P.H. Nº 2	0.0226	Mining	10240098	Horizonte 43	1000.0000	Mining
0407534AX01	C.P.H. Nº 2-A	0.3778	Mining	10240498	Horizonte 47	1000.0000	Mining
04007536X01	C.P.H. Nº 4	0.0459	Mining	10241898	Horizonte 61	1000.0000	Mining
04007538X01	C.P.H. Nº 6	0.4477	Mining	10242098	Horizonte 63	1000.0000	Mining
04007547X01	C.P.H. Nº 15	0.0100	Mining	10242198	Horizonte 64	1000.0000	Mining
04007555X01	C.P.H. Nº 23	0.5511	Mining	10242298	Horizonte 65	1000.0000	Mining
04007556X01	C.P.H. Nº 24	0.8570	Mining	10242398	Horizonte 66	1000.0000	Mining
04007594X01	C.P.H. Nº 55	0.0642	Mining	10242498	Horizonte 67	1000.0000	Mining
0403659AY01	C.P.H. Nº 55-A	0.3420	Mining	10242598	Horizonte 68	386.0867	Mining
04000874X01	Cagliostro	1.2773	Mining	010250194A	Huaron 2A	85.3000	Mining
04003371Y01	Catorce de Abril	0.0853	Mining	010250294A	Huaron 3-A1	200.0000	Mining
04000832X01	Cometa	15.9727	Mining	10046013	Hunaca 2013 - A	200.0000	Mining
04002573X01	Conchucos	0.6759	Mining	10392007	Karla de Huachocolpa 67	15.9645	Mining
04002451Y01	Constancia	1.0825	Mining	10127509	Limonita Tres	100.0000	Mining
0402451AY01	Constancia - A	0.0739	Mining	10306314	Maira Uno	400.0000	Mining
04008037X01	Cordoba	0.9554	Mining	11024448X01	Mancahucro	303.9632	Mining
04012511X01	Dardanelos	0.1982	Mining	10118114	Maria Cecilia 2014	999.9991	Mining
04003615X01	Diecinueve de Setiembre	0.5719	Mining	10225806	Noelia	900.0000	Mining
04013463X01	Don Juan Nº 2-88	687.5424	Mining	10381612	Pancho 05-A	618.0584	Mining
04004653X01	Don Pablo	0.0464	Mining	04012743X01	Relave Francois 1	60.0000	Mining
04003023X01	El Rayo	0.2082	Mining	11024447X01	San Camilo	211.7187	Mining
04003024X01	El Trueno	0.0741	Mining	04012993X01	San Carlos 79	181.9998	Mining
04008033X01	España	0.1120	Mining	07000017X01	San Jorge Nº 1	120.0007	Mining
04006692X01	Farallon	7.9860	Mining	07000131X01	San Jorge II	40.0000	Mining
04008586X01	Florencia	0.1164	Mining	07000132X01	San Jorge III	32.0001	Mining
0403093AY01	Florencia - A	0.2448	Mining	07000130X01	San Jorge IV	49.9998	Mining
04004527X01	Gaviota	0.9225	Mining	07000146X01	San Jorge IX	47.9999	Mining
0404527AX01	Gaviota - A	1.8589	Mining	07000133X01	San Jorge V	32.0003	Mining
04008276X01	Granada	5.5781	Mining	07000134X01	San Jorge VI	72.0003	Mining
04004591X01	Guillermo Billinghurst	0.2760	Mining	07000135X01	San Jorge VII	35.9997	Mining
04002568X01	Hualgayoc	0.0451	Mining	07000145X01	San Jorge VIII	29.9999	Mining
04002567X01	Huancavelica	0.0314	Mining	07001624X01	San Jorge X	324.0018	Mining
04006355X01	Huarochiri	0.5925	Mining	10346306	Union 2	8.0111	Mining
10250094	Huaron 1	211.6553	Mining	10347206	Union 12	68.8978	Mining
10250194	Huaron 2	1.6569	Mining	10347306	Union 13	1.9285	Mining
10250294	Huaron 3	180.9170	Mining	10347706	Union 17	1.5369	Mining

Concession number	Concession name	Area (ha)	Concession type	Concession number	Concession name	Area (ha)	Concession type
10250394	Huaron 4	127.5334	Mining	10347806	Union 18	46.5921	Mining
10250494	Huaron 5	29.6580	Mining	10347906	Union 19	55.5216	Mining
04008295X01	Juana	0.0437	Mining	10348106	Union 21	74.3585	Mining
04002211Y01	La Alianza	11.9792	Mining	10409797	Vitacancha - R	1000.0000	Mining

4.2 Royalties, back-in rights, payments, agreements, and encumbrances

The principal taxes of Peru affecting Huaron include income tax, an employee profit sharing tax, annual fees for holding mineral properties, various payroll and social security taxes, a refundable value added tax, a mining royalty tax, and a Special Mining Tax (“SMT”). The royalty is applied on a company’s operating income and is based on a sliding scale with marginal rates ranging from 1% to 12% with a minimum royalty rate of 1% of sales regardless of its profitability.

There are no known back-in rights, payments, agreements, or encumbrances on the Huaron concessions.

4.3 Environmental liabilities

The environmental liabilities at Huaron are typical of an operating mine. Huaron received approval of the mine’s environmental liabilities plan in 2009, which was successfully executed and concluded in 2012. From that date Pan American has continually monitored the physical stability of reclaimed mine waste and tailings facilities, hydrological, and biological factors, as well as social commitments. These factors are reported semi-annually to the Peruvian Evaluation and Environmental Control Agency, which demonstrate the reintegration of the surrounding area to its natural landscape. The post closure phase is expected to last for five years, and after that time the environmental certification of closure will be processed.

The most significant environmental issue currently associated with the mine is relatively high metal concentrations in the waters discharged from the mine and localized areas of acid rock drainage from the mine’s tailings deposit areas. All waters are captured and treated in a treatment plant near the exit of the Paul Nevejans drainage tunnel to achieve compliance with discharge limits. Peruvian legislation sets out the progressive implementation of new, stricter water quality limits both for discharges and receiving waters by the end of 2015. An “Adaption Plan” which sets out a program of baseline monitoring and data collection to evaluate future compliance of Huaron with the new limits was presented to the Ministry of Energy and Mines (“MEM”) in September 2012. The plan is still under evaluation and the schedule for implementation of new guideline limits is not yet confirmed.

There are no known environmental or social issues that could materially impact the mine’s ability to extract the mineral resources or mineral reserves.

4.4 Permits

Pan American holds all the necessary environmental and operating permits for the development and operation of the existing mine and is in compliance with Peruvian law. The Ministry of Energy and Mines has provided approval for Environmental Compliance and Management, the Special Program for Environmental Management, and Environmental Impact Studies.

Pan American has obtained other permits necessary for normal operations of the mine, including permits for water use, re-use of treated domestic wastewater, treated industrial and domestic waste water disposal, mine closure plans, tailings facility growth schedules, the use and storage of explosives, and facilities for liquid fuel.

4.5 Significant factors and risks

There are no known significant factors or risks that may affect access, title, or the right or ability to conduct mining, processing, and exploration activities at Huaron.

5 Accessibility, climate, local resources, infrastructure, and physiography

5.1 Access, transport, and population centre

Access to Huaron is by a continuously maintained 285 kilometre paved highway between Lima and Unish and a 35 kilometre mostly paved road between Unish and Huaron. Access is also possible by two other longer and more difficult gravel roads. There is a light aircraft strip at the town of Vicco, which is located approximately 30 minutes flying time from Lima, at which point an additional 30 minutes of driving is required to reach Huaron.

The nearest city is Cerro de Pasco, a major historical mining center with a population of approximately 70,000 people, which is connected to Lima 320 kilometres to the southwest by road and rail. The nearby town of Huayllay also provides workers, lodging, and supplies. Experienced mining personnel from the region commute to the Property via company sponsored buses, company vehicles, or privately owned vehicles. Materials, fuel, and produced metal concentrates are transported to their destinations by road. Concentrates may also be transported by rail.

5.2 Climate, length of operating season, and physiography

The climate at the mine site is classified as “cold climate” or “boreal” with average annual temperatures ranging from 3°C to 10°C. Huaron operates throughout the entire year. The topography at the mine site is hilly with locally steep slopes, at elevations ranging from 4,250 metres to 4,800 metres above sea level. Natural vegetation consists mainly of grasses forming meadows which have permitted development of varied livestock operations.

5.3 Surface rights, land availability, infrastructure, and local resources

Surface rights for mining operations are sufficient and secure. The known mineralized zones, mineral resources, mineral reserves, mine workings, the processing plant, existing tailing impoundments, effluent management and treatment systems, and waste rock storage facilities are located within 119 of the 187 concessions. The mine is authorized to use up to 320 litres per second of water obtained from a system of nearby lakes for mining activities through payment of a water use permit. This volume of water is more than sufficient for the mine’s requirements. The primary source of power for the mine is the Peruvian national power grid and is sufficient for the mine’s current requirements. The power consumption is approximately 66 million kilowatt hours per year.

6 History

The underground mine, mill, and supporting villages at Huaron were originally built in 1912 by a subsidiary of the French Penarroya Company. In 1987 the mine was sold to Hochschild. ("Hochschild"). In April, 1998, a portion of the bed of the nearby Lake Naticocha collapsed and flooded the neighbouring underground mine. Through interconnected tunnels, the lake water entered and flooded the Huaron Mine as well, causing its closure.

After the April 1998 flooding, the Huaron mine operations were shut down, the labour force was terminated, the camp closed, and work was undertaken to clean up the flood damage, drain the workings, and prepare for an eventual mine re-opening. The water level in the lake, which provided the source of floodwater, is currently maintained well below the level where it flooded into the old workings and no further flooding is expected. In September 2000, the Animon mine, in accordance with a settlement agreement reached with Cía. Minera Huaron S.A., constructed a channel to route water around the lake to provide water for the Huaron mine operation and to reduce the water in upstream lakes in order to prevent agricultural flooding, which had created local social pressures.

Pan American acquired a majority interest in Huaron from Hochschild in 2000 and fast-tracked the re-opening project through feasibility, financing, and construction to begin full scale operations in 2001. Pan American subsequently acquired the remaining interest and now holds 100% of the Property. Production rates vary, but over the past several years the Huaron processing plant has processed between 600,000 to 800,000 tonnes of ore annually, producing copper, lead, and zinc concentrates containing approximately 4 million silver ounces, 2,000 tonnes of copper, 5,000 tonnes of lead, and 12,000 tonnes of zinc. Pan American expects to process approximately 870,000 tonnes per annum over the course of the remaining life of the mine.

Prior to Pan American's acquisition of the mine, approximately 22 million tonnes of silver-rich base metal sulphide ore was produced at the Property. Silver made up about 49% of historic sales value, with zinc, lead, and copper contributing 33%, 15%, and 3% respectively of the remaining portion. Ore from the mine was processed on site by crushing, grinding, and flotation to produce silver-rich copper, lead, and zinc concentrates, as it is today. All historical exploration work was carried out in the form of underground drifting and mining, and no historical mineral resource or mineral reserve estimates were completed.

7 Geological setting and mineralization

7.1 Regional, local, and Property geology

The Huaron Property is located within the Western Cordillera of the Andes Mountains and the regional geology is dominated by Cretaceous aged Machay Group limestones and Tertiary aged Pocobamba continental sedimentary rocks, which are referred to as the Casapalca Red Beds.

These groups have been deformed by the Huaron anticline, the dominant structural feature of the local area. The limestones and sedimentary rocks are strongly folded and intruded by quartz monzonite and quartz monzonite dikes with associated fracturing. Following the intrusion of the dikes, the sedimentary rocks were further compressed and fractured, and subsequently altered and mineralized by hydrothermal fluids.

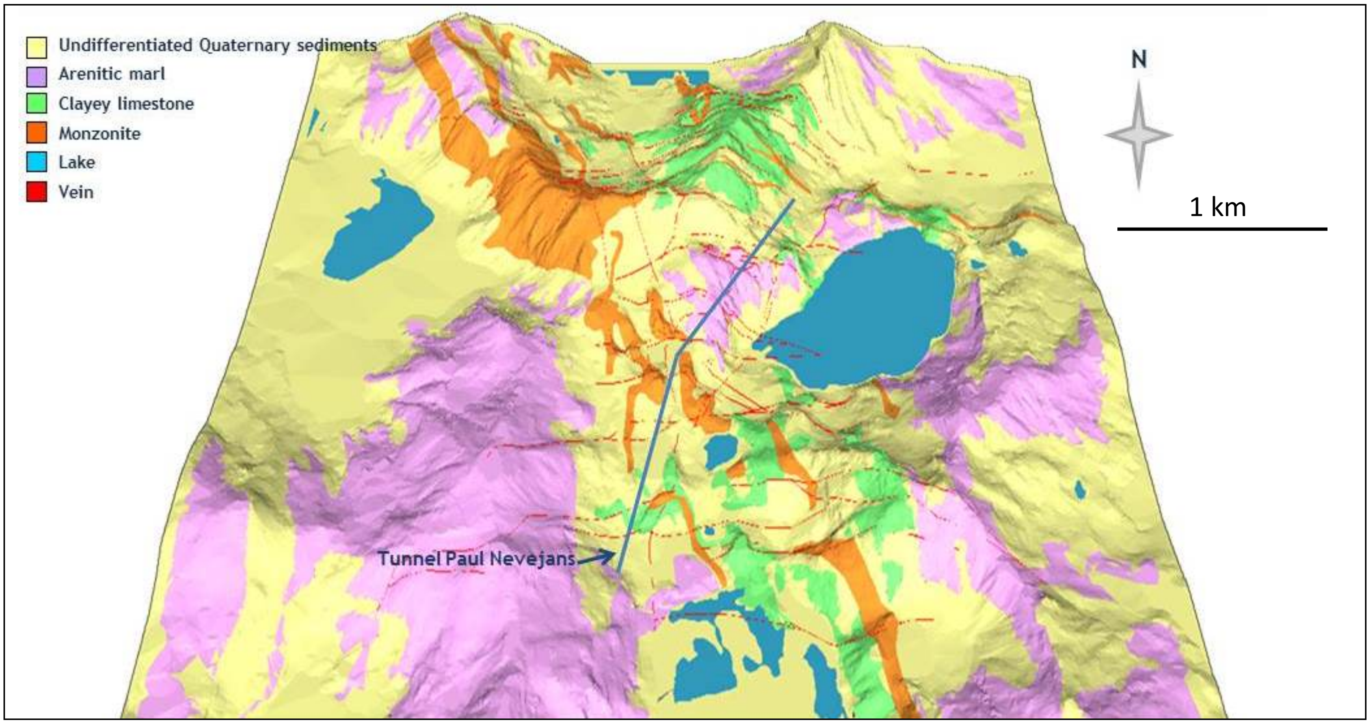
The main lithology in the area of Huaron is a sequence of continental redbeds which unconformably overlie massive marine limestones. A series of andesites and dacites outcrop to the west of the mine. North-south trending sub-vertical porphyritic quartz monzonite dykes cross cut the mine stratigraphy.

Thinly bedded marls and sandstones known as the lower redbeds are present in the central part of the mine and at lower elevations. The upper redbeds are present on the eastern side of the mine, and are comprised of calcareous chert overlying sandstone and marls, in turn overlying the Barnabe quartzite conglomerate at the base of the sequence. On the western side of the mine, the stratigraphy consists of a series of interbedded conglomerates and sandstones.

Huaron is located within an anticline formed by east-west compressional forces. The axis of the anticline strikes approximately north-south and plunges gently to the north. There are two main fault systems. One system comprises north-south striking thrust faults, parallel to the axis of the anticline, and the other comprises east-west striking tensional faults.

A schematic of the local geology is given in Figure 7.1.

Figure 7.1 Schematic of local geology

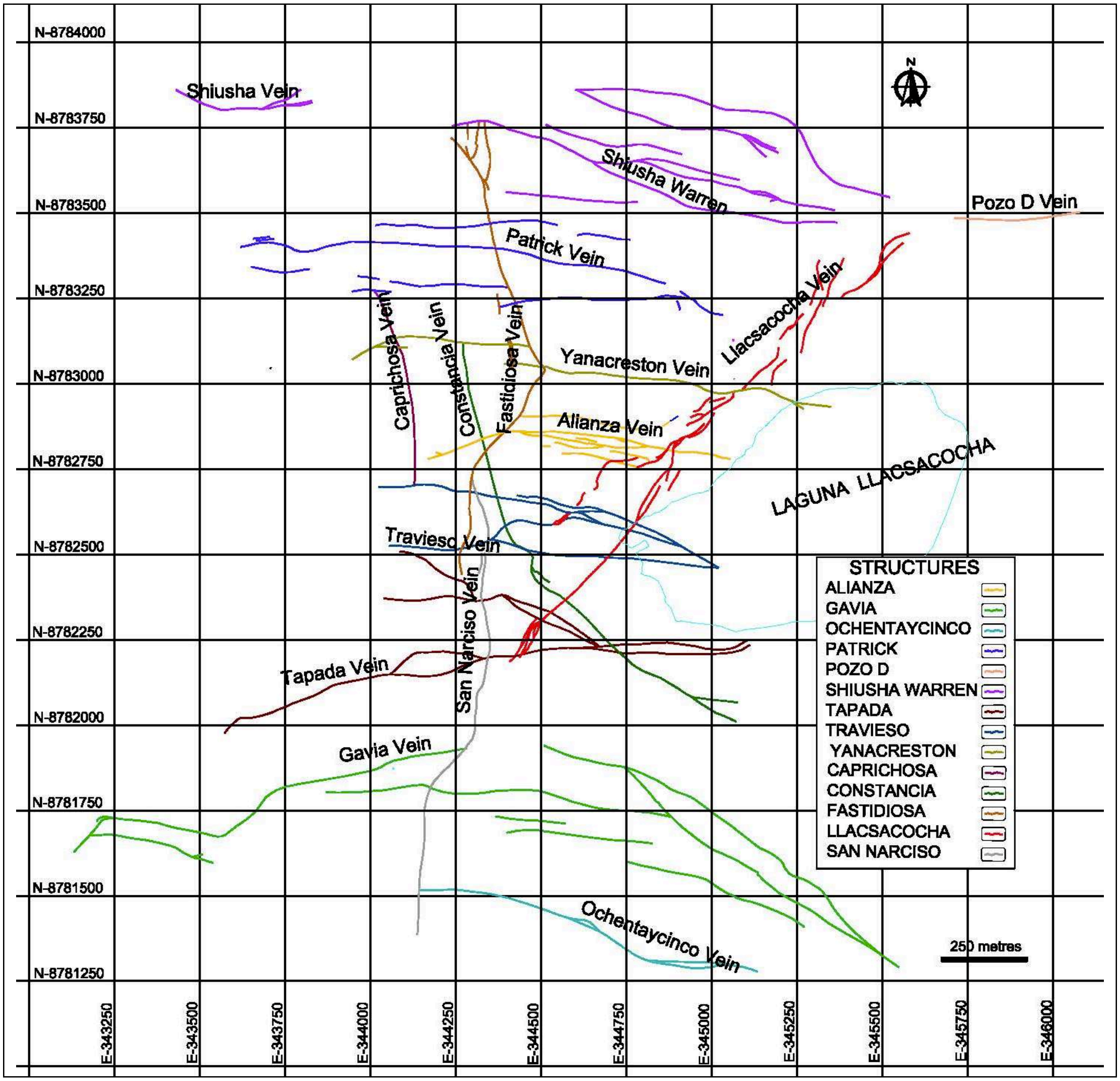


7.2 Mineralization

Huaron is a hydrothermal polymetallic deposit of silver, lead, zinc, and copper mineralization hosted within structures likely related to the intrusion of monzonite dikes, principally located within the Huaron anticline. Mineralization is encountered in veins parallel to the main fault systems, in replacement bodies known as "mantos" associated with the calcareous sections of the conglomerates and other favourable stratigraphic horizons, and as dissemination in the monzonitic intrusions at vein intersections.

The mineralized veins vary from a few centimetres to up to 10 metres wide, and may extend along strike for up to 1,800 metres. Most of the structures show open mineralization at depth and along strike and have excellent exploration potential. Vein orientations vary but generally trend east-west or north-south. The current mineral reserves are based on 96 different structures which have been grouped into 13 families of mineralized trends according to location and orientation (Figure 7.2).

Figure 7.2 Plan of mineralized trends



The first pulse of mineralization was associated with the emplacement of intrusive bodies and the subsequent opening of structures, when zinc, iron, tin, and tungsten minerals were deposited. This was followed by a copper, lead, and silver rich stage, and finally by an antimony/silver phase associated with quartz.

The most important economic minerals are tennantite-tetrahedrite (containing most of the silver), sphalerite, and galena, but more than 90 other minerals have been identified. The principal gangue minerals are pyrite, quartz, calcite, and rhodochrosite. Enargite and pyrrhotite are common in the central copper core of the mine and zinc oxides and silicates are encountered in structures with deep weathering. Silver is also found in pyrargyrite, proustite, polybasite, and pearceite.

There is a definite mineral zoning at Huaron. There is a central copper core where the principal economic mineral is enargite and the structures contain copper with pyrite and quartz. This area was extensively mined by previous operators but further mining in this area is dependent on metal grades and prices overcoming the negative economic impacts of high arsenic and antimony content and poor metal recoveries. To the east and west of the central core silver, lead, and zinc minerals are associated principally with calcite and rhodochrosite. Areas to the north of the central core contain silver, lead, and zinc minerals associated with pyrite. A narrow band running north-south along the general axis of the anticline contains principally sphalerite and sulfosalts with rhodochrosite.

The central core of the district has undergone adularia-sericite alteration overprinted by strong silicification and epidote-pyrite. This core is surrounded by an epidote-pyrite-quartz zone that grades outward to chlorite and magnetite. The mineralized structures are concentrated in the central core of the district but important structures continue into the outer zones.

8 Deposit types

Huaron is a hydrothermal polymetallic silver-copper-lead-zinc deposit likely related to Miocene aged intrusions of monzonite dikes within the Huaron anticline. Exploration for economic veins, mantos, and disseminated mineralization styles similar to those known to be present on the Property is conducted using a combination of underground diamond drilling and channel sampling from drifts excavated along the mineralized zones.

9 Exploration

There is no available exploration data collected by previous operators other than diamond drilling. Channel samples were taken by the French Penarroya Company and by Hochschild, but no details on the nature and extent of the samples are available, and none of the channel samples collected by previous owners are used in the estimation of mineral resources and mineral reserves.

Since Huaron is an active mining operation, current exploration is conducted using a combination of underground diamond drilling and channel sampling from drifts excavated along the mineralized zones. Generally, underground drillholes that intersect promising economic grade mineralization are followed up by drifting. Vein intersections and sample grade information from both the channel samples and the diamond drillholes are used to estimate mineral resources and mineral reserves of the volumes anticipated to be mined using bulk mining methods between the drift levels. The results and interpretation of this information is presented in Section 14 of this technical report.

During 2013, 6,900 metres of underground drifting were advanced for mining and channel samples collected in the drifts are used for mineral resource and mineral reserve definition. Channel samples are collected every 4 metres across the vein in stoping areas, every 2 metres across the vein in sublevels and drifting areas, and every 1 metre in vertical development raises. Each channel sample weighs between 4 kg and 6 kg and is taken perpendicular to the structure after the face has been cleaned with a water hose or hard brush to reduce the risk of sample contamination. Samples are selected according to geological intervals and according to the width of the intersection with the vein, and vary between 0.1 metres and 1.5 metres in length. Between 2006 and 2013, Pan American collected 173,316 samples from 88,064 channels.

Channel sampling generally provides reliable data for the estimation of mineral resources and mineral reserves, provided that appropriate measures are taken to prevent sample contamination and to ensure an unbiased, representative sample is taken. Because the channel samples are taken at a regular spacing in drifts above and below the mineral reserve volumes, the samples are as spatially representative as possible. There are no known issues that could materially impact the reliability of the results.

10 Drilling

Due to Huaron's long mine life, there is extensive diamond drillhole coverage within reach of the underground workings. There are no available details on the nature of drilling undertaken by previous operators; therefore the following descriptions are with respect to Pan American's practices. Only one drillhole drilled prior to Pan American's management of the Property is used in the estimation of mineral resources and mineral reserves.

Pan American orients diamond drillholes to intersect the targeted vein as close to perpendicular as possible and they are spaced as regularly as possible to ensure representative sample coverage. A summary of the drillhole data available for the December 31, 2013 mineral resource and mineral reserve estimate is given in Table 10.1. A plan showing the location of the drillholes is given in Figure 10.1.

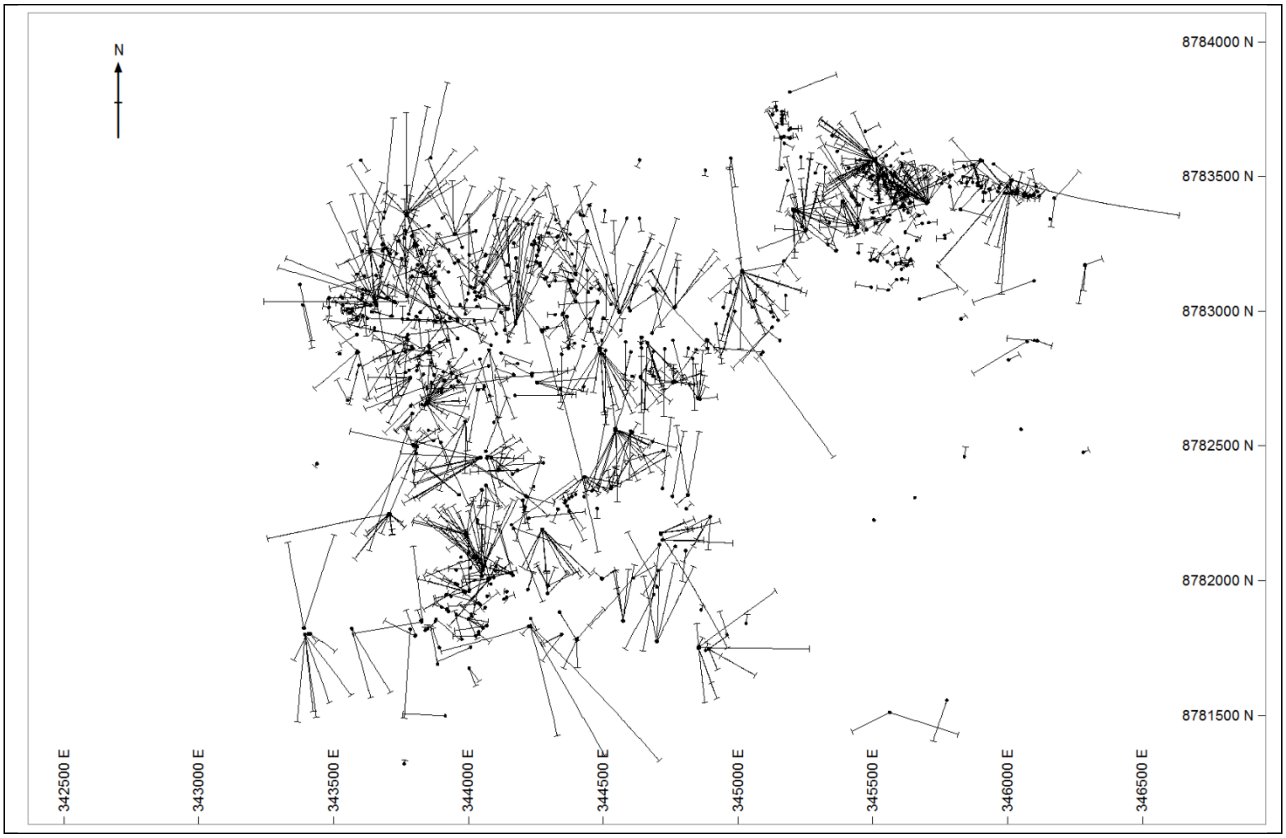
All underground holes are drilled by an external drilling contractor under Pan American supervision using BQ, NQ, and HQ diameter industry standard underground diamond drill rigs. The collar coordinates and bearing and dip are surveyed with a total station instrument and the drill hole deviation is measured regularly using a down hole survey instrument.

Diamond drilling at Huaron generally provides reliable data for the estimation of mineral resources and mineral reserves, provided appropriate measures are taken to minimize sample material loss, to prevent sample contamination, and to ensure an unbiased, representative sample is taken. Ground conditions for diamond drilling at Huaron are generally good, resulting in high drill core recovery, and measures are taken to minimize potential contamination. There are no known drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

Table 10.1 Drillhole summary

Year	Operator	Number of holes	Metres
1968 to 1997	Hochschild	318	17,747.64
2000 to 2013	Pan American	1,000	147,783.38
	Total	1,318	165,531.02

Figure 10.1 Huaron drillhole location map



11 Sample preparation, analyses, and security

There is no available information on the nature of the sample preparation, analyses, and security undertaken by previous operators. All of the information described in this section is relevant to Pan American's procedures.

11.1 On-site sample preparation and security

Drill cores are placed in corrugated plastic core boxes and transported to the core logging facility on site. The boxes are marked and numbered by the drill crews and tags are inserted between drill core runs to indicate the drill depths. Diamond drillhole samples are split in half with a diamond bladed saw after the core has been logged and the sample intervals have been marked by the geologist. Downhole intervals are logged for fracture density and core recovery to determine the rock quality, and for lithology, structure, and alteration types.

Channel samples are collected with a hammer and chisel every 4 metres across the vein in stoping areas, every 2 metres across the vein in sublevels and drifts, and every 1 metre in vertical developments. Each channel sample weighs between 4 kg and 6 kg and is taken perpendicular to the structure after the face has been cleaned with a water hose or hard brush to reduce the risk of sample contamination.

Samples from both channel samples and diamond drillholes are selected according to geological intervals and the width of the intersection with the vein, and vary between 0.1 metres and 1.5 metres in length. Unmineralized hangingwall and footwall host rocks are sampled for at least 3 metres beyond visible mineralization. Internal unmineralized material located between mineralized intersections is sampled over the entire length if the unmineralized zone is less than 6 metres wide.

The rock mass is generally of good quality and there have been few issues regarding sample loss or contamination during sample collection and splitting. There are no known drilling, sampling, or recovery issues that could materially impact the reliability of the results.

No out of the ordinary security measures are taken with the samples, but as the samples are prepared and analysed within the confines of the general mine security enclosures, there is no reason to believe that the validity and integrity of the samples have been compromised.

Both channel and drill core samples are placed in new, clean plastic bags with two sample number tags on the inside and one number and barcode tag on the outside, and sealed with a metal strip.

11.2 Laboratory sample preparation and analytical methods

Both the channel and the underground diamond drillhole samples are sent to the on-site laboratory at Huaron, which is not certified by any standards association but is managed and operated by the international commercial laboratory firm, SGS. Assays are performed using acid digestion and atomic absorption spectroscopy, and analysed for silver, zinc, lead, and copper content.

11.3 Quality assurance and quality control

The laboratory conducts a routine internal quality assurance/quality control ("QAQC") programme. For each batch of 20 samples at least one duplicate sample and one certified standard is submitted by the laboratory. The laboratory information management system eliminates as much manual data entry as possible and ensures that no transcription errors occur when applying the assay results to the sample intervals in the geological database.

A QAQC programme supervised by the geology department is also implemented which includes the submission of one certified standard and one blank on a daily basis to the onsite laboratory. Duplicate samples comprising one quarter of the second half of the diamond drill core and duplicate samples obtained by collecting a sample of equal weight from the same channel sample location as the original are also submitted, both to the onsite laboratory and to a second laboratory to act as a check on the onsite laboratory. A system is in place to ensure that any failed QAQC samples are identified and that the required corrective action is taken in a timely manner, which usually involves a review of procedures to ensure that the established sample preparation and analysis protocols are being followed.

Between April 2006 and December 2013, nearly 2,900 samples from three different standard samples were submitted to the laboratory with the drill core and channel samples. Sampling error is assumed to follow a normal distribution, which means that 70% of the results are expected to fall within one standard deviation of the certified value, 95% of the results are expected to fall within two standard deviations, and 99.7% of the results are expected to fall within three standard deviations. As a whole, the standards performed only slightly worse than expected, at 1% worse than expected at one standard deviation, 7% worse than expected at two standard deviations, and 3% worse at 3 standard deviations. The majority of the failures are associated with a standard that was in use from April 2006 until the stocks of that standard were depleted in November 2011. The standard performed relatively normally between April 2006 and May 2009, at which point unusual low grade values are observed in the results. The two standards currently in use have a very low failure rate. The lower grade standard shows no systematic bias while the higher grade standard shows a slight high bias of a magnitude within the first standard deviation. There is evidence of standard and blank identification mislabelling errors, but overall the results are acceptable and indicate reasonable accuracy at the laboratory. Details of the standard performance are given in Table 11.1.

Table 11.1 Standard sample results

	Standard 1	Standard 2	Standard 3
Count	1,450	443	1,006
Fail +1 SD	136	11	1
Fail -1 SD	739	12	2

	Standard 1	Standard 2	Standard 3
% Fail 1 SD	60	5	0
Fail + 2 SD	22	1	1
Fail - 2 SD	313	3	2
% fail 2 SD	23	1	0
Fail +3 SD	5	1	1
Fail -3 SD	89	3	2
% Fail 3 SD	6	1	0

Between April 2006 and December 2013, approximately 1,500 samples of unmineralized "blank" material were submitted with the drill core and channel samples to the onsite laboratory to assess for sample grade contamination during sample preparation and analysis. A review of this data indicates that the laboratory has not consistently performed actual assays on the samples. Pan American is currently reviewing this issue with the laboratory to ensure that the proper protocol is followed at all times. No significant failures are noted for samples that have been assayed.

Also between April 2006 and December 2013, approximately 4,000 duplicate samples were submitted with the drill core and channel samples to the onsite laboratory, as well as to external laboratories including Acme, ALS Chemex, and Certimin, all located in Lima. The results of precision pairs may be assessed using a ranked absolute relative difference plot, with acceptable results corresponding to ±30% agreement on 90% of field duplicate pairs and ±10% agreement on 90% of pulp duplicate pairs when using the ranked half absolute relative difference plot. The results indicate good precision between both types of duplicate sample pairs with no biases of any concern. A summary of the duplicate pair results is given in Table 11.2.

Table 11.2 Duplicate sample results

Laboratory	Sample Numbers	Duplicate sample type	± Agreement %	Bias
SGS – Huaron	875	Field	26	Duplicates have slightly lower grades
Certimin	609	Pulp	6	Duplicates have slightly lower grades
ALS Chemex	1,115	Pulp	8	Duplicates have lower grade above the 97.5th percentile
Acme	1,337	Pulp	6	None

The Qualified Person responsible for this section of the report is of the opinion that the sample assays are reliable for the estimation of mineral resources and reserves at Huaron.

12 Data verification

12.1 Geology data reviews

On an annual basis, the qualified person reviews the diamond drilling plans and the mineral resource estimation procedures including the vein interpretations, treatment of extreme sample grade values, and the estimate of tonnes and grade. The reconciliation between the mine plan and the processing plant are reviewed quarterly, and the drillhole vein intersection width and grade results and QAQC results are reviewed monthly. During mine visits, the exploration drilling, sample, and security protocols are reviewed, along with the operational mine plan, actual mine operation data, and grade control protocols.

In the opinion of the qualified person, the data used to estimate mineral resources and reserves are sufficiently reliable for those purposes.

12.2 Mine engineering data reviews

The qualified person undertakes regular reviews of the mine engineering data, including the mining fleet and mine operational and production data, grade control data including dilution and ore loss, geotechnical and hydrological studies, waste disposal requirements, environmental and community factors, the processing data, the development of the life of mine plan including production and recovery rates, capital and operating costs estimates for the mine and processing facilities, transportation, logistics, and power and water consumption and future requirements, taxation and royalties, and the parameters and assumptions used in the economic model.

In the opinion of the qualified person, the data and assumptions and parameters used to estimate mineral resources and reserves are sufficiently reliable for those purposes.

12.3 Metallurgy data reviews

The qualified person undertakes regular reviews of the processing plant operational data such as metallurgical results, production, reagent consumption, treatment rates, plant availabilities and utilization, metallurgical lab procedures, and general business performance.

In the opinion of the qualified person, the data and assumptions used to estimate the metallurgical recovery model for the mineral resource and reserve estimates are sufficiently reliable for those purposes.

13 Mineral processing and metallurgical testing

No metallurgical test work prior to Pan American's interest in the mine is available for disclosure. Metal recovery forecasts are based on the historical performance of the plant operations. As part of normal plant operating procedures, routine metallurgical test work is undertaken on an annual or more frequent basis as necessary to optimize metallurgical performance and to manage the ore blend necessary to produce an optimal concentrate product. The majority of this test work comprises flotation tests to assess for metallurgical recovery, the presence and concentration of deleterious metals, and the proportion of each economic metal present in the silver-rich copper, lead, and zinc concentrates. Spatially representative samples are selected for this work from the principal veins comprising the majority of the plant feed. The results of the test work form part of the parameters used to estimate annual mineral resources and reserves. A summary of the metallurgical recoveries by metal achieved in the plant over the past five years is given in Table 13.1. The distribution of silver present in the concentrates is typically between 70% and 75% to the copper concentrates, between 15% and 20% to the lead, and between 9% and 10% to the zinc. The copper concentrates average 26% copper, the lead concentrates average 51% lead, and the zinc concentrates average 49% zinc. Silver grades in the concentrates are approximately 4,500 ppm Ag in the copper concentrate, 1,700 ppm Ag in the lead concentrate, and 300 ppm in the zinc concentrate.

Table 13.1 Metallurgical recovery by year

Year	% recovery Ag	% recovery Zn	% recovery Pb	% recovery Cu
2013	82	70	71	75
2012	82	68	70	75
2011	79	63	77	63
2010	77	60	68	60
2009	79	64	66	65

14 Mineral resource estimates

14.1 Disclosure

Pan American updates mineral resource estimates on an annual basis following reviews of metal price trends, operational performance and costs experienced in the previous year, and forecasts of production and costs over the life of the mine. Other than normal course changes in metal prices, which fluctuate from time to time, no new material information has become available between June 30, 2014 and the signature date given on the certificates of the qualified persons.

Pan American conducts infill and near-mine drilling through much of the year. The drillhole data cut-off date for the commencement of the mineral resource estimate was December 31, 2013. Mineral resource estimates are prepared on an annual basis by Pan American staff under the supervision of and reviewed by Michael Steinmann, P. Geo., Executive Vice President, Corporate Development and Geology of Pan American Silver, who is a qualified person as that term is defined by NI43-101.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral resources. Mineral resources that are not mineral reserves do not have demonstrated economic viability. Mineral resources reported here are in addition to mineral reserves.

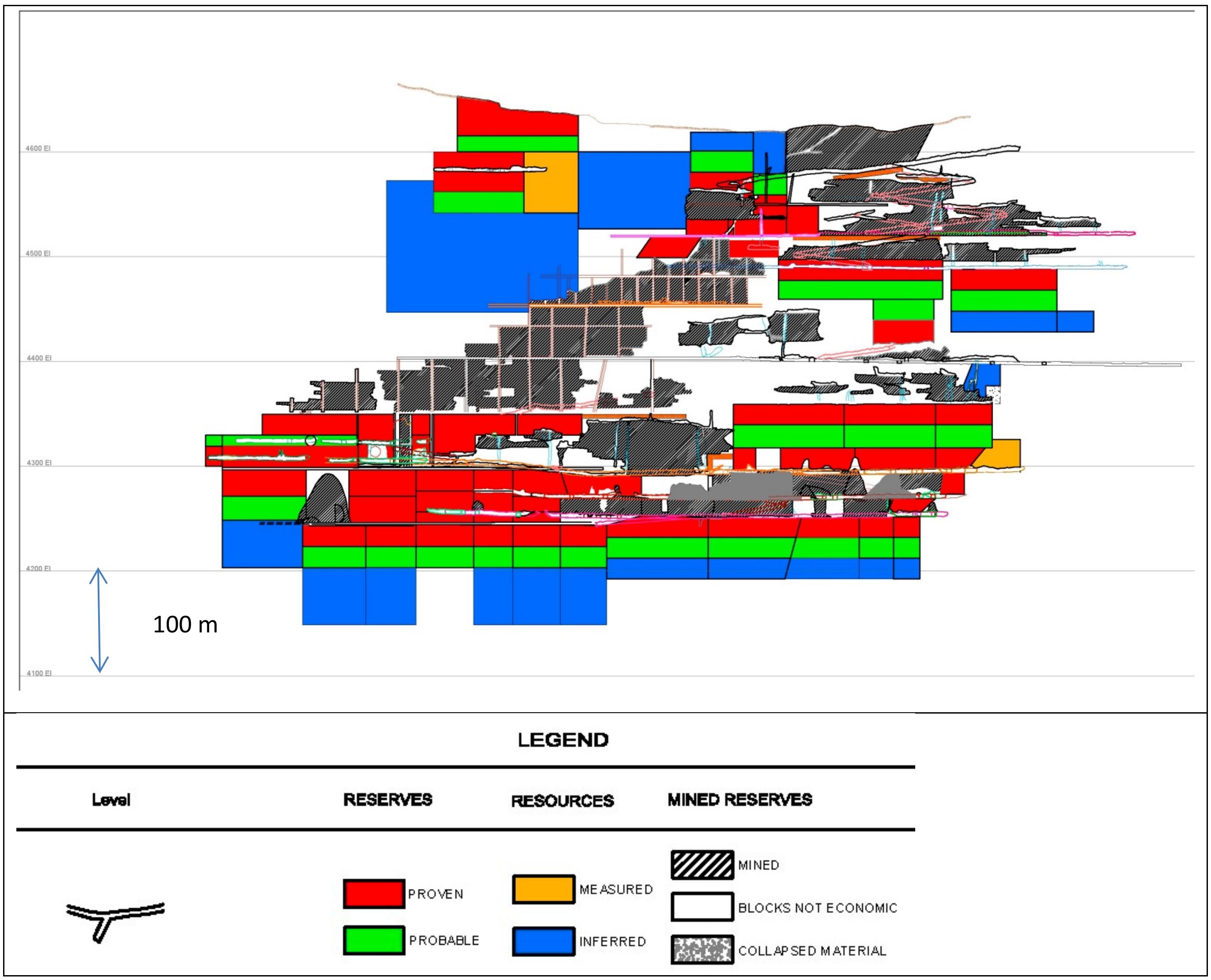
14.2 Method

Mineral resource estimates are prepared on an annual basis and updated with the additional diamond drilling and channel samples collected during the year, using a variation of the polygonal method in AutoCAD and Excel software. Each vein structure is projected onto a longitudinal section and divided into a series of geometrical blocks created to best fit an area of mineralization into a minable block, if the mineralization present is considered economic. The dimensions of the mining blocks are based on mining levels, stope layouts, and previously mined out areas, and range in length from between 20 metres and 70 metres. They are generally on the order of 50 metres long and 20 metres high. An example longitudinal section from the Veta Tapada structure is given in Figure 14.1.

The average true width of the vein intersections is applied to the block area to determine the volume. Sample grades are reviewed and treated for extreme values if necessary, and then the average grade of the intersections within each block is assigned to the block. Bulk density values are applied to the volume of the block to estimate the tonnes of each block, based on the average bulk density measured from samples selected from the different veins.

The blocks are then depleted for previous mining. Planned mining dilution is applied to each block considering the width, dip angle, mining method, and expected ground conditions of each vein. A value per tonne is applied to each block based on metal content, metal prices, concentrate sales terms, concentrate quality, processing recovery, transportation, refining, and other selling costs such as storage fees, port fees, etc. Metallurgical recoveries are determined separately for each group of veins or structures to account for variability in the recovery. Metal prices used to estimate mineral resources were $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. Any blocks that do not meet the criteria of resources are removed. Each block is classified for measured, indicated, and inferred confidence categories depending on the location of the block relative to mine workings, the type of sample available in each block, and the number of samples available to estimate each block.

Figure 14.1 Example longitudinal section through Veta Tapada structure



14.3 Mineral resource tabulation

Mineral resources for Huaron as at June 30, 2014 are given in Table 14.1. This tabulation includes material classified as measured, indicated, and inferred, using metal prices of $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. The mineral resources were estimated as of December 31, 2013 and depleted for mining as of June 30, 2014.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral resources. Mineral resources that are not mineral reserves do not have demonstrated economic viability. Mineral resources reported here are in addition to mineral reserves.

Table 14.1 Huaron mineral resources as at June 30, 2014

Classification	Tonnes (Mt)	Ag ppm	Ag contained metal (Moz)	Cu%	Pb%	Zn%
Measured	1.5	162	7.9	0.20	1.85	3.06
Indicated	1.0	166	5.2	0.24	1.89	3.22
Measured + Indicated	2.5	164	13.2	0.21	1.86	3.13
Inferred	8.5	161	44.0	0.29	1.61	2.72
Notes: Mineral resources do not have demonstrated economic viability. Totals may not add up due to rounding. Mineral resource estimates were prepared under the supervision of or were reviewed by Michael Steinmann, P. Geo., Executive Vice President, Business Development and Geology of Pan American. Metal prices used for the mineral resource estimate were $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. Mineral resources are in addition to mineral reserves.						

15 Mineral reserve estimates

15.1 Disclosure

Pan American updates mineral reserve estimates on an annual basis following reviews of metal price trends, operational performance and costs experienced in the previous year, and forecasts of production and costs over the life of the mine. Other than normal course changes in metal prices, which fluctuate from time to time, no new material information has become available between June 30, 2014 and the signature date given on the certificates of the qualified persons.

Mineral reserve estimates were prepared by Pan American technical staff under the supervision of and reviewed by Martin Wafforn, P. Eng., Vice President, Technical Services of Pan American, who is a qualified person as that term is defined by NI 43-101.

Mineral reserve estimates are based on assumptions that included mining, metallurgical, infrastructure, permitting, taxation, and economic parameters. Increasing costs and taxation and lower metal prices will have a negative impact on the quantity of estimated mineral reserves. There are no other known factors that may have a material impact on the estimate of mineral reserves at Huaron.

15.2 Method

Mineral resource blocks classified as measured and indicated that can be mined economically are converted to mineral reserves. Some small isolated blocks may be removed if the cost and the logistics make them uneconomic to mine. A value per tonne is applied to each block based on metal content, metal prices, concentrate sales terms, concentrate quality, metallurgical recovery, transportation, refining, and other selling costs such as storage fees, port fees, etc. A minimum required value per tonne cut-off is calculated for the blocks depending on the block location and the mining method used to mine the block. Processing costs are assumed to be the same for all ore types, and metallurgical recoveries are determined separately for each group of veins or structures to account for variability in the metal recovery. Metal prices used to estimate mineral reserves were $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper.

Any blocks which are considered uneconomic after these parameters are applied either remain as mineral resources or may be removed from the inventory completely if they do not meet the criteria of resources. The mineral reserves are classified as proven or probable depending on the resource classification.

15.3 Mineral reserve tabulation

Mineral reserves for Huaron as at June 30, 2014, comprising material classified as proven and probable reserves using metal prices of $22 per ounce of silver, $1,950 per tonne of lead,

$1,850 per tonne of zinc, and $6,800 per tonne of copper, are given in Table 15.1. The mineral reserves were estimated as of December 31, 2013 and depleted for mining as of June 30, 2014.

Table 15.1 Huaron mineral reserves as at June 30, 2014

Classification	Tonnes (Mt)	Ag ppm	Ag contained metal (Moz)	Cu%	Pb%	Zn%
Proven	6.5	170	35.5	0.42	1.44	2.98
Probable	4.7	163	24.9	0.42	1.50	2.89
Proven + Probable	11.2	167	60.4	0.42	1.46	2.94

Notes: Totals may not add up due to rounding. Mineral reserve estimates were prepared under the supervision of or were reviewed by Martin Wafforn, P. Eng., Vice President, Technical Services of Pan American. Metal prices used for the mineral reserve estimate were $22 per ounce of silver, $1,950 per tonne of lead, $1,850 per tonne of zinc, and $6,800 per tonne of copper. Mineral reserves are in addition to mineral resources.

16 Mining methods

16.1 Mining methods

Mining is undertaken using a combination of conventional cut and fill, mechanised cut and fill, and mechanized sub-level long hole stoping methods. The selection of the mining method depends on the location, width, orientation, and ground conditions of the vein to be mined, as well as the ground conditions of the footwall and hangingwall. Drift and fill mining is planned to be implemented to safely mine areas where ground conditions are expected to be significantly less competent than those typically encountered.

Conventional cut and fill stoping is typically used in the narrowest veins, where blast holes are drilled using hand held jackleg drills and slushers are used to remove the blasted ore. The cut and fill stopes are generally 80 m in length along strike and extend between levels which are typically spaced 70 m apart vertically. Each cut is 1.5 m in height. Depending on ground conditions, the blast holes are drilled either upward or horizontally with a hand held drill. Mechanised cut and fill is often used in areas where the development of an access ramp can be economically justified. This is typically the case where sufficiently wide and economic veins are present or where the north-south striking and east-west striking vein sets cross and provide additional mining faces. Drilling is undertaken with hand held drills (jacklegs or stopers) or electric hydraulic jumbo drills and the broken ore is removed using scoop trams. Mechanized cut and fill mining using development jumbos is limited to horizontal holes only. Each cut is 2.4 m in height. Cycloned mill tailings are piped into the cut and fill stopes as backfill. Uneconomic material in the veins is typically blasted down and left as backfill.

In 2012 Huaron increased the use of sub level long hole stoping using electric hydraulic long hole drills and scoop trams and utilizing development waste for back fill. The dimensions of the mining blocks are based on mining levels, stope layouts, and previously mined out areas, and range in length from between 20 m and 70 m. They are generally on the order of 40 m long with sub levels spaced 10 m apart vertically. Slightly more than half of the mine's production is extracted using the long hole stoping method.

The minimum mining width is 1.0 m and planned dilution is included in the mine design, which varies according to the ground conditions, mining method, vein width, and the dip of the vein. The dilution factors range from approximately 8% to 44%, but on average they are around 20%. In the long hole stoping areas, the actual mined dilution is measured with a cavity monitoring survey instrument. In the cut and fill areas the width of the vein and the width of the cut is measured on a regular basis as mining advances, and compared with the predicted dilution.

Sub-levels, cross cuts, drifts, and ramps are excavated at 3.5 m wide by 3.8 m high in sub level stoping areas. In the cut and fill mining areas the cross cuts and ramps are mined using the same dimensions except for sub levels and drifts, which are excavated at 3.0 m by 3.0 m.

A combination of haul trucks and electric locomotives are in place for haulage from the upper parts of the mine. A rehabilitated shaft with a tower mounted friction hoist is used for hoisting ore and occasionally waste to the surface. Ore sourced from below the 500 level is hauled to the surface crusher using a combination of diesel haul trucks and hoisting in the mine shaft. The completion of a rail haulage system on the 250 level in 2014 will increase the utilization of the mine shaft and reduce the reliance on contractor operated mine haul trucks.

Employee and material movement in and out of the mine is via three mine portals driven into the side of the mountain. Access is also possible via ladders in escape ways and ventilation raises to the surface as well as via a drainage tunnel.

The mine has been reducing the use of third party contractors but still relies on contractors for several important aspects of the underground mine. These include drilling; mine development; stope preparation and mining in the south zone of the mine; raise boring; Alimak raising; the preparation, transport, and application of wet mix shotcrete; and truck haulage of plant feed for processing up the mine ramp to surface stockpiles.

16.2 Geotechnical and hydrological parameters

There are approximately 2 square kilometres of abandoned mine workings in the areas of Huaron and the adjacent Animon mines. The Paul Nevejans tunnel receives approximately 130 litres per second of water from water draining from Llacsacocha Lake and lagoons overlying the Animon mine. Drainage at Huaron is by gravity via the 8 km long Paul Nevejans tunnel at level 250, which was constructed during 1948 and 1954 to drain the faults and Sevilla chert in the areas north of Llacsacocha Lake. Only minimal discharge, less than 10 litres per second, occurs from the mine workings above the 250 level. Much of the flow, at a rate of approximately 250 litres per second, enters the Paul Nevejans tunnel at a 1 km stretch located to the north of Llacsacocha Lake. Pan American developed the 180 level and a pumping station with back up diesel generated power supply to pump any water inflows into the 180 level the 70 m up to the Paul Nevejans drainage tunnel.

The mine covers a large area and has been in operation for many years and therefore a wide range of ground conditions are present at the mine. Pan American's minimum ground support policy is to support each round after blasting with split sets before the next blast in the heading occurs. The mine employs a team of geotechnical engineers and periodically requests assistance from third party geotechnical consultants.

The geotechnical engineers have developed a matrix for designing the ground support in the development headings that considers the ground conditions in each mining area, including the degree of rock fracturing, the condition of the fractures, water inflow, the width of the excavation, and whether the excavation will remain permanently open or whether it will be backfilled. The resulting design matrices specify systematic pattern bolting at a range of bolt spacing and orientations, as well as any necessary addition of welded wire mesh or straps, two different thicknesses of fibre reinforced shotcrete plus welded wire mesh, and steel arches.

16.3 Production rates and expected mine life

The life of mine plan is based on the mineral reserves presented in Section 15.3 and contemplates an annual processing rate of 870,000 tonnes (2,384 tonnes per day) throughout the mine life for a remaining mine life of 12.9 years. The projected mine life may increase if the current mineral resources can be converted to mineral reserves or if additional mineral resources are defined and can be converted to mineral reserves.

The bottom level of the currently estimated mineral reserves and the life of mine plan is assumed to be the 180 level. The veins and mineralized structures that have been mined on the 180 level do not appear to be significantly different in terms of grade and width to the same structures encountered higher up on the 250 level, and the potential exists for these veins and structures to continue at depth below the 180 level. A study of the resource potential below the 180 level and the economics of mining this potential considering the necessary development, infrastructure (including pumping and hoisting) has not yet been conducted. The processing plant is currently approaching its maximum capacity, and increasing the plant throughput further without increasing the crushing, grinding, and flotation capacity of the plant would result in reduced metal recovery. Some studies have been conducted into incrementally increasing the capacity of the processing plant; however, the economics of a mine expansion have not been quantified at this time.

16.4 Waste mining requirements

The total annual waste produced from mine development is on the order of approximately 500,000 tonnes, with the majority of that waste retained inside the mine as backfill in the long hole and mechanized cut and fill stopes. Waste encountered while mining cut and fill stopes is blasted where possible and left in the stope when it is backfilled. Any waste that is hauled to the surface is typically used for tailings facility or other construction. Any excess material is deposited in an engineered waste rock dump located on top of historical tailings deposits near the process plant.

16.5 Mining fleet and machinery

The current underground mobile mining equipment fleet owned by Pan American and the mine contractors is shown in Table 16.1.

Table 16.1 Current underground mobile mining equipment

Item	Specification	Quantity
Scooptram	1.5 cubic yard	1
Scooptram	2.2 cubic yard	3
Scooptram	3.9 to 4.2 cubic yard	12
Drill jumbo	1 boom	7
Long hole drill	1 boom	3
Bolting jumbo	1 boom	2
Mine haul truck	15 to 20 tonne	6

Item	Specification	Quantity
Scissor lift	2.7 tonne	1
Volvo trucks	25 tonne	12

17 Recovery methods

17.1 Introduction

Huaron operates an 870,000 tonne per year capacity mill using froth induced flotation technology to produce silver in copper, lead, and zinc concentrates. The mill flowsheet consists of three-stage crushing, ball mill grinding, and selective flotation of the ore to concentrates, followed by thickening and filtering of the concentrates.

17.2 Crushing

Ore is delivered from the mine to a 15,000 tonne capacity stockpile where the material is separated by metallurgical characteristic to obtain an optimal ore blend for processing through the plant. The blended material is fed into a 100 tonne capacity coarse ore bin and then via an apron feeder to a vibrating grizzly. The oversize from the grizzly is reduced in size by a jaw crusher to 3.5 inches and joins the undersize via conveyor to a vibrating screen. The oversize material reports to a secondary crusher where it is reduced to a 2.5 inch product size by a 4.25 foot Symons standard cone crusher and then joins the undersize via conveyor to another vibrating screen. The undersize material reports to a tertiary 4.25 foot Symons short head cone crusher where it is reduced in size to 100% passing one quarter inch. The final crushed product travels by conveyor belt equipped with an electromagnetic separator and metal detector for storage in three 300 tonne capacity fine ore bins prior to entering the grinding circuit.

17.3 Grinding and classification

The grinding circuit consists of a 12 foot diameter by 16 foot long primary ball mill operating in an open circuit with two parallel secondary ball mills, one 8 foot diameter by 8 foot long and the other 6.5 foot diameter by 14 foot long. The 6.5 foot diameter by 14 foot long mill was added to the process flowsheet at the end of 2013 and allows for increased processing throughput to 870,000 tonnes per annum at the target final product particle size. The milled product from the primary and secondary ball mills reports to a classification hydrocyclone nest of two units of 20 inches diameter each. The hydrocyclone is in close circuit with the secondary ball mills and the overflow of the hydrocyclone classification is treated in a third stage 8 foot diameter by 3 foot long mill. The third stage grinding is in close circuit with a hydrocyclone nest of four units of 12 inches diameter each. The final milled product is approximately 60% at minus 200 mesh, approximately 30% at between 65 and 200 mesh, and approximately 10% at plus 65 mesh.

17.4 Flotation

The pulp from the grinding circuit is fed to the flotation circuit. The flotation circuit includes an initial stage of depression of zinc and flotation of a bulk concentrate. The bulk concentrate consists of lead and copper and is treated with sodium dichromate to separate and produce a silver rich lead and copper concentrate. The tailings from the bulk flotation are activated and conditioned with copper sulphate and lime to modify the pH and to produce a zinc concentrate. The bulk flotation occurs in two stages roughing, four stages of cleaning, and three stages of scavenging. The cleaning concentrate is sent to the copper-lead separation circuit while the scavenger tails are pumped to a zinc flotation circuit. The copper-lead separation circuit consists of the flotation of copper through one conditioning tank, two stages of roughing, four stages of cleaning, and one scavenging stage, while the lead concentrates are produced from the scavenger tails. The zinc flotation circuit includes three conditioning tanks, one stage of roughing, three stages of cleaning, and two stages of scavenging to produce the zinc concentrate. The final flotation plant residues are produced in the zinc flotation circuit from the second scavenger tails.

17.5 Thickening and filtering

The copper, lead, and zinc concentrates are thickened in separate thickeners with dimensions of 18 foot by 8 foot, 26 foot by 6 foot, and 28 foot by 10 foot, respectively, to obtain a pulp of approximately 50% to 60% solids, and stored in separate holding tanks. From the holding tanks, the concentrates are pumped in an Andritz 1500 filter press to obtain a moisture content of approximately 7% to 8%. The concentrates are then transported to their respective destinations in 30 tonne trucks.

17.6 Tailings storage

Tailings from the processing plant are classified in a hydro-cyclone to obtain two products, the coarser fraction is returned underground hydraulically to act as backfill material in the cut and fill mining areas and the fine material is delivered to a tailing impoundment area via a pipeline. The tailing impoundment area is constructed primarily of waste rock from the mine. The tailings facilities are continually reviewed and expanded as required, and engineered and constructed to ensure geotechnical stability by Pan American's independent consultants, Ausenco and Anddes, both from Lima, Peru. Monitoring instrumentation is in place to confirm that the performance of the facilities is within design limits. In 2012 and 2013, tailings facility number five was expanded to accommodate another two years of production.

17.7 Power, water, and process consumable requirements

The primary source of power for the mine is the Peruvian national power grid and is sufficient for the mine's current requirements. The annual power consumption at the processing plant is approximately 25 million kilowatt hours per year. For water consumption, the mine is authorized to use up to 320 litres per second of water obtained from a system of nearby lakes for mining and processing activities through payment of a water use permit. This volume of water is more than sufficient for the mine's requirements. A summary of the major process consumable requirements is given in Table 17.1.

Table 17.1 Summary of major process consumables

Item	Annual usage (tonnes)
Grinding media	715
Collectors	43
Frother	45
Copper sulphate	120
Lime	2,080
Flocculant	11

17.8 Summary of metal production

In 2013, the mill processed approximately 802,300 tonnes of ore with metallurgical recoveries averaging 81.8% for silver, 69.8% for zinc, 71.4% for lead, and 74.7% for copper. Metal production during 2013 was approximately 3.3 million ounces of silver, 14,000 tonnes of zinc, 5,800 tonnes of lead, and 3,400 tonnes of copper. For the year as of June 30, 2014, the mine had processed 430,000 tonnes of ore, producing 1.75 million ounces of silver, 7,500 tonnes of zinc, 3,000 tonnes of lead, and 2,600 tonnes of copper. Metal production for the past five years is given in Table 17.2.

Table 17.2 Metal production for the past five years

Year	Processed tonnes	Produced silver ounces (Moz)	Produced zinc tonnes	Produced lead tonnes	Produced copper tonnes
2013	802,000	3.30	14,000	5,800	3,400
2012	683,000	2.91	11,800	4,700	2,300
2011	614,000	2.77	9,600	4,900	1,300
2010	704,000	2.99	10,200	4,300	1,700
2009	699,000	3.56	11,200	4,400	2,200

18 Project infrastructure

A plan of the mine infrastructure is given in Figure 18.1.

18.1 Transportation and logistics

Access to Huaron is by a continuously maintained 285 kilometre paved highway between Lima and Unish and a mostly paved 35 kilometre road between Unish and Huaron. Access is also possible by two other longer and more difficult gravel roads. There is also a light aircraft strip at the town of Vicco, which is located approximately 30 minutes flying time from Lima, at which point an additional 30 minutes of driving is required to reach Huaron.

The nearest city is Cerro de Pasco, a major historical mining center with a population of approximately 70,000 people, which is connected to Lima 320 kilometres to the southwest by road and rail. The nearby town of Huayllay also provides workers, lodging, and supplies. Experienced mining personnel from the region commute to the Property via company sponsored buses, company vehicles, or privately owned vehicles. Materials, fuel, and produced metal concentrates are transported to their destinations by road. Concentrates may also be transported by rail.

18.2 Mine facilities

The existing infrastructure includes the typical components of an operating underground mine, including the mine workings, workshops, laboratories, storage facilities, offices, drill core and logging sheds, water and power lines, access roads, and the worker’s camp and recreational facilities.

18.3 Processing facilities

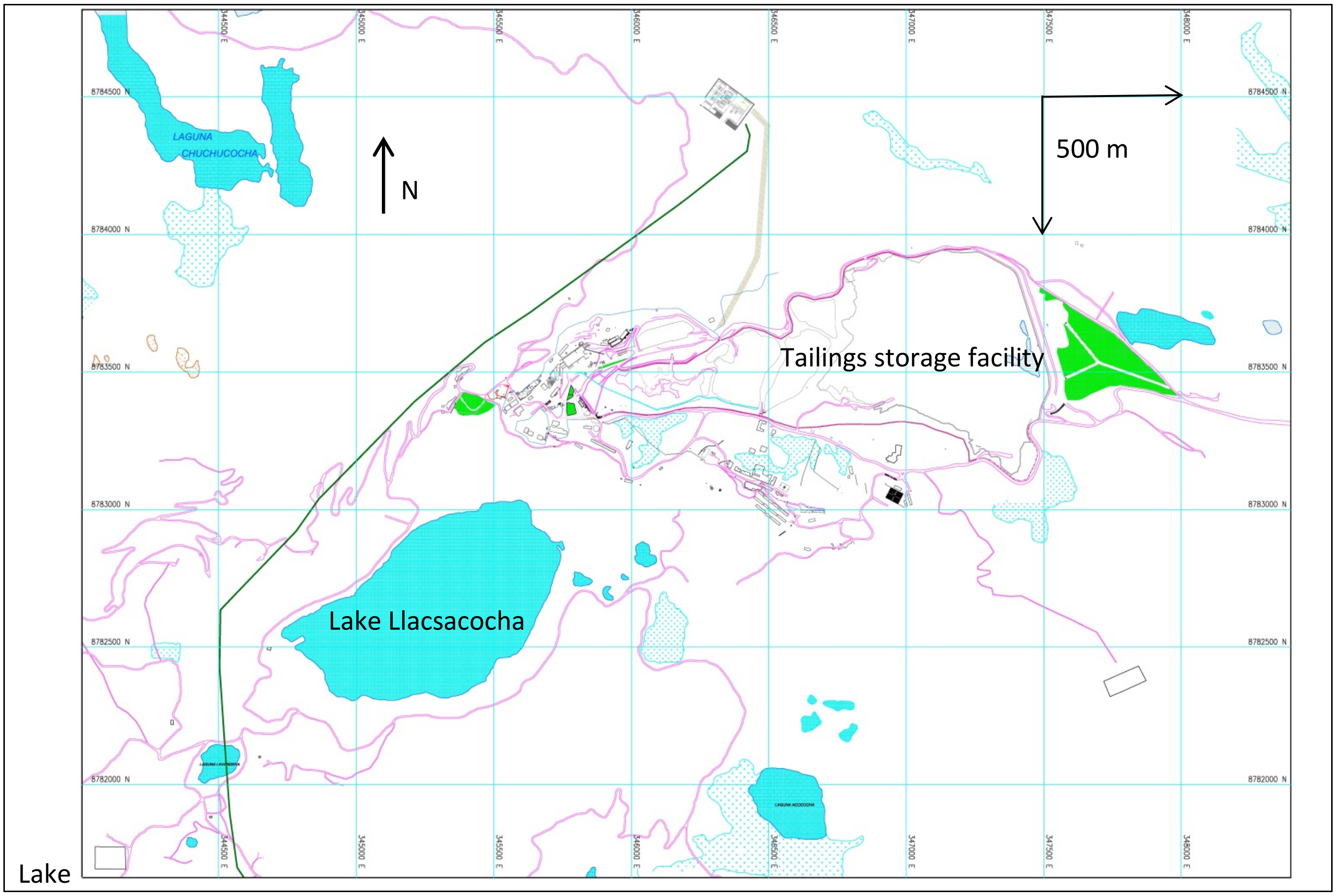
The process plant, known as François, has the capacity to treat up to 870,000 tonnes of ore per year and produces three different silver bearing copper, lead, and zinc concentrates. The process plant consists of crushing, grinding, flotation, thickening, filtration, and concentrate storage areas. The building also includes some process plant offices and a reagent preparation area.

Other major processing facilities include a stockpile area near the processing plant and a tailings facility for the storage of flotation tails. Minor processing facilities include a small building with an analytical lab and metallurgical lab, another building for general administrative offices, a milk of lime preparation plant, a water reservoir for domestic use, a water reservoir for industrial use, and two sewage water treatment plants.

18.4 Power and water

The primary source of power for the mine is the Peruvian national power grid and is sufficient for the mine’s current requirements. The power consumption is approximately 66 million kilowatt hours per year. The mine is authorized to use up to 320 litres per second of water obtained from a system of nearby lakes for mining activities through payment of a water use permit. This volume of water is more than sufficient for the mine's requirements.

Figure 18.1 Mine infrastructure plan



19 Market studies and contracts

Pan American has been producing silver rich zinc, lead, and copper concentrates at Huaron since 2001, which are sold under contracts with arm's length smelters and concentrate traders located in Peru, Asia, and Europe. Huaron receives payment for an agreed upon percentage of the silver, zinc, lead, or copper contained in the concentrates it sells after deduction of smelting and refining costs, based on average spot prices over defined 30-day periods that may differ from the month in which the concentrate was produced. Under these circumstances, Pan American may, from time to time, fix the price for a portion of the payable metal content during the month that the concentrates are produced. To date, Pan American has been able to secure contracts for the sale of all concentrates produced, however, there can be no certainty that Pan American will always be able to do so or what terms will be available at the time.

Huaron has a contract in place with Corporación Tuneleros of Lima, Peru, to undertake drilling; mine development; stope preparation and mining in the south zone of the mine; the preparation, transport, and application of wet mix shotcrete; and haulage of plant feed for processing up the mine ramp to surface stockpiles. A contract is also in place with TUMI Contratistas Mineros S.A.C. of Lima, Peru, for raise boring, and with Operaciones Seprocal of Lima, Peru, for Alimak raising.

Martin Wafforn, P. Eng, Vice President, Technical Service of Pan American and the qualified person responsible for this section of the technical report, has reviewed the contract terms, rates, and charges for the production and sale of the silver, zinc, lead, and copper produced at Huaron, and considers them sufficient to support the assumptions made in this technical report.

20 Environmental studies, permitting, and social or community impact

20.1 Environmental factors

The most significant environmental issue currently associated with the mine is relatively high metal concentrations in the waters discharged from the mine and localized areas of acid rock drainage from the mine's tailings deposit areas. All waters are captured and treated in a treatment plant near the exit of the Paul Nevejans drainage tunnel to achieve compliance with discharge limits. Peruvian legislation sets out the progressive implementation of new, stricter water quality limits both for discharges and receiving waters by the end of 2015. An "Adaption Plan" which sets out a program of baseline monitoring and data collection to evaluate future compliance of Huaron with the new limits was presented to the Ministry of Energy and Mines ("MEM") in September 2012. The plan is still under evaluation and the schedule for implementation of new guideline limits is not yet confirmed.

There are no known environmental or social issues that could materially impact the mine's ability to extract the mineral resources or mineral reserves.

20.2 Environmental studies

A full suite of environmental baseline and impact assessment studies were completed by Pan American for an update and tailings facility expansion Environmental Impact Assessment ("EIA"). The studies performed include surface water, groundwater, biodiversity, seismic hazards, soils, geomorphology, air quality, and climate. No material issues were identified in any environmental studies and the EIA was approved by the Peruvian Ministry for Energy of Mines in 2010.

20.3 Permitting factors

Huaron holds all necessary environmental permits for the continued operation of the mine, including environmental licenses, water use and discharge permits, an approved closure plan, approved management plans, and approved operating permits for the tailings facility.

20.4 Waste disposal

Waste rock is used principally as backfill in the underground mine. Any excess material is deposited in an engineered waste rock dump located on top of historical tailings deposits near the process plant.

The fine fraction of the process tailings is delivered to a tailing impoundment area via a pipeline. The tailing impoundment area is constructed primarily of waste rock from the mine. The facility is continually reviewed and expanded as required, and engineered and constructed to ensure geotechnical stability by Pan American's independent consultants, Ausenco and Anddes. Monitoring instrumentation is in place to confirm that the performance of the facility is within design limits. In 2012 and 2013 the tailings facility was expanded to accommodate another two years of production. Further tailings facility raises will be required throughout the mine life.

20.5 Site monitoring

Pan American conducts environmental monitoring in and around the mine as part of its approved environmental management plans and continues to confirm legal compliance and add to the extensive database of environmental information. This monitoring includes water flow and quality monitoring, air quality, noise, soil, and flora and fauna. The mine also records waste generation, recycling, energy consumption, water use, and effluent quality and flow. There are no material issues arising from the results of this monitoring.

20.6 Water management

All contact waters, including mine dewatering, tailings facility discharge, and acid drainage from waste rock and tailings are captured and treated in a treatment plant near the exit of the Paul Nevejans drainage tunnel to achieve compliance with discharge limits.

20.7 Social and community factors

There are no social or community pressures that materially affect our ability to extract the mineral reserves and resources. Pan American's Peruvian community relations team implements an extensive programme of community engagement activities including information sessions, health services, infrastructure works, and educational and training programs for the local people, which have resulted in the establishment of several small businesses.

20.8 Project reclamation and closure

In October 2003, the Peruvian government passed legislation requiring active mining operations to file closure plans within six months of the date of passage of the legislation. Administrative rules associated with this legislation which laid out detailed closure requirements, including bonding and tax deductibility of reclamation and rehabilitation expenses, were promulgated in October 2005. These rules require that detailed closure plans and cost estimates be compiled by a certified third party consultant by October 2006. The original closure plan for Huaron was filed by mid-year 2004.

In August of 2006, Pan American submitted a comprehensive closure plan for Huaron to the MEM in accordance with that ministry's regulations. The closure plan was prepared by third party consultants registered with the Peruvian authorities as qualified to present closure plans to the MEM. The closure plan includes a summary of the proposed closure scheme for each of the major areas of impact such as mine water, tailings areas, waste rock dumps, plant site infrastructure, and the underground mine. A detailed cost estimate was prepared based on Pan American's and the consultant's shared experience with closure works and experience with other projects in Peru. As required by the MEM, the costs were summarized in three phases: concurrent closure, final closure, and post closure. Updated closure plans are filed as required, with the most recent closure plan modification approved on October 24, 2012.

A closure cost estimate for Huaron was prepared according to State of Nevada approved Standard Reclamation Cost Estimator methodology in 2011 and is updated every year. The current undiscounted value of closure expenditures at Huaron as at December 31, 2013 is estimated at $15.4 million.

20.9 Expected material environmental issues

The most significant environmental issue currently associated with the mine is relatively high metal concentrations in the waters discharged from the mine and localized areas of acid rock drainage from the mine's tailings deposit areas. All waters are captured and treated in a treatment plant near the exit of the Paul Nevejans drainage tunnel to achieve compliance with discharge limits. Peruvian legislation sets out the progressive implementation of new, stricter water quality limits both for discharges and receiving waters by the end of 2015. An "Adaptation Plan" which sets out a program of baseline monitoring and data collection to evaluate future compliance of Huaron with the new limits was presented to the MEM on September 3, 2012. The plan is still under evaluation and the schedule for implementation of new guideline limits is not yet confirmed.

There are no known environmental or social issues that could materially impact the mine's ability to extract the mineral resources or mineral reserves.

21 Capital and operating costs

Since the mine is in operation, any sustaining capital expenditures are justified on an on-going basis based on actual experience at the mine. Sustaining capital expenditures throughout the life of mine are assumed to average $9.3 million per annum, excluding diamond drilling. The amount of diamond drilling conducted to extend the mine life beyond the existing mineral reserves forming the basis of the current life of mine plan will be at the discretion of Pan American and may depend on the success of exploration and diamond drilling programs, if any, and prevailing market conditions.

The majority of sustaining capital expenditures will be for on-going development and equipment replacement in the mine and for tailings facility expansions as mining progresses. Currently the mine is expanding and improving ventilation circuits in the deeper parts of the mine, which involves the development of new ventilation raises and the installation of additional ventilation fans. Pan American further intends to purchase new mining equipment, conduct major overhauls on other mine equipment, complete the construction of a rail haulage system on the 250 level to reduce the operating costs associated with hauling ore up the ramp using trucks, to increase the utilization of a rehabilitated shaft, and to work on an expansion of the tailings facility.

The long term assumptions for operating costs are shown in Table 21.1. The assumptions are justified on the basis of the current actual operating costs at the mine, and on the basis of an annual throughput of 870,000 tonnes. As there are a number of fixed costs associated with operating a large underground mine such as Huaron, an increase in the annual throughput could reasonably be expected to increase the total costs but to reduce unit operating costs, and similarly a reduction in throughput could reasonably be expected to decrease the total costs and to increase the unit operating costs.

Table 21.1 Annual operating costs

Area	Estimated costs (US$ millions)	Estimated unit costs (US$ per tonne)
Mining	33.1	37.99
Processing	3.7	4.26
Maintenance	6.7	7.75
Electrical power and distribution	4.5	5.15
Safety, environment, and water treatment	2.4	2.82
Engineering and geology	3.2	3.66
Camp administration	9.4	10.77
Sub total production costs	63.0	72.40
Administration, insurance, legal, concessions	2.8	3.25
Management costs allocated	4.6	5.31
Shipping, selling, ocean freight	3.4	3.89
Total operating costs	73.8	84.85

22 Economic analysis

Because Huaron is a producing mine and there is no proposed material expansion of the current production at Huaron, there is no requirement by NI 43-101 to disclose information related to Item 22. For current information about Pan American and its business activities at Huaron and elsewhere, please refer to Pan American's quarterly Management's Discussion and Analysis of Financial Condition and Results of Operations, as well as the Company's Annual Information Form, which are available on SEDAR at www.sedar.com.

23 Adjacent properties

There is no relevant information on adjacent properties to report.

24 Other relevant data and information

There is no additional information to report.

25 Interpretation and conclusions

Pan American has been operating Huaron since 2001, processing between 600,000 to 800,000 tonnes of ore annually, producing copper, lead, and zinc concentrates containing approximately 4 million silver ounces, 2,000 tonnes of copper, 5,000 tonnes of lead, and 12,000 tonnes of zinc. Pan American expects to process approximately 870,000 tonnes per annum over the course of the remaining life of the mine.

Pan American conducts infill and near-mine drilling through much of the year and updates mineral resource and mineral reserve estimates on an annual basis following reviews of metal price trends, operational performance and costs experienced in the previous year, and forecasts of production and costs over the life of the mine.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral resources. Mineral reserve estimates are based on assumptions that included mining, metallurgical, infrastructure, permitting, taxation, and economic parameters. Increasing costs and taxation and lower metal prices will have a negative impact on the quantity of estimated mineral reserves. Other than normal course changes in metal prices, which fluctuate from time to time, there are no other known factors that may have a material impact on the estimate of mineral reserves at Huaron.

Huaron is a producing mine and there is no proposed material expansion of the current production at Huaron. No economic analyses or engineering studies are currently underway. For current information about Pan American and its business activities at Huaron and elsewhere, please refer to Pan American's quarterly Management's Discussion and Analysis of Financial Condition and Results of Operations, as well as the Company's Annual Information Form, which are available on SEDAR at www.sedar.com.

26 Recommendations

Huaron is an operating mine and no economic analyses or engineering studies are currently underway. Therefore, the authors of this report have no further recommendations to make at this time.

27 References

There are no references in this technical report to cite.

28 Date, signatures, and certificates

CERTIFICATE of QUALIFIED PERSON

I, Dr. Michael Steinmann, Executive Vice President, Corporate Development and Geology of Pan American Silver Corp., 1500-625 Howe St, Vancouver, BC, V6C 2T6, Canada do hereby certify that:

a) I am the co-author of the technical report titled "Technical Report for the Huaron Property, Pasco, Peru", with an effective date of June 30, 2014 (the "Technical Report").

b) I graduated with a Master of Science in Geology degree from the University of Zurich, Switzerland, in 1993. I earned a Doctor of Natural Science in Geology degree from the Swiss Federal Institute of Technology, Zurich, Switzerland, in 1997. I am a Professional Geologist in good standing with The Association of Professional Engineers and Geoscientists of the Province of British Columbia. My experience is primarily in the areas of mining geology and exploration and I have worked as a geologist for a total of 21 years since my graduation from the University of Zurich.

c) I have read the definition of 'qualified person' set out in National Instrument 43 101 ("the "Instrument") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements of a 'qualified person' for the purposes of the Instrument.

d) I am responsible for the preparation of the sections of the Technical Report as detailed in Table 2.1 – Responsibilities of each Qualified Person.

e) I am currently employed as the Executive Vice President, Corporate Development and Geology for Pan American Silver Corp., the owner of the Huaron Property, and by reason of my employment, I am not considered independent of the issuer as described in Section 1.5 of the Instrument.

f) I have had prior involvement with the Huaron Property that is the subject of the Technical Report; I am an employee of Pan American Silver Corp. and have conducted numerous site visits to the Huaron Property, including as described in Section 2 – Introduction of the Technical Report, and most recently on February 6, 2013.

g) I have read the Instrument and Form 43 101F1, and the Technical Report has been prepared in compliance with the Instrument and that form.

h) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Vancouver, British Columbia, this 29th day of October, 2014.

"Signed and sealed"

Michael Steinmann, P.Geo.

CERTIFICATE of QUALIFIED PERSON

I, Martin Wafforn, Vice President, Technical Services of Pan American Silver Corp., 1500-625 Howe St, Vancouver, BC, V6C 2T6, Canada do hereby certify that:

a) I am the co-author of the technical report titled "Technical Report for the Huaron Property, Pasco, Peru", with an effective date of June 30, 2014 (the "Technical Report").

b) I graduated with a Bachelor of Science in Mining degree from the Camborne School of Mines in Cornwall, England in 1980. I am a Professional Engineer in good standing with The Association of Professional Engineers and Geoscientists of the Province of British Columbia. I am also a Chartered Engineer in good standing in the United Kingdom. My experience is primarily in the areas of mining engineering and I have worked as an engineer in the mining industry for a total of 33 years since my graduation from the Camborne School of Mines.

c) I have read the definition of 'qualified person' set out in National Instrument 43 101 ("the "Instrument") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements of a 'qualified person' for the purposes of the Instrument.

d) I am responsible for the preparation of the sections of the Technical Report as detailed in Table 2.1 - Responsibilities of each Qualified Person.

e) I am currently employed as the Vice President, Technical Services for Pan American Silver Corp., the owner of the Huaron Property, and by reason of my employment, I am not considered independent of the issuer as described in Section 1.5 of the Instrument.

f) I have had prior involvement with the Huaron Property that is the subject of the Technical Report; I am an employee of Pan American Silver Corp. and have conducted site visits to the Huaron Property, including as described in Section 2 – Introduction of the Technical Report, and most recently on June 24, 2014.

g) I have read the Instrument and Form 43 101F1, and the Technical Report has been prepared in compliance with the Instrument and that form.

h) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Vancouver, British Columbia, this 29th day of October, 2014.

"Signed and sealed"

Martin Wafforn, P. Eng.

CERTIFICATE of QUALIFIED PERSON

I, Americo Delgado, Director, Metallurgy of Pan American Silver Corp., 1500-625 Howe St, Vancouver, BC, V6C 2T6, Canada, do hereby certify that:

a) I am the co-author of the technical report titled "Technical Report for the Huaron Property, Pasco, Peru", with an effective date of June 30, 2014 (the "Technical Report").

b) I graduated with a Master of Science in Metallurgical and Material Engineering from the Colorado School of Mines in Golden, Colorado, in 2007, and with a Bachelor of Science in Metallurgical Engineering degree from the Universidad Nacional de Ingenieria, Lima, Peru, in 2000. I am a Professional Engineer in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia. My experience is primarily in the areas of metallurgy and mineral processing engineering and I have worked as a metallurgist in the mining industry for a total of 14 years since my graduation from the Universidad Nacional de Ingenieria.

c) I have read the definition of 'qualified person' set out in National Instrument 43 101 ("the "Instrument") and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements of a 'qualified person' for the purposes of the Instrument.

d) I am responsible for the preparation of the sections of the Technical Report as detailed in Table 2.1 - Responsibilities of each Qualified Person.

e) I am currently employed as the Director, Metallurgy for Pan American Silver Corp., the owner of the Huaron Property, and by reason of my employment, I am not considered independent of the issuer as describe in Section 1.5 of the Instrument.

f) I have had prior involvement with the Huaron Property that is the subject of the Technical Report; I am an employee of Pan American Silver Corp. but I have not conducted any sites visits to the Property.

g) I have read the Instrument and Form 43 101F1, and the Technical Report has been prepared in compliance with the Instrument and that form.

h) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated at Vancouver, British Columbia, this 29th day of October, 2014.

"Signed and sealed"

Americo Delgado, P. Eng.