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Technical Report

NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China

Silvercorp Metals Inc.

Guangdong Province, People's Republic of China

In accordance with the requirements of National Instrument 43-101 "Standards of Disclosure for Mineral Projects" of the Canadian Securities Administrators

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AMC Project 721004
Effective date: 31 March 2021
Report date: 6 October 2021

1 Summary

1.1 Introduction

AMC Mining Consultants (Canada) Ltd. (AMC) was commissioned by Silvercorp Metals Inc. (Silvercorp) to prepare an independent Technical Report (the 2021 Technical Report) on the Gaocheng (Gaocheng or GC) property (Property), located in Gaocun Township, Yun'an District, Yunfu City, Guangdong Province, China. AMC has prepared previous Technical Reports on the Property in 2009 ('NI 43-101 Technical Report Update on the GC Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 18 June 2009), 2012 ('NI 43-101 Technical Report on the GC Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 23 January 2012), 2018 ('NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 30 June 2018), and 2019 ('NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 30 June 2019, (2019 Technical Report)). Two of the independent authors of the 2019 Technical Report, Ms Dinara Nussipakynova and Mr Herbert Smith of AMC, visited the GC property in January 2018. Mr Guoliang Ma of Silvercorp, who takes Qualified Person (QP) responsibility for Section 20 of the 2021 Technical Report, has visited the Property on numerous occasions, including most recently in 2021.

This report has been produced in accordance with the Standards of Disclosure for Mineral Projects as contained in National Instrument 43-101 (NI 43-101) and accompanying policies and documents. NI 43-101 utilizes the definitions and categories of Mineral Resources and Mineral Reserves as set out in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (2014) (CIM Definition Standards).

1.2 Location, ownership, and history

The Property is located in the vicinity of Gaocheng village, Gaocun Township, Yun'an District, Yunfu City, Guangdong Province, People's Republic of China. The Property is located west of the metropolitan city of Guangzhou, the capital of Guangdong Province. Guangzhou is located about 120 kilometres (km) north-west of Hong Kong and has a total population of about 14 million people. Access to the GC project from Guangzhou is via 178 km of four-lane express highway to Yunfu, then 48 km of paved road to the project site.

Silvercorp owns 95% of the Property through its 100% ownership of the shares of Yangtze Gold Ltd. (Yangtze Gold), which in turn wholly owns Yangtze Mining Ltd. (Yangtze Mining). Yangtze Mining owns a 95% interest in a Sino-Foreign joint venture company, Anhui Yangtze Mining Co. Ltd. (Anhui Yangtze). Anhui Yangtze's main asset was the GC exploration permit for the GC Mine, which was subsequently converted to a mining permit in November 2010. Guangdong Found Mining Co. Ltd. (China), (Guangdong Found), is the designated joint venture operating company of the GC mine. Yangtze Mining (H.K.) Ltd., a wholly owned subsidiary of Yangtze Mining, owns 95% of Guangdong Found.

The Mining Permit in the name of Guangdong Found is valid for 30 years to 24 November 2040, covers the entire 5.5238 km^2 area of the GC Mine and permits mining from 315 metres (m) to minus 530 m elevations. The permit allows for the operation of an underground mine to produce silver, lead, and zinc.

Currently, the GC mine is subject to Mineral Resources taxes, levied at 3% of revenue from lead and zinc and 2% of revenue from silver. The Mineral Resource taxes, together with other government fees that are not tied to revenue, amount to approximately 5% of revenue. The QP is not aware of any additional royalties, back-in rights, payments, agreements, environmental liabilities, or encumbrances particular to the property other than those stated above.

Various state-sponsored Chinese Geological Brigades and companies have conducted geological and exploration work in the project area, with systematic regional geological surveys commencing in 1959. Historical drilling commenced in 2001.

Prior to Yangtze Mining acquiring the Property in 2005, illegal mining activity resulted in the excavation of several tunnels and small-scale mining of veins V2, V2-2, V3, V4, V5, V6, and V10. It is reported that a total of 1,398 m of excavation comprised of 10 adits and tunnels had been completed on the property through the illegal activity.

A total of 43 diamond drillholes for a combined total of 13,463.74 m was drilled on the Property between 2001 and 2007 prior to the property acquisition by Silvercorp. Diamond drillholes were drilled using PQ size in overburden, then reduced to HQ size for up to 100 m depth.

The Guangdong Provincial Institute of Geological Survey (GIGS) prepared a resource estimate for nine mineralized veins for the GC project after the 2004 – 2005 exploration season. This was not compliant with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards and is not material to the 2021 Technical Report.

1.3 Geology and mineralization

The Property is located on the east margin of the Luoding basin, east of the Wuchuan – Sihui major fault within the north portion of the Yunkai uplift of the South China Orogenic Belt. North-east striking structures and arc structures form the basic geological framework of the region. Deposits on the Property occur at the intersection of a north-easterly striking fault zone and a near east-westerly striking fault zone.

Basement geology in the area comprises late Proterozoic Sinian sedimentary clastics and carbonate rocks; Palaeozoic (Ordovician, Silurian, Devonian, Carboniferous) sedimentary clastics and carbonate rocks; and Mesozoic (Triassic) coal-bearing clastic rocks and Cretaceous red clastic rocks. Ag-Pb-Zn polymetallic deposits occur within late Proterozoic rocks. Cu-Pb-Zn, Mn, and Au-Ag deposits occur within Paleozoic rocks.

The GC Project is located at the intersection between the Wuchuan-Sihui Deep Fault zone and Daganshan Arc-ring structural zone. It is situated in the south-west part of the Daganshan uplift. Structures developed in the area are mainly the NWW-EW striking Gaocheng Fault zone, the NE striking Baimei Fault zone, and the Songgui Fault zone.

Basement rocks within the Property encompass quartz sandstone, meta-carbonaceous siltstone, carbonaceous phyllite, calcareous quartzite, and argillaceous limestone of the Sinian Daganshan Formation; quartz sandstone and shale of the Triassic Xiaoyunwushan Formation, and sandy conglomerate and conglomerate of the Cretaceous Luoding Formation. These rocks are intruded by Paleozoic gneissic, medium-grained biotite granite, and Mesozoic fine- to medium-grained adamellite, brownish, fine-grained, biotite mylonite, granite porphyry, quartz porphyry, diabase, and aplite. The Mesozoic intrusives intruded along the south and south-west contacts of the Paleozoic granites. The majority of Ag-Zn-Pb mineralization is hosted by the Mesozoic granite. The granite dips south and strikes west north-west, parallel to the majority of mineralized veins on the GC property.

Mineralization at GC is primarily hosted within a WNW-ENE trending, 4.8 km long and 2 km wide fault zone. This zone encompasses numerous veins, with the more common WNW veins generally striking between 90° and 150° and dipping between 55° to sub-vertical. The average thickness of the WNW-ENE veins is about 0.8 m.

There are also east-west striking veins that typically strike 50° to 130° and dip between 65° and sub-vertical to the SE and SSW. The average thickness is around 0.8 m.

NE-striking faults cut through the NWW-striking structures with no or minor displacement. Mineralized veins form part of this trend. These veins are sub-parallel to two major NE striking faults and generally strike between 10° and 85° and dip between 60° and 75° to the SE. The average thickness of these veins is also about 0.8 m.

Ag-Pb-Zn mineralization at the GC deposit can be divided into two types: primary and oxidized. The primary mineralization is mainly composed of galena-sphalerite-silver minerals, which occur sparsely, as disseminations, veinlets, and lumps. Primary mineralization accounts for 95% of the entire Mineral Resource. Oxide mineralization occurs on and near the surface.

Mineralized veins in the GC area occur in relatively permeable fault-breccia zones. These zones are extensively oxidized from the surface to depths of about 40 m. Veins in these zones exhibit open space and boxwork lattice textures resulting from the leaching and oxidation of sulphide minerals. Secondary minerals present in varying amounts include kaolinite, hematite, and limonite.

The dominant sulphide mineral is pyrite, and other constituents are a few percent of sphalerite, galena, pyrrhotite, arsenopyrite, magnetite, and less than one percent of chalcopyrite and cassiterite. Gangue minerals include chlorite, quartz, fluorite, feldspar, mica, and hornblende, with a small or trace amount of kaolinite, tremolite, actinolite, chalcedony, garnet, zoisite, apatite, and tourmaline.

Alteration minerals associated with the GC vein systems include quartz, sericite, pyrite, and chlorite, together with clay minerals and limonite. Silicification commonly occurs near the centre of the veins. Chlorite and sericite occur near and slightly beyond the vein margins.

Quartz, pyrite, fluorite, and chlorite are closely related to the mineralization.

The poly-metallic mineralization of the GC deposit belongs to the mesothermal vein infill style of deposit.

1.4 Exploration and data management

Silvercorp has carried out surface and underground exploration activities since 2008.

Surface-based exploration occurred primarily during 2008, which included soil sampling, geological mapping and trenching. Following up on geochemical anomalies, Silvercorp conducted trenching and pitting programs that exposed the mineralized veins on the surface and at shallow depth. A total of seven pits and one trench were excavated by Silvercorp exposing three veins.

Silvercorp completed more than 51.5 km of underground tunnelling and sampling at the Property through to 2018, and 29.2 km between 2019 and 2020.

The programs through to 2018 comprised 33,297 m of drifting along mineralized structures, 10,147 m of crosscutting across mineralized structures, and 8,833 m of raises. The 2019 and 2020 work comprised 14,940 m of drifting along mineralized structures, 7,288 m of crosscutting across mineralized structures, and 6,951 m of raises. Drifts and crosscuts have been developed at 40 m intervals vertically to increase geological confidence in the Mineral Resource.

50,480 channel / chip samples were collected from the mine areas through to and including 2018, with samples being assayed for Ag, Pb, and Zn. 14,576 channel / chip samples were collected from the mine areas between 2019 and 2020.

Silvercorp completed its first phase of diamond drilling on the Property in 2008. Systematic drilling commenced on the property in 2011 and continued through to 2020. All Silvercorp drilling was completed as NQ-sized core. Drillhole collars were surveyed using a total station and downhole surveys were completed every 50 m downhole. Surface drillhole collars were cemented after completion and locations of drillholes were marked using 50 x 30 x 20 centimetres (cm) concrete blocks.

Core recoveries from Silvercorp drilling programs varied between 35.66% and 100.00% averaging 99.36%. The QP reviewed the relationship between grade and core recovery and found no bias.

All drill core is stored in a clean and well-maintained core shack in the GC camp complex. This core shack is locked when unattended and monitored by two security personnel 24 hours a day.

The majority of drillholes were drilled as inclined holes to test multiple vein structures. Underground drillholes were drilled as fans of multiple holes from single set-ups.

Drill core processing is completed by Silvercorp employees in accordance with a standard procedure. Core recovery is measured followed by detailed logging of the core with lithological, vein and mineralization contacts identified and recorded. The core is photographed and sampled on 2.0 m maximum intervals and at geological or mineralization contacts. Core is cut in half with a rock saw with one half bagged and secured for shipment to the laboratory, and the other half retained in the core tray for future reference.

Channel samples are collected along sample lines perpendicular to the mineralized vein structure as well as from walls of cross-cut tunnels and bottom of trenches. Samples include vein material and associated wallrock.

Samples were shipped from the Gaocheng site to an ALS Laboratory in Guangzhou between 2008 and 2014. Since 2014, as a primary laboratory, samples have been shipped to the onsite laboratory at Gaocheng, which is owned and operated by Silvercorp. It is not certified by any standards association.

Silvercorp has established Quality Assurance / Quality Control (QA/QC) procedures that cover sample collection and processing at the Property. These QA/QC protocols have been progressively refined since 2011. Certified Reference Materials (CRMs) and coarse crushed blanks have been included with drilling samples since 2011, and with underground samples since 2014. Field duplicates have been included with drilling samples since 2012 and with underground samples since 2014. Check (umpire) samples (pulp duplicates) have been sent to a separate 'umpire' laboratory since 2012.

In 2018, Silvercorp further improved their QA/QC protocols to include regular and more frequent submission of CRMs, coarse blanks, and field duplicates with drilling and underground samples. Coarse reject duplicates and pulp duplicates were also incorporated into drill sampling programs. The proportion of check samples sent to a different laboratory was also increased. In 2019, Silvercorp initiated real-time monitoring of QA/QC protocols.

The QP has reviewed QA/QC data collected to date. While some issues have been noted with data collected prior to 2014, all data collected thereafter shows reasonable analytical accuracy and precision. The QP does not consider issues noted with pre-2014 data to be a material concern and considers the Gaocheng sample database acceptable for Mineral Resource estimation.

A series of recommendations has been provided for the improvement of QA/QC processes (see Section 1.13 Recommendations).

1.5 Mineral Resource estimates

The Mineral Resources for the Property have been prepared by Mr Shoupu Xiang, Resource Geologist of Silvercorp. Ms Dinara Nussipakynova, P.Geo., of AMC, has reviewed the methodologies and data used to prepare the Mineral Resource estimates and, after some adjustment to the Mineral Resource classification and capping, is satisfied that they comply with reasonable industry practice. Ms Nussipakynova takes responsibility for these estimates.

The QP is not aware of any known environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other similar factors that could materially affect the stated Mineral Resource estimates. It is noted that approximately 1% of the Mineral Resources lie below the lower limit of the current mining lease (-530 m elevation), but this is not seen as a material risk.

The data used in the Mineral Resource estimation includes results of all drilling carried out on the Property to 31 December 2020. The estimation was carried out in Micromine™ software. Interpolation was carried out using inverse distance squared (ID^2) for all the veins.

Table 1.1 Summary of Mineral Resources as of 31 December 2020

Classification	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)	Contained metal		
					Ag (koz)	Pb (M lbs)	Zn (M lbs)
Measured	5.286	88	1.3	3.1	14,906	154	360
Indicated	4.747	75	1.1	2.5	11,457	111	259
Measured and Indicated	10.033	82	1.2	2.8	26,363	265	619
Inferred	8.441	87	1.0	2.4	23,562	195	442

Notes:
- CIM Definition Standards (2014) were used for reporting the Mineral Resources.
- Mineral Resource are reported at a silver equivalent (AgEq) cut-off grade of 105 g/t AgEg.
- The equivalency formula is Ag g/t+50.46*Pb%+43.53*Zn% using prices of US$18.20/oz Ag, US$0.94/lb Pb, and US$1.08/lb Zn and estimated recoveries of 82.6% Ag, 89.5% Pb, and 87.3% Zn.
- Sample results up to 31 December 2020.
- Mineral Resources have been depleted to account for mining to 31 December 2020.
- Veins factored to a minimum extraction width of 0.4 m.
- Mineral Resources are inclusive of Mineral Reserves reported in Section 15.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
- The numbers may not compute exactly due to rounding.

Source: Silvercorp Metals Inc., reproduced as a check by AMC Mining Consultants (Canada) Ltd.

The GC deposit consists of 156 veins, each of which has a separate block model. Approximately 31,844 m of channel samples and 265,965 m of core samples from 1,854 drillholes form the basis of the estimate. A composite length of 0.4 m was used. Capping was applied after compositing.

The parent block size for all veins was 0.8 m by 10 m by 10 m (x, y, z), with sub-cells employed. The sub-celling resulted in minimum cell dimensions of 0.2 m by 2 m by 2 m (x, y, z). The QP imported all 156 block models into Datamine software. The volume comparison of the original models versus the Datamine models showed a difference of less than 1%.

Interpolation was carried out using the ID^2 method. Mining depletion and write-offs based on survey information to 31 December 2020 were coded into the block models by Silvercorp.

Mineral Resources are classified as Measured, Indicated, and Inferred. The QP reviewed the classification of each vein and requested changes when the classification needed to be modified.

The block models were validated by the QP in three ways. First, visual checks were carried out to ensure that the grades respected the raw assay data. Secondly, swath plots were reviewed. Thirdly, the estimate was statistically compared to the composited assay data, with satisfactory results.

The following observations have been made by the QP from a comparison of the 2019 Mineral Resource estimate and the 2020 Mineral Resource estimate:

- Measured and Indicated tonnes have increased by 11%. This number is a result of the discovery of new veins and new vein interpretation.
- Measured tonnes have increased by 57%. This number is a result of the discovery of new veins, new vein interpretation and conversion of Indicated tonnes (which have decreased by 17%) to Measured classification.
- In the Measured category silver grade has decreased by 9% and lead and zinc grades have both decreased by 6%.
- In the Indicated category silver grades have decreased by 3%, lead grades have increased by 6% and zinc grades have decreased by 1%.
- In the Inferred category silver grades have decreased by 5%, lead grades have increased by 5% and zinc grades have decreased by 1%.
- The net result in the Measured category has been a significant increase in contained metals due to the increase in tonnes. Silver and lead metal have each increased by 44% and zinc contained metal has increased by approximately 47%.
- The net result in the Indicated category has been a decrease in the contained silver metal of 19%; lead and zinc contained metals have decreased by 12% and 19%, respectively. This is a result of conversion of Indicated material to Measured material.
- The net result in the Inferred category has been an increase of 11% in the contained silver metal; contained lead metal has increased by 17% and contained zinc metal has increased by 13%.

Reasons for the differences in grade, tonnes, and contained metal include:

- Updated interpretation of the veins.
- Discovery of new veins.
- Conversion of Indicated Mineral Resources to a Measured classification.
- Depletion through mining.

1.6 Mineral Reserve estimates and mining

To convert Mineral Resources to Mineral Reserves, mining cut-off grades (COGs) have been applied, mining dilution has been added and mining recovery factors assessed on an individual vein mining block basis. Only Measured and Indicated Resources have been used for Mineral Reserves estimation.

The Mineral Reserve estimates for the Property were prepared by Silvercorp under the guidance of independent QP, Mr H. Smith, P.Eng., who takes QP responsibility for those estimates.

The Mineral Reserve estimation is based on the assumption that current stoping practices will continue at the Gaocheng property, namely predominantly shrinkage stoping but also with some cut and fill resuing. Minimum mining widths of 1.0 m for shrinkage and 0.5 m for resuing, and minimum dilution of 0.20 m total for shrinkage and 0.10 m for resuing cut and fill stopes are assumed. Full breakeven COGs used are 215 g/t AgEq for shrinkage and 275 g/t AgEq for resuing.

Table 1.2 summarizes the Mineral Reserves estimate for the Gaocheng mine. 63% of the Mineral Reserve tonnage is categorized as Proven and 37% is categorized as Probable.

Table 1.2 Gaocheng Mineral Reserve estimate at 31 December 2020

Classification	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)	Contained metal		
					Ag (koz)	Pb (Mlbs)	Zn (Mlbs)
Proven	2.587	93	1.5	3.3	7,743	84	189
Probable	1.544	95	1.5	3.0	4,740	51	103
Proven and Probable	4.131	94	1.5	3.2	12,483	135	293

Notes to Mineral Reserve Statement:

- Canadian Institute of Mining, Metallurgy and Petroleum Standards (2014) were used for reporting the Mineral Reserves.
- Full breakeven cut-off grades: Shrinkage = 215 g/t AgEq: Resuing = 275 g/t AgEq.
- Marginal material cut-off grade: Shrinkage = 185 g/t AgEq; Resuing = 250 g/t AgEq.
- Dilution (zero grade) assumed as a minimum of 0.1 m on each wall of a shrinkage stope and 0.05 m on each wall of a resuing stope.
- Mining recovery factors assumed as 92% for shrinkage and 95% for resuing.
- Metal prices: Silver US$18.20/troy oz, lead US$0.94/lb, zinc US$1.08/lb, with respective payables of 65.5%, 86.2%, and 66.3%.
- Processing recovery factors: Ag – 82.6%, Pb – 89.5%, Zn – 87.3%.
- Effective date 31 December 2020.
- Exchange rate assumed is RMB6.80: US$1.00.
- Rounding of some figures may lead to minor discrepancies in totals.

From the start of commercial operations at Gaocheng in 2014 through to the end of 2020, 1,853,662 tonnes have been mined at average head grades of 94 g/t silver, 1.6% lead, and 2.9% zinc. Compared to the average production head grades recorded up to the end of 2020, the current Mineral Reserve estimates show the same silver grade, a reduction in lead grade of 7%, and an increase in zinc grade of 9%.

Mining to date has been conducted in two stages. Stage 1 targeted bringing the project into production as soon as practicable using mobile, rubber-tired, diesel-powered equipment (development jumbo, loader, and truck) with surface declines access down to -50 mRL. Stage 2 development from -50 mRL down to -300 mRL employs conventional tracked equipment (battery powered locomotives, rail cars, electric rocker shovels and pneumatic hand-held drills) via a surface shaft access. In-stope rock movement is by gravity to draw points or hand-carting to steel-lined passes.

The rock mass condition is categorized as Fair to Good and it is anticipated that the vein and host rocks in the mine area will continue to be largely competent and require minimal ground support other than in weaker ground areas.

The Main Shaft radius is 3 m. A 30 m radius around the Main Shaft is categorized as a safety pillar, with no mining or development allowed in the pillar area, other than for actual shaft access.

Relative to the Mineral Reserve estimates in the previous Technical Report (2019 Technical Report), there is a 39% increase in Proven Mineral Reserve tonnes and a 21% decrease in Probable Mineral Reserve tonnes, with an increase in Mineral Reserve total tonnes of 8% (311,000 t).

1.7 Metallurgy and processing

Since the metallurgical testing reported in the 2012 Technical Report, no further testing has been done. The mill functioned in a trial mode up to 2014 and, from that point (FY2015 starting Q2 2014), has been in commercial production.

Metallurgical testing for the GC project was carried out by the Hunan Research Institute of Non-Ferrous Metals and reported in May 2009 in the report 'Development and Research of the Comprehensive Recovery Test of Lead Zinc Silver Tin Sulphur for the Lead Zinc Ore Dressing in GC Mine Area'. This report was made available to AMC in English translation by Silvercorp. The testwork was also summarized in the January 2011 GMADI report as part of the "Design Instructions" for the plant design.

The objectives of the testwork were, following on from previous testwork of 2007 on samples from artisanal mining dumps, to i) maximize silver recovery to the lead concentrate, ii) investigate the potential for tin recovery, iii) develop a process flow sheet with appropriate operating parameters as a basis for the industrial scale implementation of lead, zinc, sulphur (and possibly tin) recovery, and iv) determine the product quality characteristics relative to the relevant national standards.

Since the start of trial operations in 2013 and commercial production in 2014, lead and zinc concentrates have been produced in commercial quantities at the Gaocheng mill. The overall process consists of crushing, grinding, sequential flotation of lead, zinc, and pyrite concentrates, and concentrate dewatering by disc filtration. An experimental tin recovery gravity separation circuit is installed on pyrite flotation tails.

Two-stage crushing is carried out, with the second stage in closed circuit. Run of mine ore at -350 millimetres (mm) is reduced to crusher product at -10 mm. This is followed by two-stage grinding in ball mills to a product size of 80% passing 75 µm (P_{80} of 75 µm).

The flotation process consists of a standard flotation of lead, with three-stage cleaning of the lead concentrate, then flotation of zinc concentrate with three-stage cleaning, leaving pyrite tailings as sulphur concentrate. Concentrates are dewatered by conventional thickening and filtration.

In 2019, the lead-zinc-sulphur priority flotation process was optimized by changing from zinc-sulphur process priority flotation to zinc-sulphur mixed flotation and then zinc-sulphur separation flotation process. The quantity of ore processed has increased to around 300 ktpa.

Trucks under escort by security personnel are used to transport lead and zinc concentrates from the mine site to refineries. A front-end loader is used to load the concentrate from storage sheds near filters at the mill site to the concentrate shipping trucks.

There is a laboratory on site equipped with the customary sample preparation, wet chemistry, and basic photometric analytical equipment; as well as crushing, grinding, flotation, and gravity-separation metallurgical testing equipment.

Table 1.3 shows the projected life-of-mine (LOM) mill feed and metal production profile.

Table 1.3 Gaocheng LOM mill feed and metal production

Item	Unit	2021 Q4	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Mill Feed - Ore tonnes	t	77,496	311,271	317,885	310,407	313,288	313,644	311,336	315,013	311,802	311,762	310,516	312,573	313,563	300,482	4,131,039
Head grade, Ag	g/t	88	86	92	96	96	94	96	93	95	94	94	94	98	97	94
Head grade, Pb	%	1.51	1.46	1.55	1.47	1.47	1.35	1.51	1.58	1.49	1.26	1.40	1.60	1.43	1.69	1.48
Head grade, Zn	%	3.72	3.64	3.52	3.42	3.20	3.29	3.08	2.95	3.08	3.28	3.21	2.99	3.06	2.95	3.22
Planned metal - Ag mined	t	6.79	26.75	29.21	29.78	30.02	29.36	29.85	29.39	29.56	29.35	29.30	29.26	30.64	29.01	388.27
Planned metal - Pb mined	t	1,173	4,544	4,940	4,565	4,592	4,224	4,706	4,965	4,651	3,929	4,354	5,007	4,492	5,084	61,225
Planned metal - Zn mined	t	2,883	11,317	11,175	10,607	10,011	10,304	9,591	9,308	9,604	10,238	9,974	9,361	9,581	8,863	132,818
Planned metal - Ag recovered	t	5.61	22.10	24.13	24.60	24.79	24.25	24.65	24.28	24.42	24.24	24.20	24.17	25.31	23.96	320.71
Planned metal - Pb recovered	t	1,050	4,067	4,422	4,086	4,109	3,780	4,212	4,444	4,162	3,516	3,897	4,482	4,020	4,550	54,797
Planned metal - Zn recovered	t	2,517	9,880	9,756	9,260	8,740	8,995	8,373	8,125	8,384	8,938	8,708	8,173	8,364	7,738	115,950

1.8 Project infrastructure

The filtered tailings are conveyed to the TMF area via conveyor and then spread by bulldozer on a bench-by-bench basis. The tailings deposition method is dry stacking and filling (from bottom to top and stacking by bench to form the embankment), with concurrent rolling and compaction to the desired dry density standards.

The waste rock dump is located a short distance to the east of the mine portal. It is understood to have an immediate capacity of the order of 275,000 m^3 (~558 kt). Underground waste rock produced to date has largely been used for construction purposes by Silvercorp or transported off site by local area persons, free of charge, again to be used for construction activities. The removal of waste rock from site is anticipated to continue for the foreseeable future. Waste rock could opportunistically be disposed of into shrinkage stope voids, but this is not in the current mine plan.

Based on the GC environmental assessment report, the QP understands that waste rock at the GC mine has no significant acid-generating potential.

The construction of a cemented tailings backfill plant was completed in December 2019. The design capacity is 60 – 80 m^3/hr, or around 450 m^3/day assuming seven hours operation. After surface and underground full-process backfilling tests and adjustment, the system began operating in July 2020. In 2020, the total backfill volume delivered was 43,091 m^3, and the backfill guidance for 2021 is 70,626 m^3.

There is a 110 kilovolt (kV) substation near Gaocun, about 6 km from the mining area. This is fed from the Guangdong Province electrical grid system. Silvercorp uses this substation as the main source of power for the mine. Currently there are two overhead power lines for the 6 km route. Two 1,500 kV diesel generators are designated for emergency backup to the man-hoist, underground ventilation system, water pumping and essential services in the plant.

A 10 kV substation within the mining area provides power service for the entire operations area. The power supply and distribution in the process plant, mining area, administrative and living areas are configured based on needs.

Sewage treatment and water treatment plants operate at the mine site. Any water that is not recycled and is released to the environment is treated to comply with standing regulations.

Underground water is discharged to surface using conventional centrifugal pumps via pipelines installed in the Ramp, Ramp Shaft, and Main Shaft. Underground water pumped to surface is collected in ponds at the Ramp portal or Main Shaft for sediment settling prior to being pumped to the process plant water treatment station. In 2020, a total volume of 497,659 m^3 of underground water was treated, including 290,577 m^3 discharged and 207,082 m^3 recycled.

Mobile equipment repairs (trucks, loaders, etc.), other equipment breakdowns and equipment major services are conducted in the mining contractor's surface workshop adjacent to the Ramp portal, with minor services conducted in redundant stockpile areas. Other fixed and mobile equipment (primary pumps, surface electric locomotive, rail cars, vehicles, etc.) are serviced in Silvercorp's surface workshop located adjacent to the Main Shaft. This is fully equipped with overhead crane, welding, electrical, hydraulic, lathe services, etc.

The explosives warehouse is sited in the valley to the south-east of the GC Mining Area.

A properly constructed containment for storage of fuel is located in the vicinity of the diesel generators and fuel dispensing facilities.

There is a mine dry facility near the portal accommodating lockers, change room, showers, and washrooms for the miners. The mine office complex is for administration and engineering functions and to provide working space for management, supervision, geology, engineering, and other operations support staff.

Silvercorp operates the mine using contractors for development and production. The operation and maintenance of Silvercorp's fixed plant is via Silvercorp personnel. Silvercorp provides its own management, technical services, and supervision staff to manage the GC mine operation.

1.9 Concentrate contracts

Sales contracts are in place for the lead concentrates with Shandong Humon Smelting Co. Ltd., and for the zinc concentrates with Chenzhou Qiantai Industrial Co. Ltd. and Chenzhou Jieyin Minerals Co. Ltd. All contracts have an effective period of one year, with key elements of the contracts subject to change based on market conditions when monthly supplemental agreements to the annual contracts are negotiated. Arsenic (As) levels in the concentrates are acceptable to the Chinese smelters. All contracts have freight and related expenses to be paid by the customers.

1.10 Environment

Silvercorp has all the required permits for its operations on the Property and, in conjunction with safety and environmental certificates, these give Silvercorp the right to carry out full mining and mineral processing operations.

An Environmental Impact Assessment (EIA) report on the GC Project was prepared by the Guangdong Environmental Technology Centre (GETC) initially, and reassessment is done periodically as required by regulations. An Environmental Permit was issued by the Department of Environmental Protection of Guangdong Province in June 2010.

There are no cultural minority groups within the general area surrounding the project. No records of cultural heritage sites exist within or near the GC project areas. The surrounding land is used predominantly for agriculture. The mining area does not cover any natural conservation, ecological forests, or strict land control zones.

Silvercorp has made a range of cash donations and contributions to local capital projects and community support programs, sponsoring university students and undertaking projects such as village road construction, and school upgrading and construction. Silvercorp has also made economic contributions to the local economy in the form of direct hiring and retention of local contractors, suppliers, and service providers.

A monitoring plan has been negotiated between the company and the local environmental protection department to meet the environmental management requirements of the project. Key components of the monitoring plan are water pollution monitoring, together with environmental air and noise monitoring. The monitoring work is carried out by QPs and / or a third-party contractor and is undertaken on a regular basis.

Full-time Silvercorp environment management personnel are mainly responsible for environment and rehabilitation management work in the mining area. They also visit various GC workplaces regularly to check the equipment for environmental protection and coordinate the environmental protection work.

1.11 Costs and economics

As Silvercorp is a producing issuer, an economic analysis for the Gaocheng mine is not required.

The 2021 Technical Report cost estimates for FY2022 are based on mining 311,271 tonnes of ore and milling the same amount. Other major operational items assumed are waste development tunnelling at 10,200 m, exploration and development tunnelling at 10,300 m, and drilling at 58,500 m. Sustaining development tunnelling of 500 m is also assumed.

All major infrastructure for operation of the Gaocheng mine is in place, including that for a potential production rate increase to 1,600 tons per day (tpd), although that is not currently envisaged. FY2022 non-sustaining capital for further main ramp development is assumed at $0.4 million. FY2022 sustaining capital is assumed at $4.0 million, which equates to $12.85 per tonne of ore projected to be mined.

Mining operating costs are categorized by direct mining (shrinkage or resuing), waste development, exploration tunnelling, drilling, and common costs. Other estimated operating costs are for milling, general and administrative items, and government fee, Mineral Resources tax, and other taxes. The FY2022 operating cost breakdown in the 2021 Technical Report is as follows: mining – $45.34/tonne, milling – $14.23/tonne, G&A – $8.17/tonne, Mineral Resources tax, etc. – $4.93/tonne, for a total estimated operating cost of $72.61/tonne.

Contractor costs are the major component of the mining cost. The principal components of the milling costs are utilities (power and water), consumables (grinding steel and reagents), and labour.

The QP considers the operating cost estimates to be reasonable relative to the methods and technology used and to the scale of the Gaocheng operation. The QP notes that the 2021 Technical Report estimate for combined total operating and sustaining capital cost for FY2022 on a unit basis is $85.46/t of ore mined and milled, and is within the range of cost estimates for FY2022 indicated by Silvercorp in its MD&A of May 2021.

The Gaocheng mine has been in commercial production for six years. From FY2021 onwards, a 13-year LOM is envisaged for the resource as currently understood at an average annual production rate of about 310,000 tonnes. Average silver equivalent grades are projected to be of the order of 309 g/t.

1.12 Interpretation and conclusions

Polymetallic mineralization at the Gaocheng project comprises over 150 distinct veins, ranging in thickness from a few centimetres to several metres, with a general east-west orientation and dipping generally south at 55° to subvertical. The Mineral Resource estimates described in the report were prepared by Silvercorp using Micromine software and reviewed, classified, and signed off by Ms D. Nussipakynova, P.Geo. of AMC, who is a QP for the purposes of the Technical Report.

Using a 105 g/t AgEq COG, Measured and Indicated Resources (inclusive of Mineral Reserves) are estimated at 10.03 Mt grading 82 g/t Ag, 1.2% Pb, and 2.8% Zn; and Inferred Mineral Resources are estimated at 8.44 Mt grading 87 g/t Ag, 1.0% Pb, and 2.4% Zn.

Compared to the previous estimate of Mineral Resources in the 2019 Technical Report, Measured Resource tonnes increased by 57% and Indicated Resource tonnes have decreased by 11%. This is mainly due to conversion of the Indicated material into the Measured category, new resource delineation and an updated geological interpretation. Inferred Mineral Resource tonnes have increased by 17%. The QP notes that at the time of the 2019 Technical Report there were 110 veins identified at GC and now there are 156 veins. In the Measured category the silver grade has decreased by 9% and lead and zinc grades have both decreased by 6%. In the Indicated category silver grades have decreased by 3%. Lead grades have increased by 6% and zinc grades have decreased by 1%. In the Inferred category, grades have decreased for silver and zinc by 5% and 1% respectively. Lead grades have increased by 5%.

The results of the underground drilling program at GC show that vein structures are still open at depth.

Silvercorp has established QA/QC procedures that cover sample collection and processing at the Property. These QA/QC protocols have been progressively refined since 2011. Certified Reference Materials (CRMs) and coarse crushed blanks have been included with drilling samples since 2011, and with underground samples since 2014. Field duplicates have been included with drilling samples since 2012 and with underground samples since 2014. Check (umpire) samples (pulp duplicates) have been sent to a separate 'umpire' laboratory since 2012.

In 2018, Silvercorp further improved their QA/QC protocols to include regular and more frequent submission of CRMs, coarse blanks, and field duplicates with drilling and underground samples. Coarse reject duplicates and pulp duplicates were also incorporated into drill sampling programs. The proportion of check samples sent to a different laboratory was also increased. In 2019, Silvercorp initiated real-time monitoring of QA/QC protocols.

The QP has reviewed QA/QC data collected to date. While some issues have been noted with data collected prior to 2014, all data collected thereafter shows reasonable analytical accuracy and precision. The QP does not consider issues noted with pre-2014 data to be a material concern and considers the Gaocheng sample database acceptable for Mineral Resource estimation and the development of a long-term planning model.

A series of recommendations has been provided for the improvement of QA/QC processes (see Section 1.13 Recommendations).

Mineral Reserves have been estimated using a full breakeven COG of 215 g/t AgEq for shrinkage stoping and 275 g/t AgEq for resuing, based on a mine design and plan prepared by Silvercorp engineers and reviewed by Mr H. Smith, P.Eng. of AMC, who is a QP for the purposes of the Technical Report. Total Proven and Probable Reserves are 4.13 Mt grading 94 g/t silver, 1.5% lead, and 3.2% zinc, containing 12.5 million ounces silver, 135 million pounds lead, and 293 million pounds zinc.

Metal prices used in determining COGs for both Mineral Resources and Mineral Reserves are: silver - $18.20/troy ounce; lead - $0.94/lb; zinc - $1.08/lb. An exchange rate of RMB6.8 to US$1 and mining costs of $49/t for shrinkage and $68/t for resuing have been assumed. Average metallurgical recovery assumptions are: silver – 82.6%; lead – 89.5%, zinc – 87.3%. Average payable assumptions are: silver – 65.5%, lead – 86.2%, zinc – 66.3%.

In comparison with the Mineral Reserve estimate in the 2019 Technical Report, there is a 39% increase in Proven Mineral Reserve tonnes and a 21% decrease in Probable Mineral Reserve tonnes, resulting in an increase in total Mineral Reserve tonnes of 8% (311,000 tonnes). Silvercorp received a mining permit in December 2010. From the start of commercial operations at Gaocheng in 2014 through to 31 December 2020, 1,853,662 tonnes have been mined at average head grades of 94 g/t silver, 1.6% lead, and 2.9% zinc.

The predominant shrinkage mining method uses the blasted ore as the working platform for each stope lift. The ore is removed on completion of stope mining leaving an empty void. There is potential to opportunistically dispose of development waste into these voids, but this is not envisaged in current mine plans. The resue method uses blasted waste from the footwall as the working platform for each stope lift. The waste remains in the stope at completion of stope mining. Some hand sorting of ore from waste is conducted.

The rock mass conditions are categorized as Fair to Good. Previous AMC assessment had anticipated that the vein and host rocks in the mine area would generally be competent and require minimal ground support. This has largely been confirmed in operations, with most areas deemed to require little or no support. Where Poor ground conditions have been encountered, ground support is provided, with a range of strategies available depending on the local situation.

Based on Proven and Probable Reserves only, the GC mine is a viable operation with a projected LOM of 13 years through to 2034, with an average annual production rate of approximately 310,000 tonnes, and with average silver equivalent grades of 309 g/t. GC also has the potential to extend the LOM beyond 2034, via conversion of existing Mineral Resources to Mineral Reserves and further exploration and development.

Since the start of trial operations in 2013 and commercial production in 2014 (FY2015), lead and zinc concentrates have been produced in commercial quantities at the GC processing plant. Small amounts of tin concentrate and sulphur have also been produced but these quantities have not been significant enough to be material to mine economics. In all sections of the plant, space / capacity has been allocated for an expansion to 1,600 tpd, but such expansion is not contemplated at this time.

Sales contracts are in place for the lead concentrates with Shandong Humon Smelting Co. Ltd., and for the zinc concentrate with Chenzhou Qiantai Industrial Co. Ltd. and Chenzhou Jieyin Minerals Co. Ltd.

All contracts have an effective period of one year, with key elements of the contracts subject to change based on market conditions when monthly supplemental agreements to the annual contracts are negotiated. All contracts have freight and related expenses to be paid by the customers.

The QP understands that an acceptable arsenic level in base metal concentrates, without penalty, for the Chinese smelters with which Silvercorp has contracts is of the order of 1.0%, and notes that the GC lead and zinc concentrates are acceptable to those smelters.

All pertinent facilities are in place at the GC site, inclusive of security, accommodation, catering, engineering and administration building, mine dry, mine ventilation, main power sub-station, mine rescue, water supply, compressed air, underground dewatering, sewage treatment, explosives magazines, water treatment plant, maintenance / repair facilities, storage, laboratory, communications, fuel farm, fire prevention, waste rock dump, and TMF.

With respect to waste rock, all such material brought to surface is either used by Silvercorp for construction / maintenance activities or is removed from the site, free of charge, by local persons, again as construction material. The environmental assessment has indicated that waste rock at the GC mine has no significant acid-generating potential.

The TMF utilizes dry stacking and filling (from bottom to top and stacking by bench to form the embankment) with concurrent rolling and compaction. The QP notes that the most recent TMF risk assessment (report dated 30 July 2020) was done by Guangdong Huasheng Safety Occupation Evaluation Co., Ltd. After the issuing of the report, a new TMF Safety Production Certificate was granted on 3 September 2020, following a satisfactory on-site assessment organized by the local government. The certificate is valid until 3 September 2023.

Silvercorp has also entrusted Sinochem Mingda (Fujian) Geological Survey Co., Ltd., a survey company with China Grade A qualification, to conduct an engineering survey of the dry tailings area. Silvercorp has further entrusted the designer of the dry tailings area, Guangdong Metallurgical Architectural Design and Research Institute Co. Ltd., to assess the current flood control safety and dam stability of the dry tailings facility. This Project is expected to be completed by the end of 2021.

Silvercorp utilizes contract labour for mining at GC on a rate per tonne or a rate per metre basis. The contract includes all labour, all fixed and mobile equipment, materials, and consumables, including fuel and explosives, which are purchased through the company. Ground support consumables such as timber and power are the responsibility of the company.

All major infrastructure for operation of the Gaocheng mine is in place. FY2022 non-sustaining capital for further main ramp development is assumed at $0.4 million. FY2022 sustaining capital is assumed at $4.0 million, which equates to $12.85 per tonne of ore projected to be mined.

The FY2022 operating cost estimate breakdown in the 2021 Technical Report is as follows: mining – $45.34/tonne, milling – $14.23/tonne, G&A – $8.17/tonne, Mineral Resources tax, etc. – $4.93/tonne, for a total estimated operating cost of $72.61/tonne.

Contractor costs are the major component of the mining cost. The principal components of the milling costs are utilities (power and water), consumables (grinding steel and reagents), and labour.

The QP considers the operating cost estimates to be reasonable relative to the methods and technology used and to the scale of the Gaocheng operation. The QP notes that the 2021 Technical Report estimate for combined total operating and sustaining capital cost for FY2022 on a unit basis is $85.46/t of ore mined and milled.

The GC mine has been in commercial production for six years. From FY2021 onwards, a 13-year LOM is envisaged for the resource as currently understood at an average annual production rate of about 310,000 tonnes. Average silver equivalent grades are projected to be of the order of 309 g/t.

1.13 Recommendations

The QP recommendations for the GC mine are indicated below. The QPs consider that the associated costs can be accommodated within existing operating budgets.

- All database records (drillhole and channel samples) to be assigned a consistent year between the collar and assay files.
- Each density sample to be geologically logged, with particular attention to the degree of oxidation and the presence or absence of vughs or porosity.
- The minimum size of the density samples to be 1 kg. The part of the sample that is selected for assaying should be as representative as possible of the mineralization in the part used for density measurement. Assaying of the density sample itself is preferable, but only if the wax does not lead to problems with assay sample preparation.
- Iron and / or sulphur to be added to the regular assay suite for samples used for resource estimation.
- Undertake additional bulk density measurements on representative samples with varying base metal and pyrite content.
- Take bulk density measurements on samples from the bounding waste material to allow more accurate estimation of the density of diluted Mineral Resources.
- Estimate the density of oxidized and fresh ores separately.
- Consider procurement of an additional CRM to monitor low grades and the anticipated COGs.
- Consider purchasing one or more 'pigeon pair' CRMs with similar, but not identical, expected values to CRMs currently in use. This will provide an additional check on laboratory accuracy.
- Revise protocols so that CRMs are inserted using a systematic approach at a rate of 1 CRM in every 20 samples (5%) for both drilling and underground samples. Consider implementation of practises such as assigning CRM samples in the sample tag books prior to actual sampling, so that CRM samples occur regularly and within each batch of samples.

- Continue monitoring CRM results on a 'real-time' basis and ensure that sample batches where consecutive CRMs return results outside of two standard deviations, or one CRM outside of three standard deviations, are investigated and reanalyzed.
- Revise protocols so that blanks are inserted using a systematic approach at a rate of at least one blank in every 25 samples (4%) for both drilling and underground samples.
- Insert blanks immediately after expected high grade mineralization to assess contamination occurring during sample preparation.
- Implement the use of both coarse and fine (pulp) blank material to enable sample preparation and analytical processes to be monitored for contamination.
- Revise and further reduce failure rates for Pb and Zn from current level of 0.1% Pb and 0.1% Zn.
- Implement the monitoring of blanks results on a 'real-time' basis and ensure that sample batches where blanks exceed failure limits are investigated and reanalyzed.
- Implement procedures to collect and submit coarse reject and pulp duplicates into the underground sample stream.
- Duplicate insertion rates to be increased to match that of drilling samples (approximately 5 - 6%).
- Investigate the cause of poor field duplicate performance in both core and underground samples. This could include a test phase which incorporates the following:
  - Completing polished section petrology to understand the particle size and nature of mineralization.
  - Submitting the second half of the core, instead of quarter core, as the field duplicates (if required, a thin slice (fillet) of core could be sliced off and retained for archival storage before cutting the core into halves).
  - Consider increasing the size of underground samples.
- Submit at least 5% of drilling and underground samples to a third-party umpire laboratory for check analysis on a regular basis.
- Maintain a 'table of fails' that documents the remedial action completed on any failed batches.
- Implement a system whereby the original assays of failed batches are retained in the sample database and are available for audit.
- Continue to submit all QA/QC samples (with no identification), so that the results are not known by the laboratory.
- Insert QA/QC samples randomly within sample batches as opposed to the present practise of consistently inserting consecutive CRMs, blanks, and duplicates.
- Continue communication between the geology department and laboratory to ensure that any sample biases noted are investigated and addressed in a timely fashion.
- Sample on a minimum sample length of 0.4 m.
- Validate the master sample database and ensure that all fields are fully populated. Date fields should be reviewed and made consistent between collar, assay, and QA/QC datasets to enable consistent year-to-year reporting of results. Laboratory and laboratory report IDs should also be fully populated in the assay and QA/QC databases.
- Modify the central database so that assay data are recorded without rounding to accurately reflect the original assay certificates.
- Internally validate the existing sample database to ensure that any other sample prefix issues are addressed.
- Review database and sample procedures to ensure that sample prefix issues do not reoccur.

- Assess ground conditions on a round-by-round basis in all development headings (ore and waste) to determine the requirement for ground support. Doing so will help prevent the occurrence of significant failures from backs and walls, which require timely rehabilitation and expose the workforce to rock fall hazard.
- Ensure scaling of the development headings on a round-by-round basis.
- Maintain a focus on dilution and grade control.
- Conduct routine check scaling of all unsupported development at the mine. This process can help identify areas of the mine in which rock mass deterioration is occurring and allow rehabilitation works to be planned.
- As part of overall mine design, consider possible destabilizing effects associated with major structures such as faults or shear zones. These should be considered on a case-by-case basis. Where possible, avoid mining development intersections in fault zones, and design drifts to cross fault zones at right angles (to minimize the exposure length within the drift).
- Assess specific rock mass conditions for critical underground infrastructure, including shafts and chambers, to determine ground support and pillar requirements to ensure serviceability of the excavation for the LOM.
- Ensure that an assessment of crown pillar requirements has been incorporated into the detailed mine design with particular focus on surface pillar requirements in the vicinity of Hashui Creek valley, and any other streams (or drainage paths) that traverse the mine area.
- As part of ongoing operations at the mine, continuously review geotechnical aspects and ground support in a formal, recordable manner, bearing in mind previous recommendations, local and mine-wide operating experience in all rock types encountered, data collection protocols, and also looking to future mining development.
- Collect additional detailed geotechnical logging data, from drill core and mapping of underground workings, to incorporate collection of structural orientation data. Data collection to allow rock mass classification using an internationally recognized system, such as the Q-System (after Barton et al. 1974) or RMR (after Bieniawski 1989).
- Develop a three-dimensional geotechnical model with interpretations of primary lithologies and structures (such as faults and shear zones).
- As the mine moves deeper, undertake further investigation of in situ stresses to confirm assumptions made in the mine design and stability assessments.
- Consider the advisability of any further hydrogeological assessments.
- With respect to the TMF, Silvercorp to continue to satisfy itself, as per best industry practice, that all fundamental aspects of the TMF design, construction and operation have been and continue to be satisfactorily addressed. This may include geotechnical drilling of the dam foundation area, as it is the QP's understanding that such activity has not specifically been undertaken.
- Continue with a focus on safety improvement, including implementation of a policy whereby the more stringent of either Chinese or Canadian safety standards is employed.
- Place a strong focus on stockpiling and record keeping procedures and ensure that the summation of individual ore car weights by stope and zone is, as far as practicable, fully integrated into the tracking and reconciliation process.
- Undertake periodic mill audits aimed at ensuring optimum process control and mill performance.
- Continue exploration tunnelling and diamond drilling at Gaocheng. The exploration tunnelling is used to upgrade the drill-defined Resources to the Measured category, and the diamond drilling is used to expand and upgrade the previous drill-defined Resources, explore for new mineralized zones within the unexplored portions of vein structures, and test for extensions of the vein structures.

Contents

Tables

Figures

2 Introduction

AMC Mining Consultants (Canada) Ltd. (AMC) was commissioned by Silvercorp Metals Inc. (Silvercorp) to prepare an updated independent Technical Report (the 2021 Technical Report) on the Gaocheng (GC) Property (Property), located in Gaocun Township, Yun'an County, Guangdong Province, China. AMC has prepared previous Technical Reports on the Property in 2009 ('NI 43-101 Technical Report Update on the GC Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 18 June 2009), 2012 ('NI 43-101 Technical Report on the GC Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 23 January 2012), 2018 ('NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 30 June 2018), and 2019 ('NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', effective date 30 June 2019 (the 2019 Technical Report)).

Prior to the AMC reporting referenced above, SRK Consulting (SRK), prepared a Technical Report on the Property dated April 2008 ('Technical Report on Gaocheng Ag-Zn-Pb Project and Shimentou Au-Ag-Zn-Pb Project, Guangdong Province, People's Republic of China' (the 2008 Technical Report)).

Certain information in the 2021 Technical Report was sourced from the earlier Technical Reports.

Table 2.1 indicates persons who prepared or contributed to the 2021 Technical Report.

Table 2.1 Persons who prepared or contributed to this Technical Report

Qualified Persons responsible for the preparation of this Technical Report						
Qualified Person	**Position**	**Employer**	**Independent of Silvercorp**	**Date of last site visit**	**Professional designation**	**Sections of Report**
Ms D. Nussipakynova	Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	January 2018	P.Geo. (BC)	12, 14, part of 1, 25, and 26
Mr H. Smith	Senior Principal Mining Engineer	AMC Mining Consultants (Canada) Ltd.	Yes	January 2018	P.Eng. (BC, ON, AB, NT)	2 - 6, 15, 16, 19, 21 - 24, 27, part of 1, 18, 25, and 26
Mr A. Riles	Associate Principal Metallurgical Consultant	Riles Integrated Resource Management Pty Ltd.	Yes	May 2011	MAIG	13, 17, part of 1, 18, 25, and 26
Dr A. Ross	Geology Manager / Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	No visit	P.Geo. (BC), P.Geol. (AB)	7 - 10, part of 1, 25, and 26
Mr S. Robinson	Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	No visit	P.Geo. (BC), MAIG	11, part of 1, 25, and 26
Mr G. Ma	Manager Exploration and Resource	Silvercorp Metals Inc.	No	May 2021	P.Geo. (ON)	20, part of 1, 25, and 26

Other Experts who assisted the Qualified Persons in the preparation of this report					
Expert	**Position**	**Employer**	**Independent of Silvercorp**	**Visited site**	**Sections of Report**
Mr J.M. Shannon, P.Geo.	General Manager / Principal Geologist	AMC Mining Consultants (Canada) Ltd.	Yes	No	Report peer review
Mr G. Ma, P.Geo.	Manager Exploration and Resource	Silvercorp Metals Inc.	No	Since 2018	General
Mr D. Liu	Chief Financial Officer	Silvercorp Metals Inc.	No	2015	General
Mr J. Zang	Senior Mining Engineer	Silvercorp Metals Inc.	No	No	16
Mr Q. Song	Environmental Specialist	Silvercorp Metals Inc.	No	Since 2019	20

Note: Mr Smith is responsible for Section 18, other than for the TMF discussion, for which Mr Riles takes responsibility. For other sections where QPs are indicated as having part responsibility, that responsibility reflects their individual area of expertise, whether geological, mining, or metallurgical.

The independent authors of the Technical Report acknowledge the numerous contributions from Silvercorp in the preparation of this report and are particularly appreciative of prompt and willing assistance of Mr G. Ma and Mr D. Liu.

Ms Dinara Nussipakynova and Mr Herbert Smith visited the Property in January 2018. Mr Guoliang Ma has visited the GC Property on numerous occasions, most recently in May 2021. All aspects of the Project were examined by the Qualified Persons (QPs), including drill core, laboratories, underground workings, processing plant, tailings stockpile, water treatment plant, and other surface infrastructure. Other AMC personnel have previously visited the site.

This report includes the tabulation of numerical data that involves a degree of rounding for the purpose of resource estimation. The QPs do not consider any rounding of the numerical data to be material to the Project.

All currency amounts and commodity prices are in U.S. dollars (US$) unless otherwise stated. Quantities are stated in metric (SI) units. Commodity weights of measure are in grams (g) or percent (%) unless otherwise stated.

This report has been produced in accordance with the Standards of Disclosure for Mineral Projects as contained in the National Instrument 43-101 (NI 43-101) and accompanying policies and documents. NI 43-101 utilizes the definitions and categories of Mineral Resources and Mineral Reserves as set out in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves Definitions and Guidelines (2014) (CIM Definition Standards).

A draft of the report was provided to Silvercorp for checking for factual accuracy. The report is dated 6 October 2021 and has an effective date of 31 March 2021.

3 Reliance on other experts

The QPs have relied, in respect of legal aspects, upon the work of the Expert listed below. To the extent permitted under NI 43-101, the QPs disclaim responsibility for the relevant section of the Report.

- Expert: Wenhui Lian, BaiRun Law Firm, Yunfu City, Guangdong Province, as advised in a letter of 23 March 2021 to Mr Derek Liu, Chief Financial Officer, Silvercorp Metals Inc.
- Report, opinion, or statement relied upon: information on mineral tenure and status, royalty obligations, Mineral Resources tax, etc.
- Extent of reliance: full reliance following a review by the QPs.
- Portion of Technical Report to which disclaimer applies: Section 4.

The QPs have relied, in respect of environmental aspects, upon the work of the issuer's expert listed below. To the extent permitted under NI 43-101, the QPs disclaim responsibility for the relevant section of the Report.

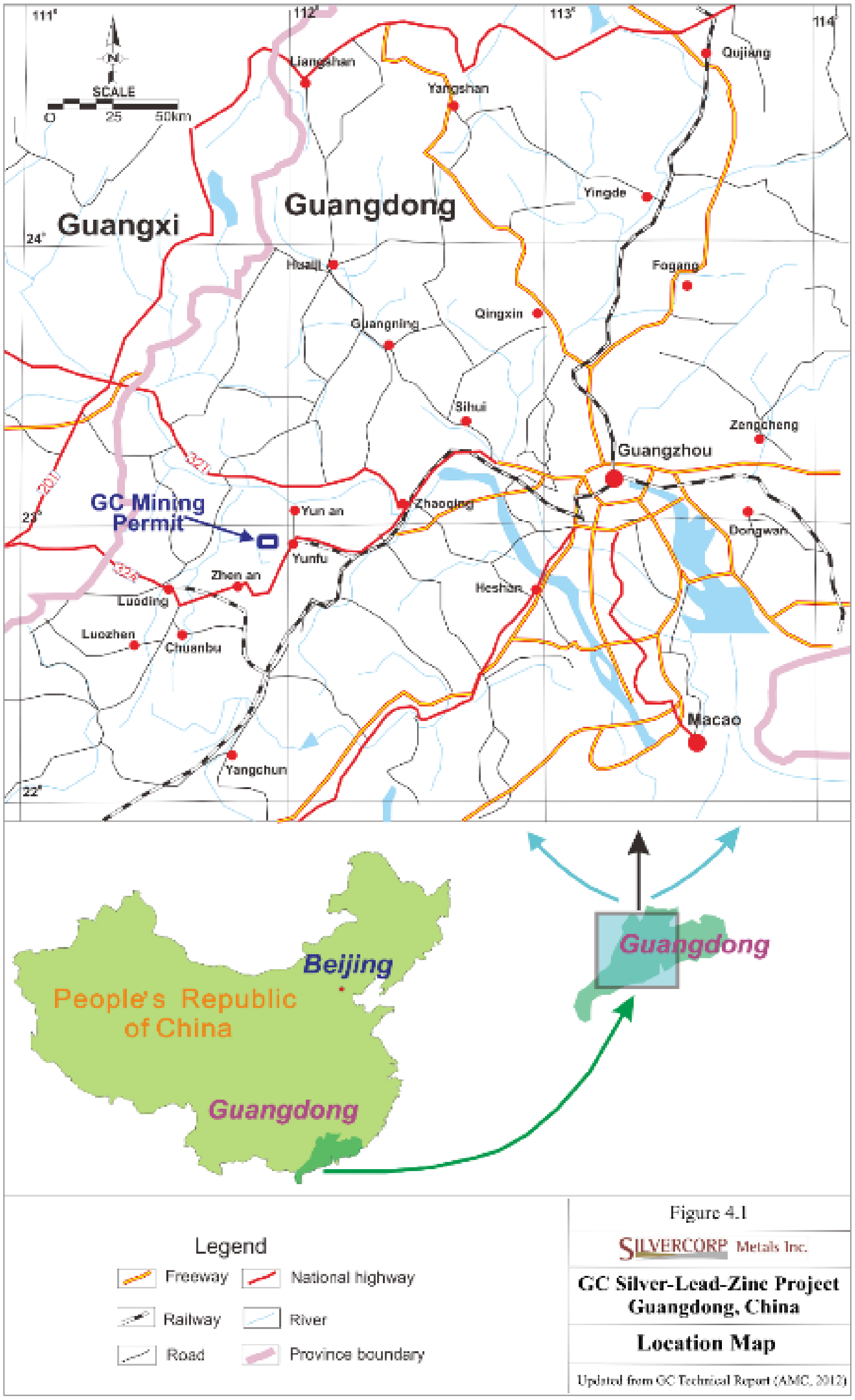
- Expert: Mr Qiang Song, Environmental Specialist, Silvercorp Metals Inc.
- Report, opinion, or statement relied upon: information current as of 31 March 2021 on environmental studies, permitting, social and community impact, site monitoring, remediation and reclamation, and closure plan.
- Extent of reliance: full reliance following a review by the QPs.
- Portion of Technical Report to which disclaimer applies: Section 20.

4 Property description and location

4.1 Location

The Property is located in the vicinity of Gaocheng village, Gaocun Township, Yun'an District, Yunfu City, Guangdong Province, People's Republic of China (Figure 4.1).

Figure 4.1 GC Property location map



Note: Updated in 2021.

4.2 Ownership and permits

In 2008, Silvercorp acquired 100% of the shares of Yangtze Gold Ltd. (Yangtze Gold), a private British Virgin Island (BVI) company, which in turn wholly owns Yangtze Mining Ltd. (Yangtze Mining). Yangtze Mining owns a 95% interest in a Sino-Foreign joint venture company, Anhui Yangtze Mining Co. Ltd. (Anhui Yangtze). Anhui Yangtze's main asset was the GC exploration permit for the GC Mine, which was subsequently converted to a mining permit in November 2010.

Guangdong Found Mining Co. Ltd. (China), (Guangdong Found), is the designated joint venture operating company of the GC Mine. Yangtze Mining (H.K.) Ltd., a wholly owned subsidiary of Yangtze Mining, owns 95% of Guangdong Found. Guangdong Found has a 100% beneficial interest in the GC Mine. The boundaries of the mining permit were surveyed, and the boundary markers were staked in the ground by the Bureau of Land and Resources of Guangdong Province before issuing the mining permit to Guangdong Found in 2010.

On 14 June 2010 Silvercorp announced that it had been issued an Environmental Permit for the Project from the Department of Environmental Protection of Guangdong Province, an essential document required for a mining permit application.

A Mining Permit was issued to Anhui Yangtze by the Ministry of Land and Resources of China on 24 November 2010. The permit is valid for 30 years to 24 November 2040, covers the entire 5.5238 km^2 area of the GC Mine and permits mining from 315 metres (m) to minus 530 m elevations. The permit was issued on the terms applied for and allows for the operation of an underground mine to produce silver, lead, and zinc. In June 2012, Anhui Yangtze transferred the mining permit to Guangdong Found, and a new mining permit was issued to Guangdong Found by the Ministry of Land and Resources of China on 6 June 2012.

Mining Permit Corner Points of the Property are as shown below in Table 4.1.

Table 4.1 Mining Permit corner points of the Property

Point	Gauss coordinates	
	X	Y
1	2536958.82	37591830.45
2	2536977.34	37594822.59
3	2535131.42	37594834.19
4	2535112.90	37591841.69

The grid system used for the GC Project is the Xi'an Geodetic Coordinate System 1980. Altitude is referred to the Yellow Sea 1956 Elevation System. The project survey control points were generated from three nearby national survey control points.

Key information contained in the Mining Permit is provided in Table 4.2.

Table 4.2 Gaocheng Mining Permit, owned by Guangdong Found

Permit No.	**No. C1000002010113210083333**
Owner	Guangdong Found Mining Co. Ltd.
Owner's address	48 Zhenqian Rd., Gaocun Township, Yun'an County, Yunfu City of Guangdong Province, P. R. China
Name of the mine	GC Lead and Zinc Mine of Guangdong Found Mining Co. Ltd.
Business category	Sino-Foreign cooperative enterprises
Types of ore mined	Zinc, lead, and silver ore
Mining method	Underground mining
Production capacity	330,000 tonne/year
Mine area	5.5238 km^2
Valid period	6 June 2012 to 24 November 2040
Issued date*	6 June 2012

Note: *Exploration Permit converted to Mining Permit 24 November 2010.

4.3 Obligations of Silvercorp with respect to the GC Mine

Under Chinese laws applicable to the GC Mine, Silvercorp is obliged to, among other things: (a) carry out mining activities in accordance with the provisions of the mining permit; (b) conduct an annual inspection and report its utilisation of mineral resources and other required information to the relevant government authorities; (c) prepare a report on mineral resources and reserves for assessment and filing with relevant government authorities upon the occurrence of certain prescribed events; (d) pay mineral resources compensation fees, mining-right use fees, resources tax, and other similar taxes and fees; (e) adopt mining methods and technologies that meet applicable design requirements; (f) construct appropriate safety facilities at the mine site which facilities' design must be approved and inspected by the relevant authorities prior to use thereof; (g) comply with the prohibitions on profiteering and transferring of mining rights; (h) comply with laws and regulations relating to labour safety; and (i) comply with laws and regulations relating to land conservation, land rehabilitation and environmental protection.

Under Chinese laws applicable to the GC Mine, Silvercorp's obligations with respect to environmental protection include, among other things: (a) conducting an environment impact assessment prior to the commencement of the project construction or in the event of any major changes in certain aspects of the project; (b) implementing the environment protection measures provided by the approving government authority in relation to the environmental impact assessment; (c) ensuring that environmental protection facilities are designed, constructed and put into use concurrently with the main production facilities; (d) ensuring that project construction has completed and passed the inspection and acceptance of relevant environmental authorities; (e) ensuring that environmental protection facilities are not dismantled or left idle without authorization; (f) developing a plan on the protection and restoration of the geologic environment as well as land reclamation; (g) preventing and controlling water pollution in accordance with applicable laws by, for example, ensuring the discharge of water pollutants within the state or local standards; (h) preventing and controlling atmosphere pollution in accordance with applicable laws by, for example, ensuring that measures are taken to reduce the discharge of dust and gaseous pollutants; (i) preventing and controlling pollution from environmental noise in accordance with applicable laws; (j) preventing and controlling pollution caused by solid waste in accordance with applicable laws by, for example, ensuring that facilities, equipment and places for collection, storage, transportation and treatment of solid waste are maintained in good condition; (k) preventing and controlling water and soil loss in accordance with applicable laws; (l) developing emergency response plans and file such plans with the competent environment protection authorities; (m) ensuring that the emergency facilities, equipment and measures are complete; (n) periodically reporting and registering with competent local environmental department for discharging pollutants; (o) periodically monitoring the quality of water, atmosphere, noise, soil; and (p) establishing an environmental department and formulating environmental management systems.

4.4 Taxes and royalties

Currently, the GC mine is subject to Mineral Resources taxes, levied at 3% of revenue from lead and zinc and 2% of revenue from silver. The Mineral Resource taxes, together with other government fees that are not tied to revenue, amount to approximately 5% of revenue. The QP is not aware of any additional royalties, back-in rights, payments, agreements, environmental liabilities, or encumbrances particular to the Property other than those stated above.

4.5 Other

Environmental issues and more detail on permitting are discussed in Section 20.

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

The GC mine is located in the vicinity of Gaocheng Village of Gaocun Township, Yun'an District, Yunfu City, Guangdong Province, China. Altitudes in the region range from 78 to 378 m above sea level (asl), usually 150 to 250 m asl, with relative differences of 50 to 150 m. Vegetation is in the form of secondary forests of pine and hardwoods, bushes, and grasses. Topsoil covers most of the ground. Outcrops of bedrocks can only be observed in valleys.

The mine is located west of the metropolitan city of Guangzhou, the capital of Guangdong Province, see Figure 4.1. Guangzhou is located about 120 kilometres (km) north-west of Hong Kong and has a population of about 14 million people. It is serviced by rail and daily flights from many of China's larger population centres. Access to the mine from Guangzhou is via 178 km of four-lane express highway to Yunfu, then 48 km of paved road to the Project site. A railway connection from Guangzhou to Yunfu is also available.

The region belongs to a sub-tropical monsoon climate zone with average annual temperature of 20 – 22°C. Rainfall is mainly concentrated in spring and summer from March to August. Winters feature short periods of frosting. The GC Project is able to operate year-round.

Streams are well developed in the district, with the Hashui Creek flowing in the Gaocheng mine area. There is a reservoir upstream of the mine. Small hydropower stations are developed in the region that are connected to the provincial electrical grid. There is a 10 kilovolts (kV) power line that crosses through the Project area.

A power supply system consisting of a 5.8 km power line, a 110 kV substation, and a 10 kV safety backup-circuit was completed in 2013. This system has sufficient capacity to support the current production and any envisaged future production expansion.

The economy of Yun'an District mainly relies upon agriculture and some small township industrial enterprises. Labour is locally available, and technical personnel are available in Yunfu and nearby cities. The Gaocheng village is located within the Gaocheng mine area.

6 History

6.1 Prior ownership

Prior to Yangtze Mining acquiring the Property (see Section 4.2), illegal mining activity resulted in the excavation of several tunnels and small-scale mining of veins as discussed in Section 6.3.

Yangtze Mining purchased the Property in 2005.

In 2008, Silvercorp acquired 100% of the shares of Yangtze Gold Ltd. which in turn wholly owns Yangtze Mining Ltd.

6.2 Exploration and development work

Various state-sponsored Chinese Geological Brigades and companies have conducted geological and exploration work in the Project area. Systematic regional geological surveys covering the area started in 1959. The following is a brief history of the exploration work in the area:

- During 1959 to 1960, No. 763 Geological Brigade of Guangdong Bureau of Geology conducted a 1:200,000 regional geological survey and mapping, and regional prospecting of Mineral Resources in the area. A geological map and geological reports were published.
- From 1964 to 1967, the Comprehensive Study Brigade of Guangdong Bureau of Geology conducted general prospecting and 1:50,000 geological mapping in the area, including the current Project area, and submitted a geological report.
- In 1983, the Geophysical Survey Brigade of Guangdong Bureau of Geology and Mineral Resources conducted a 1:200,000 airborne magnetic survey covering the Project area.
- In 1988, the Regional Geological Survey Brigade of Guangdong Bureau of Geology and Mineral Resources conducted a 1:200,000 stream sediment survey, which covers the Project area.
- In 1991, the Geophysical Survey Brigade of Guangdong Bureau of Geology and Mineral Resources conducted a 1:200,000 gravity survey covering the Project area.
- In 1995, the Ministry of Geology and Mineral Resources completed the compilation and interpretation of 1:1,000,000 geochemical, geophysical, and remote sensing surveys covering the area.
- During 1995 and 1996, the Geophysical Survey Brigade of Guangdong Bureau of Geology and Mineral Resources conducted a 1:50,000 soil survey, and defined some large and intensive Pb, Zn, Ag, Sn, W, and Bi geochemical anomalies, which cover the Project area.
- During 1999 and 2000, the Guangdong Provincial Institute of Geological Survey (GIGS) conducted a 1:50,000 stream sediment survey, which covers the Project area, and defined several intensive anomalies of Pb-Zn-Ag-Sn-Mn, leading to the discovery of the GC deposit.
- During 2001 and 2002, and again in 2004 and 2005, GIGS conducted general prospecting at the GC Project area, and defined some mineralized bodies and estimated Mineral Resources for the GC deposit.
- During 2006 and 2007, contracted by Yangtze Mining, GIGS conducted detailed prospecting at the GC Project area, and completed a 36-hole, 11,470 m surface diamond drilling program and 1,964 m^3 of trenching and surface stripping to update and upgrade the Mineral Resources of the GC deposit.
- In 2008, Silvercorp completed a 22-hole, 10,083 m drilling program, which resulted in the discovery of an additional 15 mineralized veins.

A summary of the historical work between 2001 and 2008 is shown in Table 6.1. Table 6.2 contains a drill record for the same period. The historical drilling is further discussed in Section 10.1.

Table 6.1 Historical exploration work 2001 – 2008

Program	Unit	Work completed				
		2001 - 2002	2004 - 2005	2006 - 2007	2008	Total
1:10,000 Soil survey	km^2	4.0				4.0
1:10,000 Soil profiling	km	12.4				12.4
1: 5,000 Hydrogeological survey	km^2			12.5		12.5
1:10,000 Geological survey	km^2	15.0				15.0
1:5000 Geological survey	km^2		5.3			5.3
1:2000 Geological survey	km^2			4.5		4.5
1:2000 Topographic survey	km^2			4.5		4.5
Exploration line survey	km	3.8	2.0	6.7		12.5
Diamond drilling	m	1,010.3	983.6	11,469.8	10,083.0	23,546.7
Trenching (pitting)	m^3	3,888.0	3,582.5	1,964.1		9,434.6
Tunnelling	m	66.0				66.0
Tunnel clean-up	m	197.2		302.6		499.8
Tunnel geological mapping and sampling	m	637.2		632.6		1,269.8
Control point survey	Point			42.0		42.0
Survey of engineering points	Point		23.0	222.0		245.0
Hydrogeological observation hole	Point			2.0		2.0
Soil samples	Sample	1,116.0				1,116.0
Chemical analysis samples	Sample	454.0	182.0	2,849.0		3,485.0
Internal checking samples	Sample	17.0		275.0		292.0
External checking samples	Sample			150.0		150.0
Rock survey samples	Sample	41.0				41.0
Thin and polishing sections	Piece	34.0	8.0	27.0		69.0
Composite samples	Sample	2.0		26.0		28.0
Spectrum analysis sample	Sample			1.0		1.0
Small specific gravity samples	Sample			62.0		62.0
Artificial heavy mineral sample	Sample			1.0		1.0
Multiple element samples	Sample			3.0		3.0
Water quality samples	Sample			11.0		11.0
Rock and ore samples	Sample			38.0		38.0
Sample for metallurgical test	Sample			1.0		1.0
Metallurgical testing	Test			1.0		1.0

Table 6.2 Record of drilling 2001 – 2008

Year drilled	PQ (m) 85.0 mm	HQ (m) 63.5 mm	NQ (m) 47.6 mm	Total (m)
2001 – 2005		1,993.9		1,993.9
2006 – 2007	420.3	5,179.7	5,869.9	11,469.8
2008			10,083.0	10,083.0
Total (m)	**420.3**	**7,173.6**	**15,952.9**	**23,546.7**

6.3 Production

Prior to Yangtze Mining acquiring the Property, illegal mining activity resulted in the excavation of several tunnels and small-scale mining of veins V2, V2-2, V3, V4, V5, V6, and V10. GIGS reported that a total of 1,398 m of excavation comprised of 10 adits and tunnels had been completed on the Property through the illegal activity.

In 2002, GIGS developed 66 m of tunnel to crosscut veins V5 and V5-1. GIGS sampled and mapped adits ML1 to ML5, ML6, ML7, ML9, and PD12.

Yangtze Mining, after its purchase of the Property in 2005, mapped and sampled the accessible tunnels ML5 and ML8. Tunnel ML5 had exposure to vein V10 and tunnel ML8 had exposure to vein V2-2. Assay results of tunnel samples were used in resource estimation. Table 6.3 details the underground workings and work completed. However, there are no detailed reconciliation data available for any of the mineralization extracted.

Table 6.3 Details of historical underground workings

Tunnel / adit	Length of tunnel / adit (m)	Vein intersected	No. samples collected	Mapped and sampled by
ML1	156	V4	12	GIGS
ML2	70	V3	1	GIGS
ML3	2	V4	6	GIGS
ML4	41	V4	3	GIGS
ML5	324	V10	13	Yangtze
ML6	438	V2	25	GIGS
ML7	45	Not named, parallel to V4		GIGS
ML8	246	V2-2	19	Yangtze
ML9	46	V4		GIGS
PD12	28	V6	3	GIGS
PD4401	66	V5	5	GIGS

6.4 Historical Mineral Resource estimates

GIGS prepared a resource estimate for nine mineralized veins for the GC project after the 2004 – 2005 exploration season. GIGS has its own classification system of Mineral Resources / Reserves, which is different from CIM Definition Standards. The QP does not consider the GIGS estimation of resources to be material to this report.

Silvercorp acquired the Property in 2008 (see Section 4.2). Five resource estimates for Gaocheng have been reported since 2008:

- Technical Report by SRK Consulting (SRK), dated April 2008 (titled 'Technical Report on Gaocheng Ag-Zn-Pb Project and Shimentou Au-Ag-Zn-Pb Project, Guangdong Province, People's Republic of China').
- AMC Technical Report (titled 'NI 43-101 Technical Report Update on the GC Ag-Zn-Pb Project in Guangdong Province, People's Republic of China'), effective date 18 June 2009.
- AMC Technical Report (titled 'NI 43-101 Technical Report on the GC Ag-Zn-Pb Project in Guangdong Province, People's Republic of China'), effective date 31 December 2011.
- AMC Technical Report (titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China'), effective date 30 June 2018.
- AMC Technical Report (titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China'), effective date 30 June 2019.

Current estimates of Mineral Resources and Mineral Reserves are discussed in the relevant sections of this report.

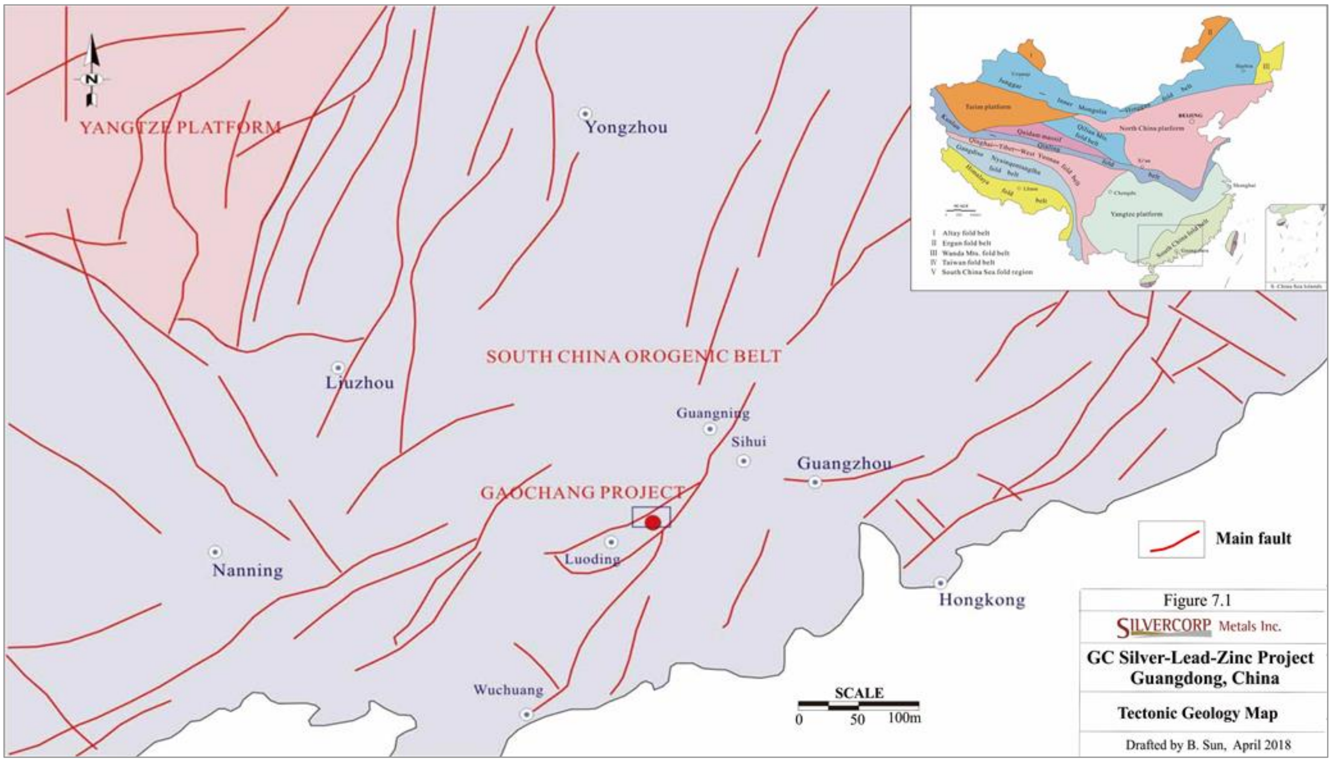
7 Geological setting and mineralization

7.1 Regional geology

This section includes a summary of the geological setting and mineralization presented in the 2019 Technical Report and the 2008 SRK Technical Report.

The Property is located on the east margin of the Luoding basin, east of the Wuchuan – Sihui major fault within the north portion of the Yunkai uplift of the South China Orogenic Belt. North-east striking structures and arc structures form the basic geological framework of the region. Deposits on the Property occur at the intersection of a north-easterly striking fault zone and a near east-westerly striking fault zone.

Figure 7.1 Tectonic geology map of southern China



Basement geology in the area comprises late Proterozoic Sinian sedimentary clastic and carbonate rocks; Palaeozoic (Ordovician, Silurian, Devonian, Carboniferous) sedimentary clastic and carbonate rocks; and Mesozoic (Triassic) coal-bearing clastic rocks and Cretaceous red clastic rocks. Ag-Pb-Zn poly-metallic deposits occur within late Proterozoic rocks. Cu-Pb-Zn, Mn, and Au-Ag deposits occur within Palaeozoic rocks.

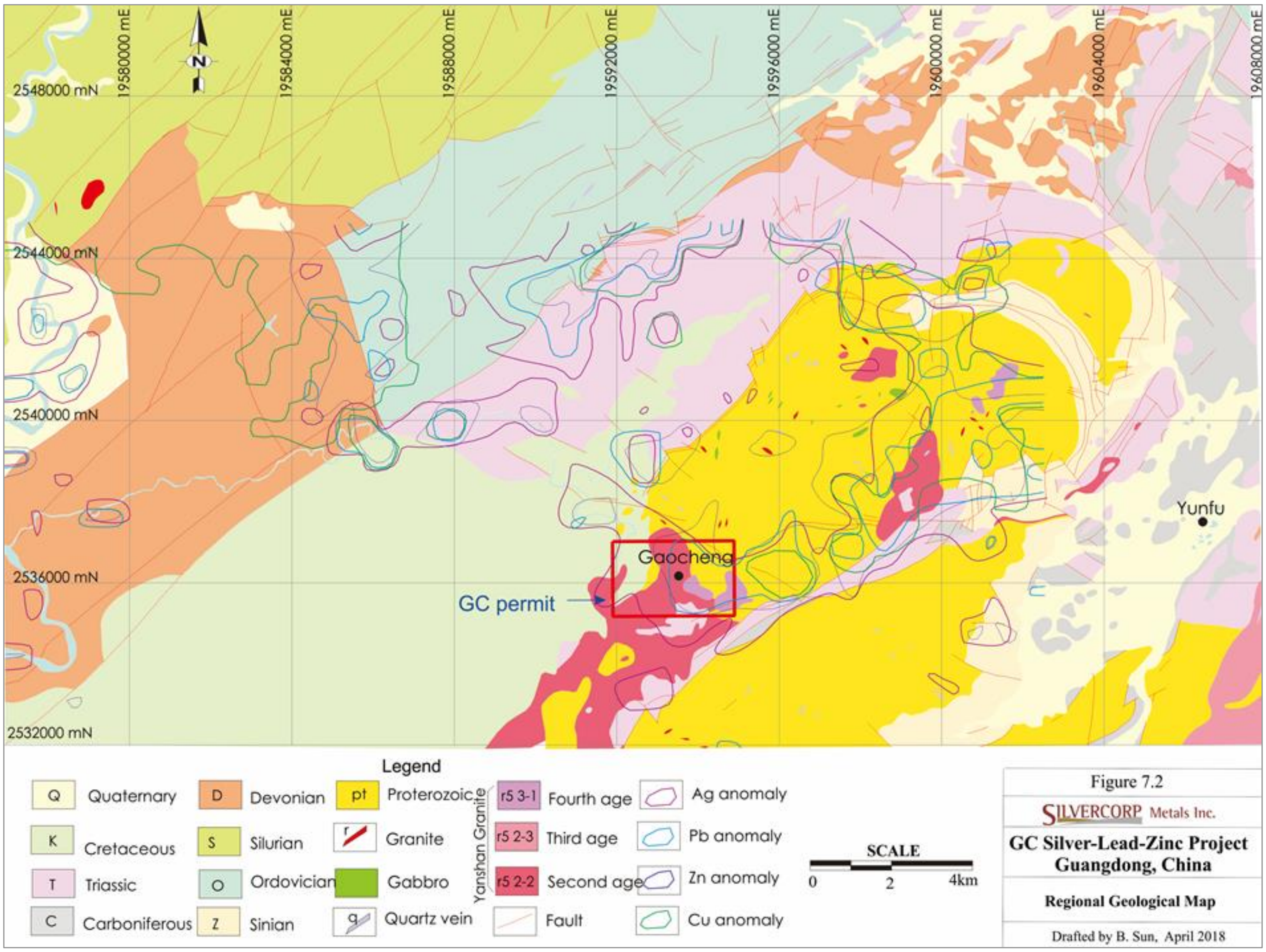
Three prominent sets of structures occur within the region:

- North-easterly striking structures comprising a series of folds and faults that host some mineralized bodies.
- Approximately east-westerly striking structures which dip steeply and contain structural breccias and quartz infill within the fault zones. Prominent alteration zones occur along both sides of these structures.

- Arc or ring structures which include folds and faults surrounding the Daganshan granite body. The Pb-Zn-Ag-Sn deposits, mineralization showings, and Au-Ag-Pb-Zn geochemical anomalies occur in the arc / ring structural zone.

Palaeozoic granite batholiths and Mesozoic granite stocks and dykes occur commonly within the arc / ring structure. These intrusions are closely related with Pb-Zn-Ag poly-metallic mineralization in the region.

Figure 7.2 Regional geological map

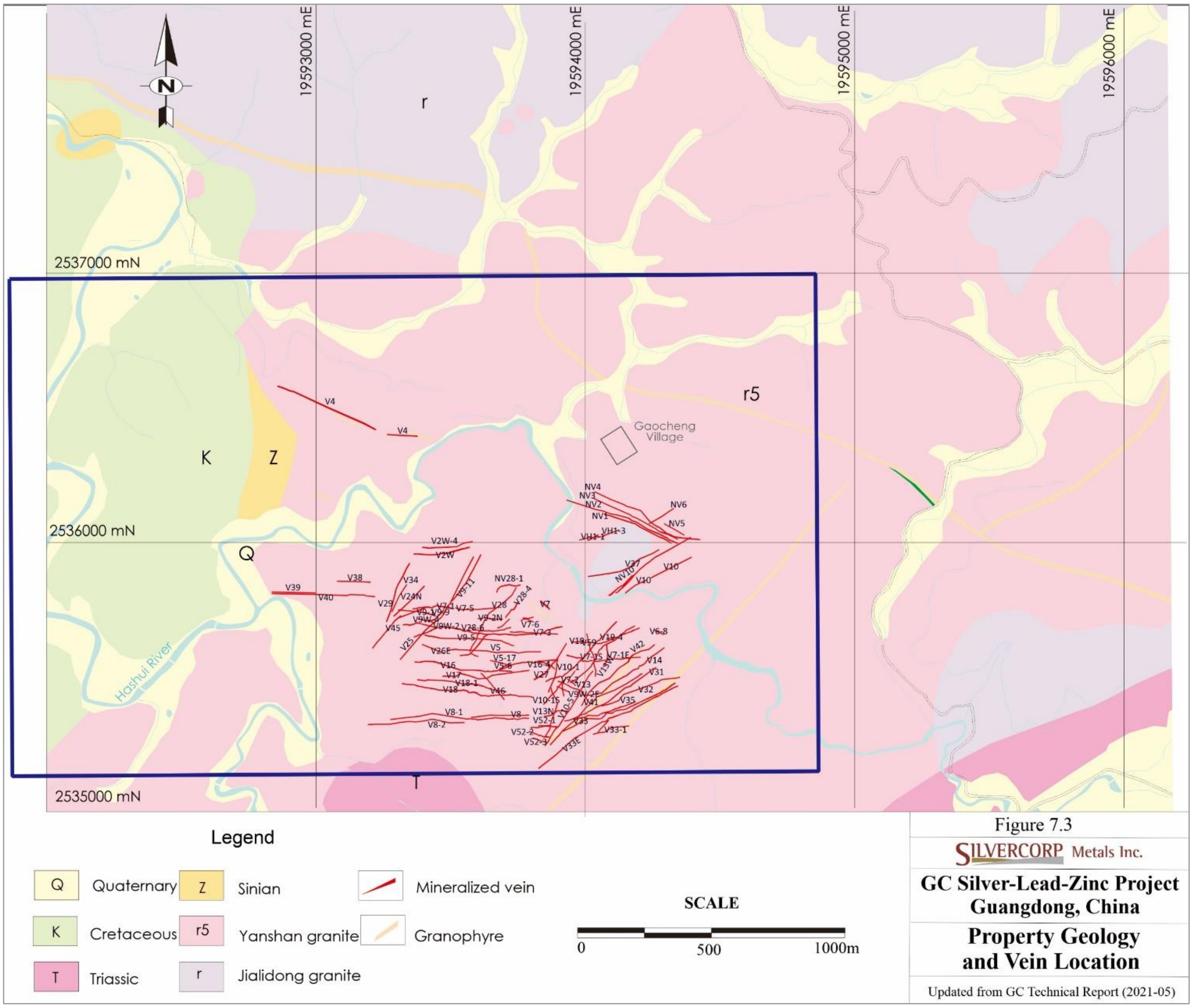


7.2 Property geology

The Property is located at the intersection between the Wuchuan-Sihui Deep Fault zone and Daganshan Arc-ring structural zone.

Basement rocks within the Property encompass quartz sandstone, meta-carbonaceous siltstone, carbonaceous phyllite, calcareous quartzite, and argillaceous limestone of the Sinian Daganshan Formation; quartz sandstone and shale of the Triassic Xiaoyunwushan Formation, and sandy conglomerate and conglomerate of the Cretaceous Luoding Formation. These rocks are intruded by Palaeozoic medium-grained biotite granite, and Mesozoic fine- to medium-grained adamellite, brownish, fine-grained, biotite mylonite, granite porphyry, quartz porphyry, diabase, and aplite. The Mesozoic intrusive rocks intruded along the south and south-west contacts of the Palaeozoic granites. The majority of Ag-Zn-Pb mineralization is hosted by the Mesozoic granite. The granite dips south and strikes approximately west north-west, parallel to many of the mineralized veins on the Property.

Figure 7.3 Property geology map



7.2.1 Structures

The project area is situated in the south-west part of the Daganshan uplift. Structures developed in the area are mainly the NWW-EW striking Gaocheng Fault zone, the NE striking Baimei Fault zone, and the Songgui Fault zone.

Mineralization at GC is primarily hosted within a WNW-ENE trending, 4.8 km long and 2 km wide fault zone. This zone encompasses numerous veins (V2E, V2-1, V2-2, V2-5, V6-0, V6-1, V6-7, V6-8, V6E, V6E1, V6E2, V6M, V6M-2, V7, V7-1E, V7-2, V7E, V9-1, V9-2, V9-3, and V9W-2E) with the more common WNW veins generally striking between 90° and 150° and dipping between 55° to sub-vertical. The average thickness of the WNW-ENE veins is 0.76 metres (m).

East-west striking veins include NV10, NV28, NV28-1, V2-3, V2-6, V2W, V2W-0, V2W-4, V2W-8, V5, V6, V6-0, V6-2, V6-5, V6M-3, V7-1, V7-3, V7-4, V8, V8-1, V8-2, V9-4, V9W-2, V9-5, V11, V14, V16, V17, V18, V18-1, V18-2, V18-3, V19, V33, V35, V37. These veins generally strike 50° to 130° and dip between 65° and sub-vertical to the SE and SSW (Figure 7.4 and Figure 7.5). The average thickness is 0.77 m.

NE-striking faults cut through the NWW-striking structures with no or minor displacement. Mineralized veins including V5-5, V5-9, V9-9, V9-11, V10, V10-1, V10-2, V10-3, V10-4, V12, V13, V25, V26, V27, V28, V28-4, V29, V29-1, V31, V32, V33E, and V41 form part of this trend. These veins are sub-parallel to the major NE striking faults F25 and F27. These veins generally strike between 10° and 80° and dip between 60 and 75° to the SE (Figure 7.4). The average thickness of these veins is 0.76 m.

Figure 7.4 The occurrence and distribution of mineralized veins (Level -100 m)

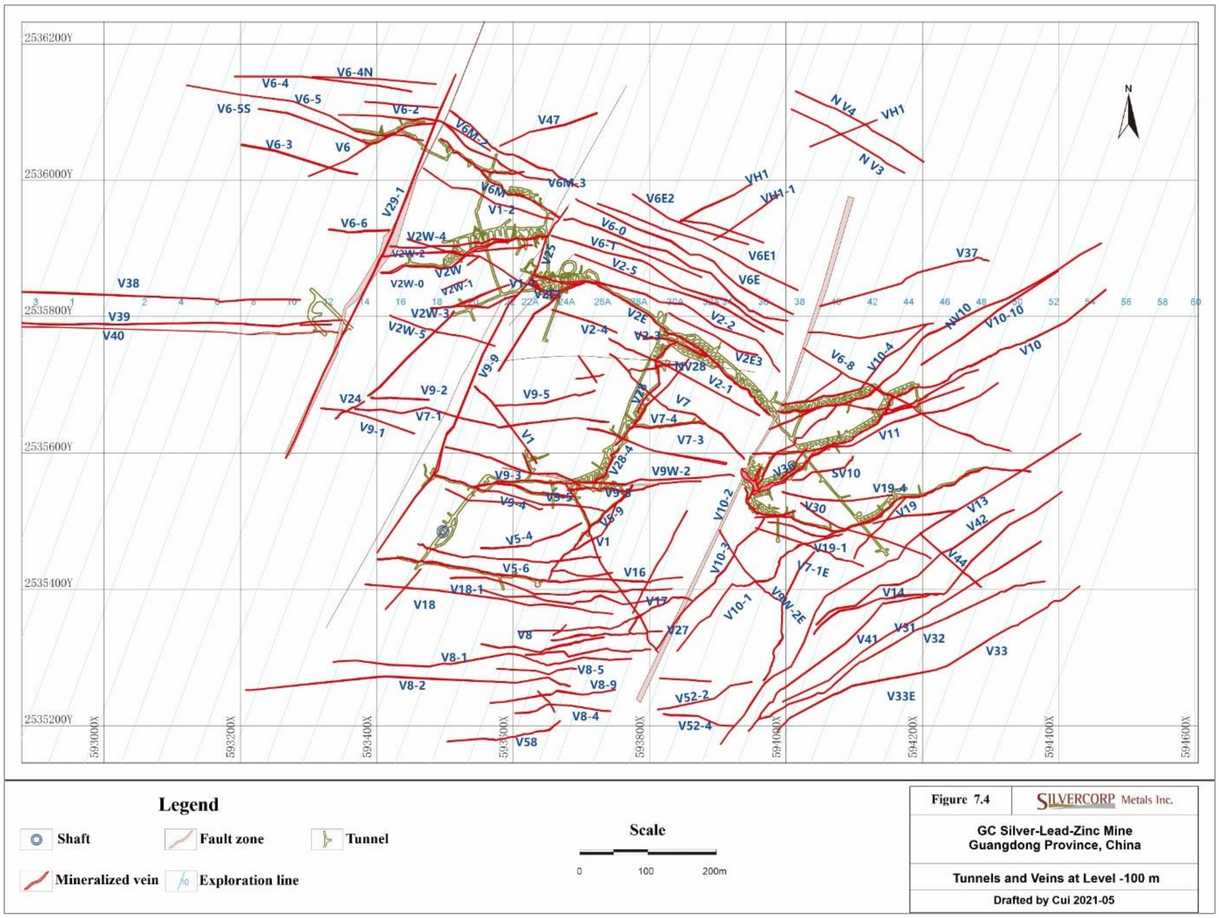
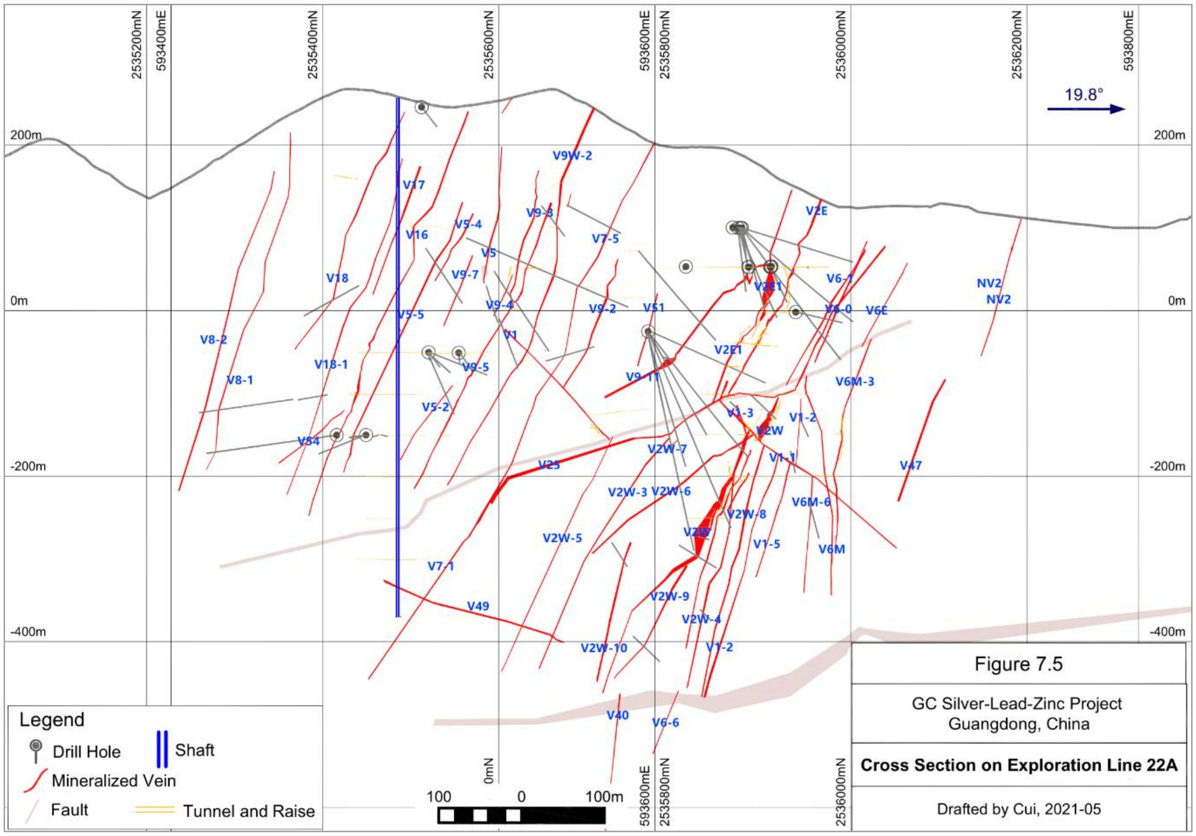


Figure 7.5 Cross section of Exploration Line 22A



Source: Silvercorp Metals Inc.

Photos of the NWW and NE striking faults are presented in Figure 7.6. The faults demonstrate a sharp contact between the veins and the host rock.

Figure 7.6 Fault planes

a) Vertical and smooth fault plane of NE vein V10 in an open stope of Tunnel ML5.

b) Vertical and smooth fault plane of NWW vein V2-2 in an open stope of Tunnel ML5.

Source: Silvercorp Metals Inc.

7.3 Mineralization

Ag-Zn-Pb mineralization at the GC deposit can be divided into two types: primary and oxidized. The primary mineralization is mainly composed of galena-sphalerite-silver minerals, which occur sparsely, as disseminations, veinlets, and lumps. Primary mineralization accounts for 95% of the entire Mineral Resource. Oxide mineralization occurs on and near the surface.

Mineralized veins in the GC area occur in relatively permeable fault-breccia zones. These zones are extensively oxidized from the surface to depths of about 40 m. Veins in this zone exhibit open space and boxwork lattice textures resulting from the leaching and oxidation of sulphide minerals. Secondary minerals present in varying amounts in this zone include kaolinite, hematite, and limonite.

The dominant sulphide mineral is pyrite, typically comprising a few percent to 13% of the vein. Other constituents are a few percent of sphalerite, galena, pyrrhotite, arsenopyrite, magnetite, and less than a percentage of chalcopyrite and cassiterite. Metallic minerals in much smaller amounts include argentite, native silver, bornite, wolframite, scheelite, and antimonite. Metallic minerals occur in narrow massive bands, veinlets or as disseminations in the gangue. Gangue minerals include chlorite, quartz, fluorite, feldspar, mica, hornblende, with a small or trace amount of kaolinite, tremolite, actinolite, chalcedony, garnet, zoisite, apatite, and tourmaline.

Alteration minerals associated with the GC vein systems include quartz, sericite, pyrite, and chlorite, together with clay minerals and limonite. Silicification commonly occurs near the centre of the veins. Chlorite and sericite occur near and slightly beyond the vein margins.

Quartz, pyrite, fluorite, and chlorite are closely related to the mineralization.

7.4 Characteristics of the mineralized veins

Table 7.1 to Table 7.4 presents a summary of the characteristics of the veins on the Property. The veins are grouped by dominant orientations.

Table 7.1 presents a summary of the characteristics of the WNW-ENE mineralized veins.

Table 7.1 Dimensions and occurrences of selected WNW-ENE mineralized veins

Vein	Length (m)	Inclined depth (m)	Elevation (m)	Strike (°)	Dip direction (°)	Average dip angle (°)	Average true thickness (m)
NV4	302	102	80-(-20)	98-142	188-232	78	0.87
V1-1	155	138	-105-(-218)	101-145	11-55	55	1.03
V1-2	210	539	-30-(-522)	101-145	11-45	66	0.57
V19-1	126	113	-50-(-161)	99-143	189-233	78	0.55
V2-1	311	258	-143-(-377)	101-145	191-235	65	0.56
V2-2	240	574	83-(-463)	98-142	188-232	72	0.74
V2-5	210	394	30-(-318)	90-134	180-224	62	0.62
V2-8	80	61	-199-(-252)	115-159	25-69	60	0.91
V2-9	84	67	-213-(-257)	200-210	110-120	77	0.62
V2E	448	675	127-(-490)	95-139	185-229	66	1.23
V2E3	102	267	-41-(-279)	90-134	180-224	63	0.55
V30	111	145	59-(-76)	92-136	182-226	69	0.66
V4	360	175	140-(-99)	200-211	110-121	80	1.12
V4-1	254	280	-221	200-205	110-115	74	0.77
V46	106	58	159-142	120-164	30-74	62	0.31
V6-1	354	640	51-(-489)	193-215	103-125	65	0.76
V6-7	50	100	-157-(-248)	91-135	181-225	66	0.86
V6-8	318	257	108-(-143)	92-136	182-226	78	0.68
V6E	300	509	57-(-430)	99-143	189-233	73	0.62
V6E1	176	386	52-(-282)	90-134	180-224	60	0.58
V6E2	233	202	-167-(-241)	195-209	105-119	62	0.63
V6M	273	334	71-(-250)	102-146	192-236	74	1.00
V6M-2	197	103	-28-(-125)	100-144	10-54	71	0.76
V7	270	408	95-(-291)	101-145	191-235	71	0.67
V7-1E	195	231	164-(-56)	100-144	190-234	72	0.54
V7-2	173	303	56-(-229)	109-153	199-243	70	0.64
V7E	71	285	8-(-254)	102-146	192-236	67	1.78
V9-1	140	192	83-(-91)	88-132	178-222	65	0.75
V9-2	135	181	62-(-106)	91-135	181-225	68	0.86
V9-3	390	355	132-(-199)	89-133	179-223	69	0.92
V9W-2E	130	417	157-(-246)	111-155	201-245	75	0.54

Source: Silvercorp Metals Inc.

Table 7.2 presents a summary of the characteristics of the E-W mineralized veins on the Property.

Table 7.2 Dimensions and occurrences of selected E-W mineralized veins

Vein	Length (m)	Inclined depth (m)	Elevation (m)	Strike (°)	Dip direction (°)	Average dip angle (°)	Average true thickness (m)
NV10	400	390	163-(-193)	52-96	142-186	66	0.93
NV2	495	110	63-10	190-197	107-100	75	0.63
NV28	221	237	103-(-115)	60-104	150-194	67	1.33
NV28-1	187	216	103-(-96)	66-110	156-200	67	0.85
NV3	124	49	59-11	73-117	163-207	79	0.42
NV6	118	65	60-38	49-93	139-183	61	0.38
V10-10	56	123	35-(-69)	54-98	144-188	58	0.62
V10W	165	190	-136-(-302)	54-98	144-188	61	0.81
V11	362	329	56-(-237)	57-101	147-191	63	0.68
V14	285	278	156-(-108)	69-113	159-203	72	0.56
V16	460	403	158-(-213)	67-111	157-201	67	0.74
V17	326	426	152-(-251)	73-117	163-207	71	0.66
V17-1	217	236	27-(-201)	74-118	164-208	75	0.70
V18	461	374	185-(-166)	69-113	159-203	70	0.75
V18-1	258	262	152-(-108)	83-127	173-217	83	0.62
V18-2	208	234	6-(-219)	66-110	156-200	74	0.63
V18-3	178	269	28-(-221)	64-108	154-198	68	0.57
V18-4	143	146	24-(-116)	72-116	162-206	74	0.36
V19	405	479	136-(-287)	63-107	153-197	62	0.82
V19-2	75	171	8-(-147)	58-102	148-192	65	0.58
V19-4	128	350	108-(-221)	69-113	159-203	70	0.62
V19-7	135	117	-114-(-145)	74-118	164-208	61	0.57
V19-8	120	108	-202-(-239)	165-180	75-90	75	0.95
V2-3	255	252	110-(-127)	86-130	176-220	70	1.12
V2-4	85	122	-234-(-344)	82-126	172-216	64	1.73
V2-6	252	195	11-(-160)	200-210	110-120	66	0.65
V2E1	146	613	87-(-464)	65-109	155-199	64	1.98
V2E2	81	79	-175-(-250)	64-108	154-198	71	1.30
V2E4	68	110	-250-(-354)	58-102	148-192	71	1.63
V2E-4E	268	289	108-(-160)	52-96	142-186	68	0.52
V2W	350	668	90-(-534)	55-99	145-189	69	2.16
V2W-0	130	84	11-(-70)	66-110	156-200	75	0.81
V2W-10	84	210	-288-(-510)	173-185	83-95	79	1.03
V2W-3	98	95	-53-(-146)	60-104	150-194	78	0.51
V2W-4	295	453	109-(-317)	70-114	160-204	70	1.06
V2W-5	128	185	21-(-164)	81-125	351-35	87	0.55
V2W-7	121	209	-49-(-139)	160-165	70-75	50	0.62
V2W-8	172	345	-182-(-519)	73-117	163-207	78	0.87
V2W-9	120	217	-85-(-291)	66-110	156-200	72	0.85
V3	60	185	130-(-46)	195-200	105-110	85	0.49
V33	515	222	150-(-56)	49-93	139-183	68	0.61
V33-1	80	108	149-91	170-177	80-87	53	0.68
V33-2	90	185	146-85	182-200	92-110	57	0.65

Vein	Length (m)	Inclined depth (m)	Elevation (m)	Strike (°)	Dip direction (°)	Average dip angle (°)	Average true thickness (m)
V35	261	243	264-40	55-99	145-189	67	0.57
V37	290	220	207-(-8)	68-112	158-202	78	0.67
V37-1	192	242	53-(-108)	170-190	80-100	75	0.49
V38	158	220	25-(-131)	180-185	90-95	85	0.49
V39	15	274	43-(-194)	63-107	153-197	60	0.60
V40	180	287	69-(-202)	69-113	159-203	71	0.71
V47	14	70	-46-(-109)	49-93	139-183	65	0.52
V5-17	118	94	139-53	79-123	169-213	66	0.55
V52	108	176	206-37	64-108	154-198	74	0.54
V5-2	153	72	-148-(-215)	65-109	155-199	68	0.54
V52-2	108	334	160-(-167)	65-109	155-199	78	0.77
V52-3	56	130	160-34	69-113	159-203	76	0.65
V5-7	117	61	103-47	56-100	146-190	67	0.54
V58	118	167	-62-(-221)	64-108	154-198	72	0.79
V6	110	280	20-(-254)	63-107	153-197	78	0.93
V6-0	265	562	57-(-464)	81-125	171-215	68	0.80
V6-2	54	295	-134-(-250)	182-197	92-107	76	1.17
V6-3	130	131	25-(-48)	188-197	98-107	80	0.70
V6-4	117	333	58-(-270)	173-189	83-99	83	0.52
V6-4N	112	165	-109-(-282)	180-186	90-96	87	0.33
V6-5	295	334	79-(-239)	67-111	157-201	72	0.64
V6-5S	98	190	84-(-98)	69-113	159-203	73	0.71
V6M-3	210	308	51-(-250)	78-122	168-212	78	0.68
V6N	51	195	-70-(-259)	180-184	90-94	72	0.51
V7-1	135	275	114-(-144)	60-104	150-194	70	1.13
V7-3	223	196	122-(-67)	76-120	166-210	75	0.53
V7-4	155	313	143-(-153)	64-108	154-198	71	0.65
V7-5	190	142	53-(-85)	73-117	163-207	77	0.77
V7S	38	69	-212-(-262)	238-250	148-160	72	1.54
V8	82	425	201-(-216)	75-119	165-209	79	0.60
V8-1	429	438	209-(-218)	80-124	170-214	77	0.51
V8-2	382	389	142-(-219)	70-114	160-204	68	0.57
V9-4	231	217	-74-(-274)	79-123	169-213	67	0.71
V9-5	412	481	149-(-303)	73-117	163-207	70	0.97
V9W-2	577	553	168-(302)	70-114	160-204	70	0.89
VH1-4	65	98	52-(-42)	70-114	160-204	74	0.80

Source: Silvercorp Metals Inc.

Table 7.3 presents a summary of the characteristics of the NE mineralized veins on the Property.

Table 7.3 Dimensions and occurrences of selected NE mineralized veins

Vein	Length (m)	Inclined depth (m)	Elevation (m)	Strike (°)	Dip direction (°)	Average dip angle (°)	Average true thickness (m)
V10	646	422	131-(-245)	42-86	132-176	63	1.03
V10-1	443	421	179-(-211)	33-77	123-167	68	0.71
V10-11	123	91	31-(-41)	34-78	124-168	52	0.55
V10-17	71	45	-145-(-147)	36-80	126-170	78	0.76
V10-1S	103	116	157-53	42-86	132-176	64	0.52
V10-2	251	135	153-23	10-54	100-144	74	0.84
V10-3	124	145	-95-(-234)	19-63	109-153	73	0.75
V10-4	294	348	111-(-222)	42-86	132-176	73	0.74
V12	448	335	159-(-147)	29-73	119-163	66	0.57
V13	615	373	206-(-142)	15-59	105-149	69	0.47
V25	410	436	105-(-299)	33-77	123-167	68	0.98
V26	63	145	100-(-40)	8-52	98-142	75	0.86
V27	280	276	107-(-160)	24-68	114-158	75	0.67
V28	256	280	158-(-96)	23-67	113-157	65	0.80
V28-4	307	399	157-(-195)	26-70	116-160	62	0.81
V28-5	75	262	-131-(-263)	105-115	15-25	45	1.35
V29	118	171	162-(-3)	178-42	88-132	75	0.93
V29-1	457	346	44-(-270)	2-46	92-136	65	1.04
V2W-11	65	145	-356-(-401)	145-157	55-67	87	1.20
V2W-14	101	102	-203-(-302)	47-91	137-181	75	1.19
V31	233	188	159-(-5)	27-71	117-161	61	0.55
V32	477	296	153-(-115)	29-73	119-163	65	0.47
V33E	410	117	48-(-58)	43-87	133-177	65	0.63
V34	41	151	118-(-10)	27-71	117-161	58	0.62
V36	98	208	91-(-102)	20-64	110-154	68	0.79
V41	420	324	189-(-109)	35-79	125-169	67	0.56
V45	108	146	128-(-5)	24-68	114-158	66	0.50
V49	173	120	-300-(-302)	15-59	105-149	53	0.83
V5-12	78	271	7-(-225)	20-64	110-154	59	0.53
V5-4	150	378	89-(-245)	45-89	135-179	62	0.70
V5-5	266	363	80-(-234)	46-90	136-180	60	0.71
V5-9	232	373	99-(-221)	34-78	124-168	59	0.75
V8-5	6	141	-105-(-218)	8-52	98-142	53	0.50
V9-11	165	236	158-(-59)	16-60	106-150	67	1.20
V9-9	105	162	155-5	23-67	113-157	68	0.75
VH1	87	98	18-(-28)	155-160	65-70	80	0.82
VH1-3	122	135	106-17	155-160	65-70	68	0.43

Source: Silvercorp Metals Inc.

Table 7.4 presents a summary of the characteristics of the other veins on the Property that do not conform to the three main orientations above.

Table 7.4 Dimensions and occurrences of selected mineralized veins

Vein	Length (m)	Inclined depth (m)	Elevation (m)	Strike (°)	Dip direction (°)	Average dip angle (°)	Average true thickness (m)
V1	462	477	20-(-299)	315-359	45-89	42	0.71
V10-5	168	268	159-(-105)	171-35	81-125	80	0.66
V1-6	85	91	-283-(-296)	175-39	85-129	74	1.09
V26E	20	75	93-25	174-38	84-128	65	0.85
V28-7	67	80	-212-(-236)	128-142	38-52	37	1.11
V2E-8	34	55	54-1	152-16	242-286	75	0.74
V59	97	104	195-108	146-10	56-100	57	0.47
V6E3	96	49	22-(-24)	139-3	49-93	70	0.36
V9-6	100	50	-248-(-249)	173-37	263-307	69	0.98

Source: Silvercorp Metals Inc.

7.5 Other mineralization features

The following are additional mineralization features of the GC deposit:

- High-grade shoots of Ag-Zn-Pb mineralization are commonly associated with the intersections of the NWW and east-west striking faults. This intersection results in east plunging shoots of high-grade mineralization.
- Ag-Zn-Pb mineralization is most intense, continuous, and wide within fault breccia zones.

Grade contours of individual metals within mineralized veins suggests that the Zn mineralization is more continuous than Ag and Pb. Ag and Pb appear to be locally concentrated.

8 Deposit types

This section is a summary of the description of deposit types presented in the 2019 Technical Report The original data source was the 2008 SRK Technical Report.

The poly-metallic mineralization of the GC deposit belongs to the mesothermal vein infill style of deposit and exhibits the following characteristics:

- The mineralization occurs as veins that are structurally controlled within broader alteration zones. The alteration can reach more than a few metres along the faults distributing in both hangingwall and footwall.
- The veins have a sharp contact with the host rocks and steeply dip at angles between 60 – 85°.

In general, the Ag-Zn-Pb mineralization occurs along the strike of the faults.

9 Exploration

The section describes surface and underground exploration activities carried out by Silvercorp between 2008 and 2020.

Surface-based exploration occurred primarily during 2008. This work included soil sampling, geological mapping, and trenching (Table 9.1).

Table 9.1 Surface exploration programs completed in 2008

Program	Unit	Work completed
Trenching (pitting)	m^3	740
Soil samples	Samples	535
	Line km	10

Source: Silvercorp Metals Inc.

In addition to surface sampling, Silvercorp also completed more than 51.5 km of underground tunnelling and sampling at the Property through to 2018, and 29.2 km between 2019 and 2020.

Details of drill programs completed between 2008 and 2020 are presented in Section 10 of this report.

The grid system used for the GC project is Xi'an Geodetic Coordinate System 1980. The altitude referred to is the Yellow Sea 1956 Elevation System. The project survey control points were generated from three nearby national survey control points. The control points were surveyed using four NGS-9600 GPS receivers. Survey machines used for topographical survey and geological points, trenches, adits, and drillhole collars were Topcon GTS-Serial Total Station Instrument – XJ0747 and NX2350, and Sokkia SET-230PK Total Station Instrument.

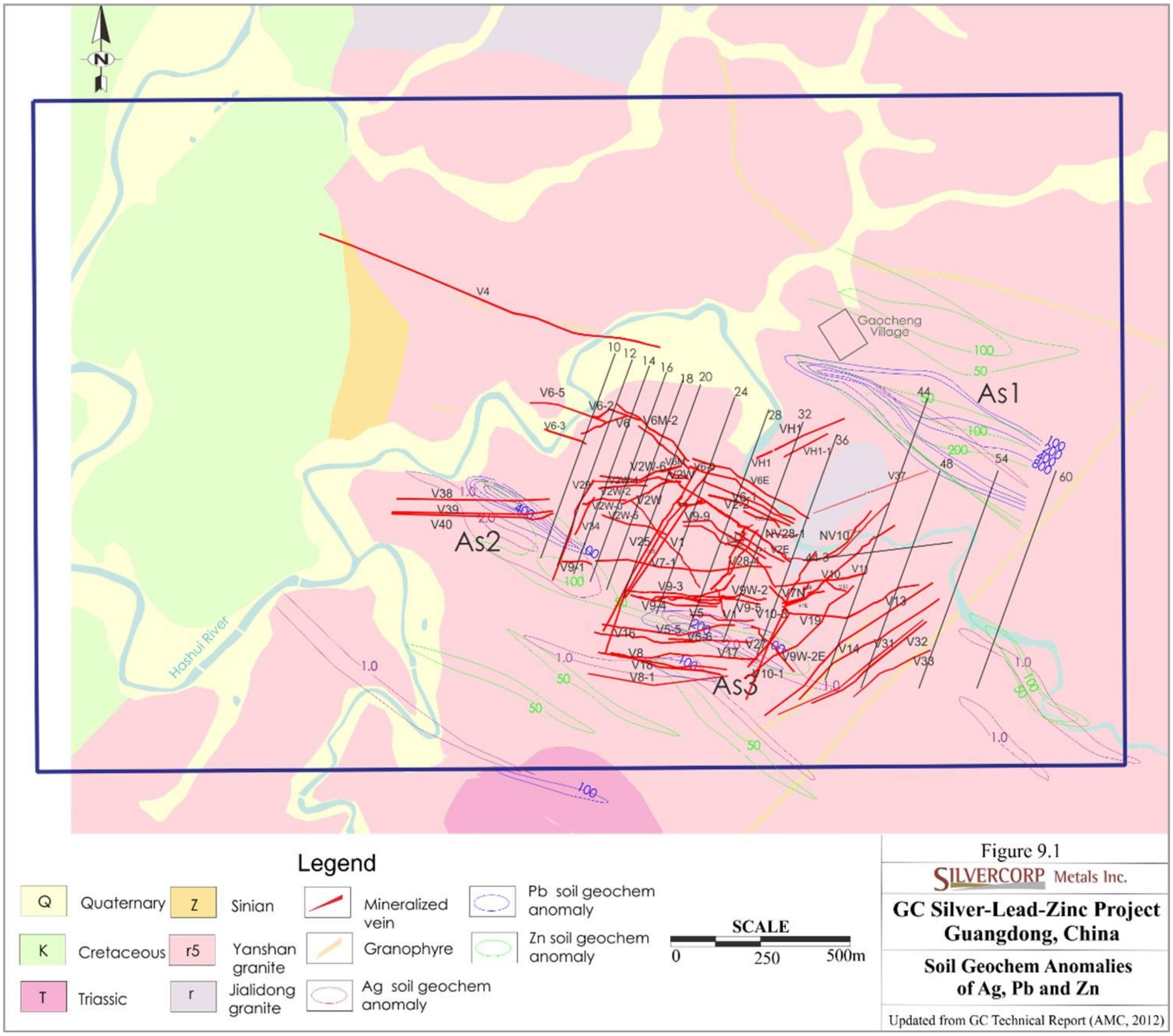
9.1 Soil geochemical program

In 2008, a 1:10,000 scale soil geochemical survey was completed by Silvercorp on the southern portion of the Property. The soil sampling program comprised 20 m spaced samples along 200 m spaced lines covering a 2.22 km^2 area where no previous drilling had occurred. A total of 535 soil samples were collected from C-horizon soils. Samples were analyzed by aqua regia digestion and ICP analysis for Au, Ag, Cu, Pb, Zn, Mo, and As.

Three significant Ag-Zn-Pb geochemical anomalies were identified (Figure 9.1):

- AS1 anomaly: Encompasses an area 500 m in length and 50 to 100 m in width and includes peak values of 2.1 parts per million (ppm) Ag, 0.19% Pb, and 0.03% Zn at the eastern extent of V4 vein along F4 fault. Trenching was subsequently carried out over this anomaly.
- AS2 anomaly: Encompasses an area 500 m in length and 20 to 200 m in width and includes maximum values of 14.5 ppm Ag, 0.11% Pb, and 0.02% Zn.
- AS3 anomaly: Approximately 500 m in length and between 20 and 50 m wide (between exploration lines 28 – 44). The anomaly increases to 250 m in width to the east (between lines 36 to 44).

Figure 9.1 Soil geochemical anomalies of Ag, Pb, and Zn on the Property



Note: Updated in 2021.

9.2 Topographic and geological mapping

The GIGS conducted 1:10,000, 1:5,000, and 1:2,000 geological mapping programs, and a 1:2,000 topographic survey covering the GC Project area in 2008. The geological mapping programs established stratigraphic sequences and size and distributions of intrusions and faults, which was used as a framework for exploration targeting.

9.3 Trenching and pitting

Based on the soil geochemical and surface mapping, Silvercorp conducted trenching and pitting programs on the Property. The program exposed the mineralized veins on the surface and at shallow depth. A total of seven pits and one trench were dug by Silvercorp exposing three veins.

Table 9.2 presents results of this program.

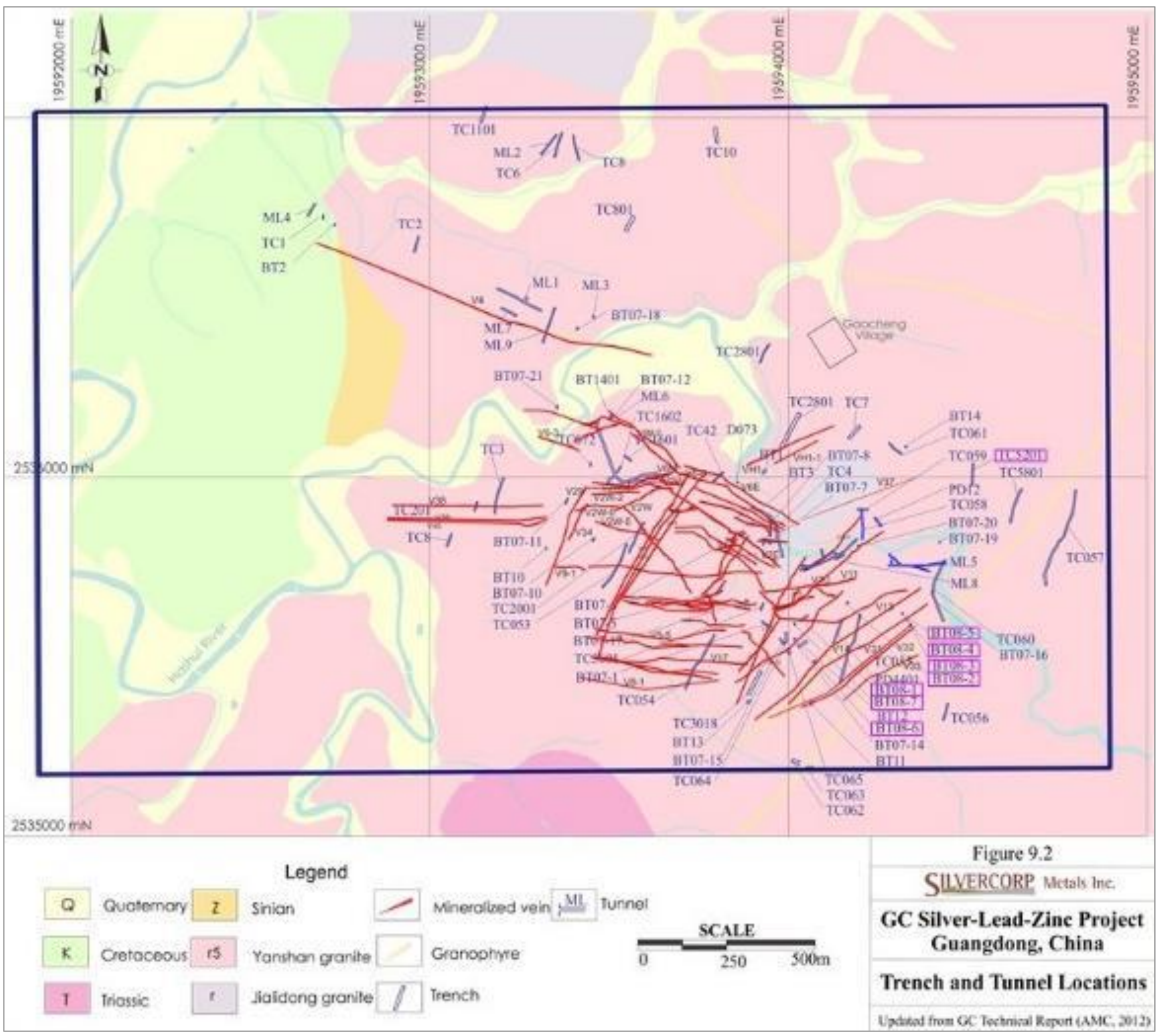
Table 9.2 Trenches and pits completed by Silvercorp in 2008 with vein highlights

Trench / pit	Section#	Azimuth	Volume (m^3)	Vein exposed
BT08-1	40	240°	224	0.80 m wide V5-1, containing 25 g/t Ag
BT08-2	44	235°	24	0.95 m wide V7-0, containing 21 g/t Ag
BT08-3	52	210°	32.4	No vein intersected
BT08-4	52	310°	24	No vein intersected
BT08-5	52	340°	52.8	0.80 m wide V7-0, containing 61 g/t Ag
BT08-6	44	230°	33.6	0.65 m wide V5-1, containing 98 g/t Ag
BT08-7	30	340°	118.8	0.75 m wide V5-1, containing 18 g/t Ag
TC5201	52	185°	230.4	1.00 m wide V4, containing 0.31% Pb and 0.13% Zn

Source: Silvercorp Metals Inc.

The trenches or pits were dug perpendicular to striking direction of a soil geochemical anomaly or alteration zone. The trenching or pitting was undertaken by digging into bedrock approximately 0.3 m to 0.5 m.

Figure 9.2 Trenches and pits on the Property



Notes: Silvercorp acquired the GC Property in 2008. Silvercorp 2008 trenches highlighted.
Figure redrafted in 2021.

9.4 Underground works

Underground tunnelling programs comprising 29,179 m of tunnelling were completed on the Property between 2019 and 2020. These programs comprised 14,940 m of drifting along mineralized structures, 7,288 m of crosscutting across mineralized structures, and 6,951 m of raises. Drifts and crosscuts were developed at 40 m intervals vertically to increase geological confidence in the Mineral Resource.

A breakdown of all underground tunnelling between 2012 and 2020 is shown in Table 9.3.

Channel samples across the mineralized vein structures were collected across the back of the adits at 5 m intervals, with the spacing of channel sample lines increasing to 15 or 25 m in the non-mineralized sections of the vein structures. Individual channels consisted of multiple chip samples, cut across the mineralization and associated wallrocks across the tunnel. Details of the procedures and parameters relating to the underground channel sampling and discussion of the sample quality are given in Section 11.

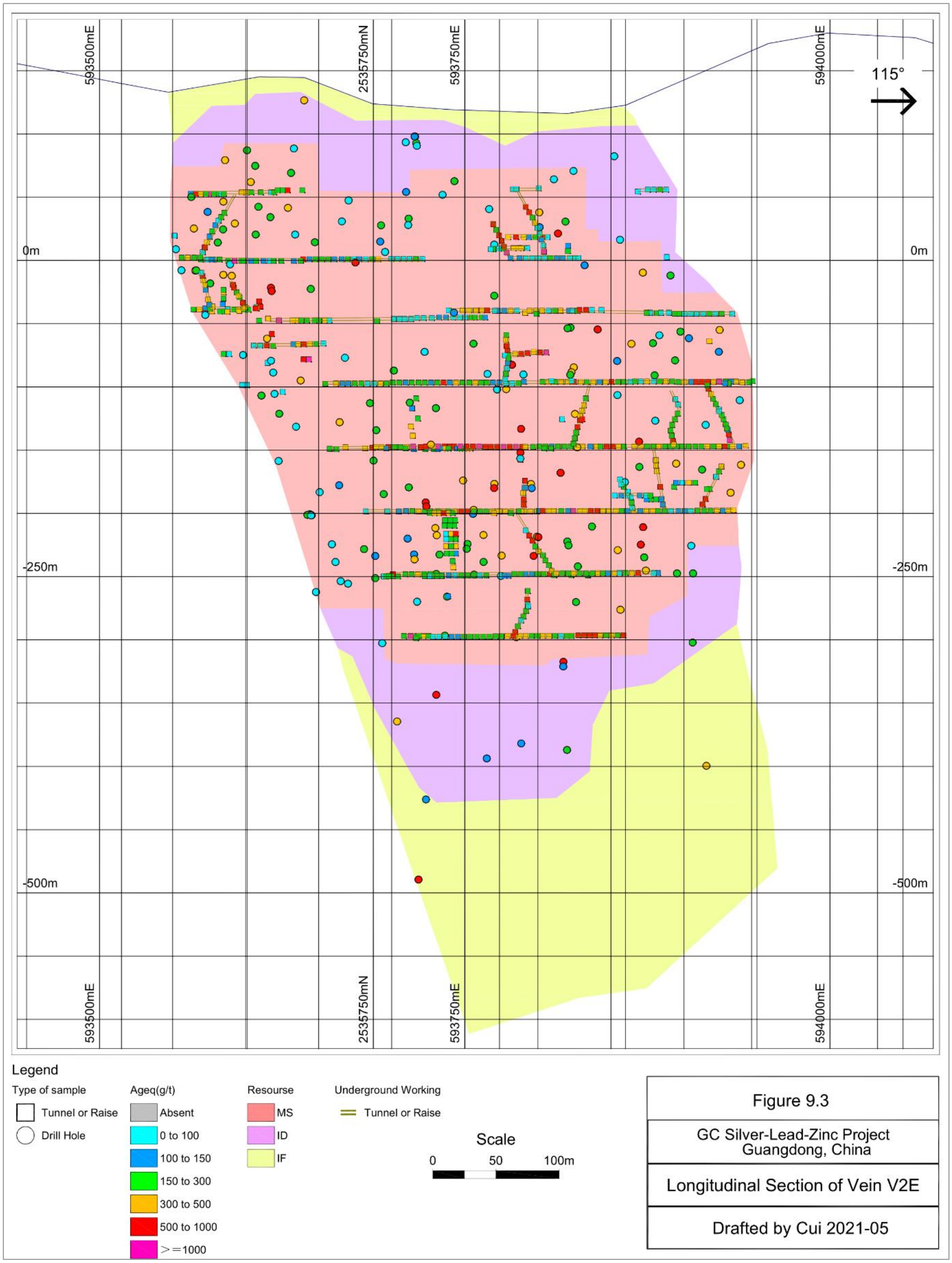
A total of 14,576 channel / chip samples were collected from the mine areas between 2019 and 2020. Figure 9.3 outlines channel sample density and location of drifts on one of the main veins at GC Mine.

Table 9.3 Summaries of underground works between 2012 and 2020

Underground works	Drift metres	Crosscut metres	Raise metres	Total metres
2012	2,379			2,379
2013	5,321			5,321
2014	3,355	1,060		4,415
2015	6,734	2,286	1,037.60	10,058
2016	4,328	1,432	2,461	8,221
2017	5,286	2,514	2,667.90	10,467
2018	5,894	2,855	2,666	11,415
2019	7,581	3,912	3,752	15,245
2020	7,359	3,376	3,199	13,934
Total	**48,237**	**17,435**	**15,784**	**81,456**

Source: Silvercorp Metals Inc.

Figure 9.3 Longitudinal projection of vein V2E



Note: Ag equivalent is calculated according to the following formula: AgEq = Ag g/t + 50.46*Pb% + 43.53*Zn%.
Source: Silvercorp Metals Inc.

The 2019 Technical Report showed a table of highlights from the 2012 to 2018 tunnelling. These highlights included 103 adits that intersected mineralization ranging from 171 g/t silver equivalent (AgEq) to 1,521 g/t AgEq (applying the current AgEq formula). Between 2019 and 2020 (subsequent to the 2019 Technical Report period), 335 Silvercorp adits encountered mineralization over 150 g/t AgEq in 66 veins. Results ranged from 150 to 1,311 g/t AgEq.

Table 9.4 summarizes the characteristics of the mineralized veins exposed by the underground works between 2019 and 2020 with a combined value greater than 500 g/t AgEq.

Table 9.4 Underground tunnelling program – mineralization highlights 2019 - 2020

Tunnel ID	Vein	Elevation (m)	Length of mineralized vein (m)	Width of mineralized vein (m)	Weighted average grade			Year
					Ag (g/t)	Pb (%)	Zn (%)	
NV4-50-46WYM NV4-50-46EYM NV3-50-46NECM	NV4	50	100	1.19	70	7.02	3.95	2020 2020 2019
NV4-0-38SEYM NV4-0-38NWYM	NV4	0	50	0.70	86	10.37	4.45	2020 2020
NV6-50-46SWYM NV6-50-46NEYM NV6-50-46NCM	NV6	50	30	0.42	95	7.75	2.34	2020 2020 2020
V29-0-114NEYM V29-0-114ANEYM	V29	0	85	0.67	55	0.09	10.36	2020 2020
V2E-(-80)-30AEYM	V2E	-80	30	0.96	86	5.70	5.42	2020
V2E-4E-(-100)-46AWYM	V2E-4E	-100	25	0.55	96	3.18	6.01	2019
V5-12-(-50)-30ASWYM V5-12-(-50)-30ANEYM	V5-12	-50	40	0.39	101	0.08	10.05	2019 2019
V5-12-(-100)-32SWYM	V5-12	-100	40	0.45	91	0.30	4.40	2019
V16-135-32WYM	V5-17	150	150	0.55	389	1.24	3.39	2019
V5-6-110-30SWYM V5-6-110-30NEYM V5-17-100-30WYM	V5-17	100	75	0.60	399	1.67	2.65	2020 2020 2020
V6E4-0-32NWYM V6E3-0-32EYM	V6E3	0	110	0.39	163	13.66	10.54	2019
V6M-(-200)-22ASEYM V6M-(-200)-22ANWYM	V6M	-200	145	1.21	61	4.06	5.47	2019 2019
V6M-2-(-150)-18SEYM	V6M-3	-150	45	0.95	134	8.18	4.70	2019
V9-5-50-32ANCM V9-5-50-18AWYM-CM-SYM V9-5-50-18AWYM V9-5-50-18AEYM V5-50-30AEYM V5-13-50-32NCM	V9-5	50	35	0.64	163	1.56	6.55	2019 2020 2020 2020 2019 2019
V10-(-119)-107SWYM	V10	-119	15	0.81	340	12.99	1.93	2019
V10-1-135-40SWYM V10-1-135-40SCM V10-1-135-40NEYM	V10-1	135	85	0.76	268	1.06	17.26	2019 2019 2019

Tunnel ID	Vein	Elevation (m)	Length of mineralized vein (m)	Width of mineralized vein (m)	Weighted average grade			Year
					Ag (g/t)	Pb (%)	Zn (%)	
V10-1-85-104SWYM	V10-1	85	85	0.65	85	0.50	10.91	2020
V10-1-85-104NEYM								2020
V16-100-36EYM	V10-1S	100	40	0.41	139	0.05	12.12	2020
V10-1-100-38ANEYM								2019
V10-1-50-38SECM	V10-5	50	25	0.17	554	1.76	4.05	2019
V10-1-50-38NEYM								2019
V1-1-(-150)-20WYM	V1-1	-150	45	1.29	86	7.31	3.28	2019
V16-135-32SCM	V16	135	65	0.61	453	1.49	5.30	2019
V16-135-32EYM								2019
V17-(-100)-34AWYM	V16	-100	30	0.66	280	1.96	3.25	2019
V17-(-100)-34AEYM								2019
V16-(-100)-22AEYM								2019
V17-0-34WYM	V17	0	130	0.38	375	0.50	17.17	2019
V17-0-34EYM								2019
V17-1-0-34WYM	V17-1	0	65	1.17	420	1.23	2.58	2019
V17-1-0-34SCM								2019
V17-1-0-34EYM								2019
V18-150-28AWYM	V18	150	90	0.62	514	1.52	1.52	2019
V18-150-28AEYM								2019
V18-150-20WYM								2019
V18-1-(-100)-28SEYM	V18	-100	95	1.23	137	2.64	7.51	2019
V18-(-100)-36WYM								2020
V18-(-100)-30AWYM								2019
V18-(-100)-30AEYM								2019
V8-(-50)-30AEYM	V18-2	-50	105	0.58	335	2.03	2.95	2019
V18-2-(-50)-32NECM								2019
V18-3-0-34SWYM	V18-3	0	45	0.85	442	1.07	6.31	2020
V18-3-0-34NEYM								2020
V17-1-0-34SCM								2019
V18-3-(-50)-34ASWYM	V18-3	-50	90	0.35	185	0.55	14.52	2020
V18-3-(-50)-34ANEYM								2020
V18-3-(-150)-36AWYM	V18-3	-150	85	0.99	85	1.42	10.05	2020
V18-3-(-150)-36AEYM								2020
V18-4-0-34SWYM	V18-4	0	30	0.32	604	0.74	9.17	2020
V19-(-50)-48ANEYM	V19	-50	95	1.15	124	1.98	9.47	2019
V19-(-50)-42AWYM								2019
V19-(-125)-46AWYM	V19	-125	80	0.94	143	3.24	4.75	2020
V19-(-125)-46AEYM								2020
V19-4-85-104EYM	V19-4	85	35	0.73	240	4.42	3.44	2020
V32-50-50EYM	V32	50	80	0.43	1071	1.02	1.20	2020
V32-50-48SWYM								2019
V32-20-50SWYM	V32	20	60	0.59	187	5.42	6.97	2019
V32-20-50NEYM								2019

Tunnel ID	Vein	Elevation (m)	Length of mineralized vein (m)	Width of mineralized vein (m)	Weighted average grade			Year
					Ag (g/t)	Pb (%)	Zn (%)	
V32-0-50ASWYM V32-0-50ANEYM	V32	0	155	0.43	644	4.27	3.26	2019 2019
V37-50-44ASWYM V37-50-44ANEYM V37-50-36AEYM V37-50-36AECM	V37	50	65	0.52	75	5.64	6.72	2019 2019 2020 2020
V33-(-50)-44SECM V32-(-50)-44SWYM	V41	-50	60	0.52	299	0.93	3.82	2020 2020
V52-200-38AWYM V52-200-38AEYM	V52	200	115	0.48	385	3.97	10.15	2020 2020
V52-150-38WYM V52-150-38EYM V52-150-119SECM V52-150-119NEYM	V52	150	100	0.75	386	3.28	7.97	2019 2019 2019 2019
V52-2-150-40WYM	V52-2	150	45	0.88	958	4.28	1.82	2020
V52-(-50)-42AWYM V14-(-50)-116SWYM	V52-2	-50	125	0.82	115	0.56	11.98	2019 2019
V59-150-42SYM V59-150-42SCM V59-150-42NYM V19-2-150-40ASEYM V19-2-150-40ANWYM V10-1-150-38ANEYM	V59	150	305	0.52	280	0.94	10.85	2020 2020 2020 2019 2019 2019

Source: Silvercorp Metals Inc.

10 Drilling

10.1 Historical drilling (pre-2008)

Forty-three (43) diamond drillholes for a combined total of 13,463.74 m were drilled on the Property between 2001 and 2007 prior to the Property acquisition by Silvercorp. Diamond drillholes were drilled using PQ size in overburden, then reduced to HQ size for up to 100 m depth. The remainder of a hole was drilled using NQ size unless the hole was planned to drill in excess of 600 m in length. Core recoveries varied from 85 to 100%, averaging 99%.

Drilling statistics for prior to the issuer's involvement are presented in Table 10.1.

Table 10.1 Metres of various drill core sizes prior to acquisition by Silvercorp (pre-2008)

Year drilled	PQ -85 mm (m)	HQ-63.5 mm (m)	NQ-47.6 mm (m)	Total (m)
2001 – 2005		1,993.91		1,993.91
2006 – 2007	420.27	5,179.68	5,869.88	11,469.83
Total	**420.27**	**7,173.59**	**5,869.88**	**13,463.74**

Source: Silvercorp Metals Inc.

10.2 Silvercorp drilling (2008 – 2020)

Silvercorp completed its first phase of diamond drilling on the Property in 2008. Detailed systematic drilling commenced on the Property in 2011 and continued through to 2020. All Silvercorp drilling was completed as NQ-sized core.

All drill programs were managed by Silvercorp. Drillhole collars were surveyed using a total station. Downhole surveys were completed every 50 m downhole using a Photographical Inclinometer manufactured by Beizheng Weiye Science and Technology Co. Ltd (Chinese made equivalent of a Sperry-Sun downhole survey tool). Surface drillhole collars were cemented after completion and locations of drillholes were marked using 50 x 30 x 20 centimetres (cm) concrete blocks.

Core recoveries from Silvercorp drilling programs have varied between 35.66% and 100.00% averaging 99.36%. The relationship between grade and core recovery was reviewed and no bias was found.

Photographs of the well-maintained core shack in the GC camp complex are shown in Figure 10.1.

Figure 10.1 Drill core storage facility

a) Drill core racks in core shack

b) Drill core racks in core shack

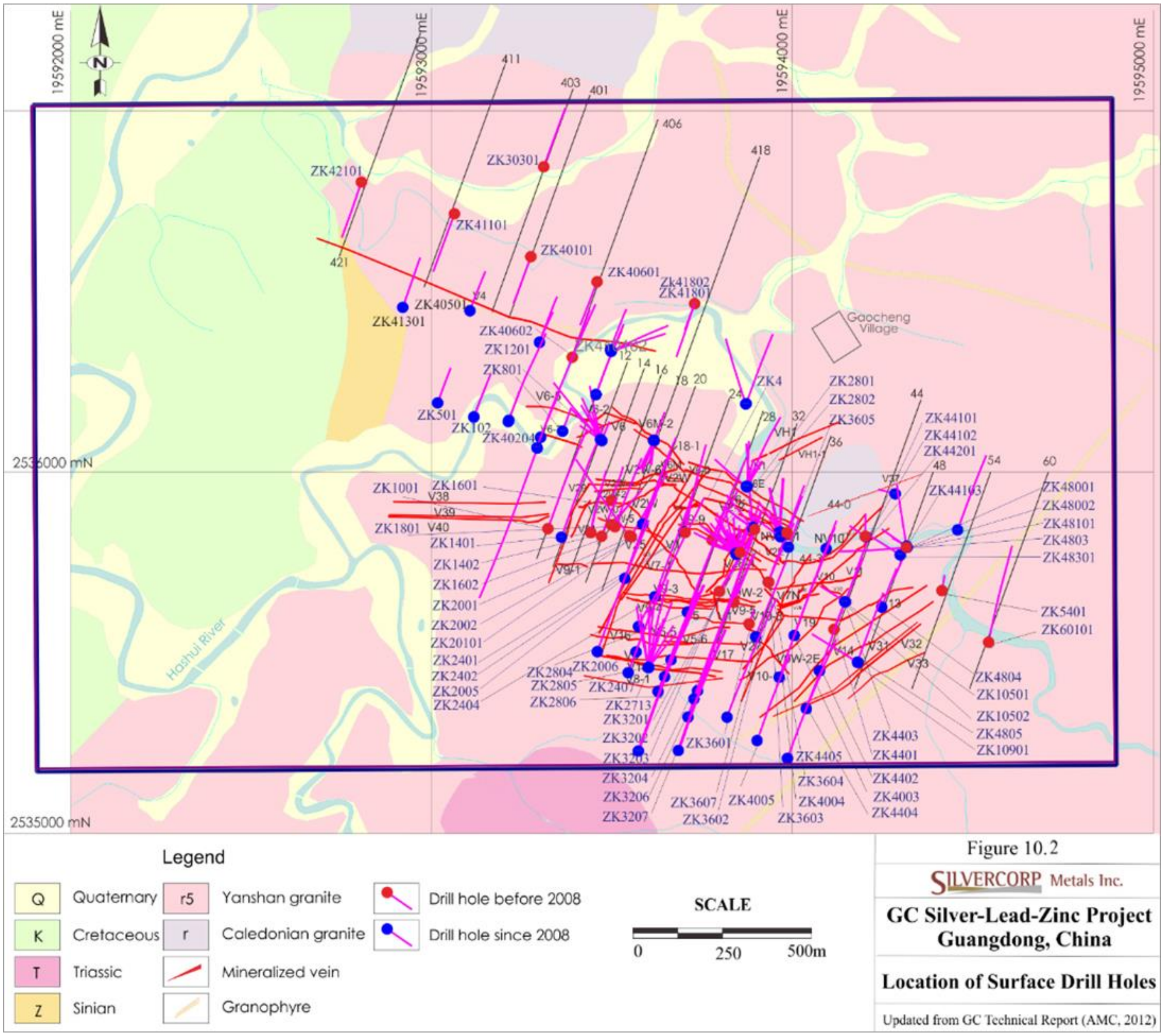
Source: Silvercorp Metals Inc.

10.2.1 2008 surface drill program

In 2008, Silvercorp completed a 22-hole (10,082.6 m) surface drilling program, which resulted in the discovery of 15 mineralized veins.

All surface drillhole locations, which were drilled before and after 2008, are shown in Figure 10.2.

Figure 10.2 Surface drilling completed on the Property



Notes: Silvercorp acquired the GC Property in 2008. Silvercorp drillhole collars are shown in blue.
Figure redrafted in 2021.

10.2.2 2011 to 2020 drill programs

Silvercorp commenced a detailed, systematic drilling program at the GC project in 2011. Between 2019 and 2020, a total of 538 underground diamond drillholes (59,898.2 m) were completed. This brings the 2011 to 2020 totals to 1,664 underground diamond drillholes and 102 surface diamond drillholes. 48,307 samples have been taken from the drill core since 2011.

In total, 1,145 drillholes hit mineralization with AgEq greater than 100 g/t (select drillhole intersections are shown in Table 10.2). Note: Silver equivalent is calculated using the equation AgEq = Ag g/t + 50.46*Pb% + 43.53*Zn%. The assumptions used to derive the silver equivalent formula are shown in Table 14.8.

Table 10.2 Selected drillhole intersections >100 g/t AgEq by vein

Vein	No. of holes	> 100 g/t Ag*	Vein	No. of holes	> 100 g/t Ag*	Vein	No. of holes	> 100 g/t Ag*	Vein	No. of holes	> 100 g/t Ag*
NV10	66	37	V19-8	15	10	V31	48	13	V6-4N	3	2
NV2	15	6	V2-1	17	10	V32	63	36	V6-5	15	12
NV28	59	42	V2-2	72	35	V33	71	42	V6-5S	9	5
NV28-1	42	23	V2-3	47	29	V33-1	7	4	V6-7	12	4
NV3	8	3	V2-4	9	7	V33-2	5	2	V6-8	43	21
NV4	16	8	V25	95	50	V33E	39	13	V6E	47	23
NV6	4	3	V2-5	47	15	V34	4	2	V6E1	27	12
V1	47	34	V26	17	10	V35	28	13	V6E2	12	4
V10	109	80	V2-6	18	6	V36	20	13	V6E3	4	4
V10-1	83	53	V26E	8	4	V37	15	11	V6M	46	32
V10-10	19	7	V27	39	13	V37-1	13	6	V6M-2	14	5
V10-11	9	2	V28	58	36	V38	3	1	V6M-3	20	14
V10-17	2	1	V2-8	6	5	V39	9	3	V6N	3	1
V10-1S	16	5	V28-4	85	60	V4	14	6	V7	56	27
V10-2	18	9	V28-5	7	6	V40	14	10	V7-1	51	20
V10-3	27	14	V28-7	7	5	V41	53	20	V7-1E	22	11
V10-4	29	18	V29	17	10	V4-1	1	1	V7-2	21	8
V10-5	15	12	V2-9	2	2	V45	7	4	V7-3	35	25
V10W	21	11	V29-1	32	14	V46	3	2	V7-4	31	18
V11	57	25	V2E	162	130	V47	5	3	V7-5	28	13
V1-1	22	15	V2E1	61	46	V49	5	3	V7E	9	8
V12	63	33	V2E2	13	10	V5-12	19	14	V7S	3	2
V1-2	30	20	V2E3	26	13	V5-17	7	3	V8	20	9
V13	75	35	V2E4	13	8	V52	12	6	V8-1	39	22
V14	41	24	V2E-4E	38	20	V5-2	13	8	V8-2	19	11
V16	133	82	V2E-8	3	3	V52-2	21	15	V8-5	9	6
V1-6	1	1	V2W	164	138	V52-3	13	7	V9-1	26	13
V17	95	55	V2W-0	18	8	V5-4	46	17	V9-11	38	21
V17-1	33	15	V2W-10	4	2	V5-5	42	17	V9-2	24	7
V18	83	39	V2W-11	3	2	V5-7	12	7	V9-3	79	39
V18-1	46	18	V2W-14	15	10	V58	11	8	V9-4	35	19
V18-2	18	8	V2W-3	24	15	V59	4	2	V9-5	128	72
V18-3	21	17	V2W-4	85	33	V5-9	29	19	V9-6	2	0
V18-4	14	6	V2W-5	19	13	V6	10	10	V9-9	11	6
V19	90	60	V2W-7	16	9	V6-0	62	30	V9W-2	130	57
V19-1	16	9	V2W-8	13	9	V6-1	64	26	V9W-2E	38	22
V19-2	8	6	V2W-9	29	16	V6-2	9	4	VH1	4	3
V19-4	12	8	V3	1	1	V6-3	4	4	VH1-3	5	4
V19-7	5	3	V30	5	3	V6-4	5	4	VH1-4	8	6

Note: *Holes with > 100 g/t Ag equivalent intersection. Ag equivalent is calculated using the equation AgEq = Ag g/t+50.46*Pb%+43.53*Zn%.
Source: Silvercorp Metals Inc.

Table 10.3 presents drilling statistics by year for holes drilled from surface and underground set-ups. In 2011, the majority of drilling was completed from surface. As drill target depths increased, underground drilling was increasingly utilized. Since 2014, all diamond drilling has been completed using underground set-ups.

Table 10.3 Drilling program summary

Year	Metres drilled	Holes completed		Holes with > 100 g/t AgEq
		Underground	Surface	
2008-2011	28,412.6	0	123	62
2011	14,484.2	2	34	22
2012	27,450.0	109	27	106
2013	46,565.4	262	41	233
2014	19,331.9	121	0	100
2015	22,431.0	150	0	117
2016	11,944.4	129	0	91
2017	21,085.1	164	0	125
2018	24,993.4	189	0	160
2019	24,945.5	192	0	151
2020	34,952.6	346	0	278
Total	**276,596.1**	**1,664**	**225**	**1,445**

Note: Ag equivalent is calculated using the equation AgEq =Ag g/t+50.46*Pb%+43.53*Zn%.
Source: Silvercorp Metals Inc.

The majority of drillholes were drilled as inclined holes to test multiple vein structures. Underground drillholes were drilled as fans of multiple holes from single set-ups (Figure 10.4).

Significant high-grade mineralized zones have been exposed at and below the current production levels, and major mineralized zones have been extended along strike and down dip.

Figure 10.3 presents a level plan of mineralized veins and tunnels at the 0 level. Cross sections of drilling are presented in Figure 10.4, Figure 10.5 (inset) and Figure 10.6. A longitudinal section for vein V2E is presented in Figure 10.7. Table 10.4 provides data for drillholes highlighted in Figure 10.5.

Figure 10.3 Underground plan showing mineralized veins and tunnels at Level 0 m

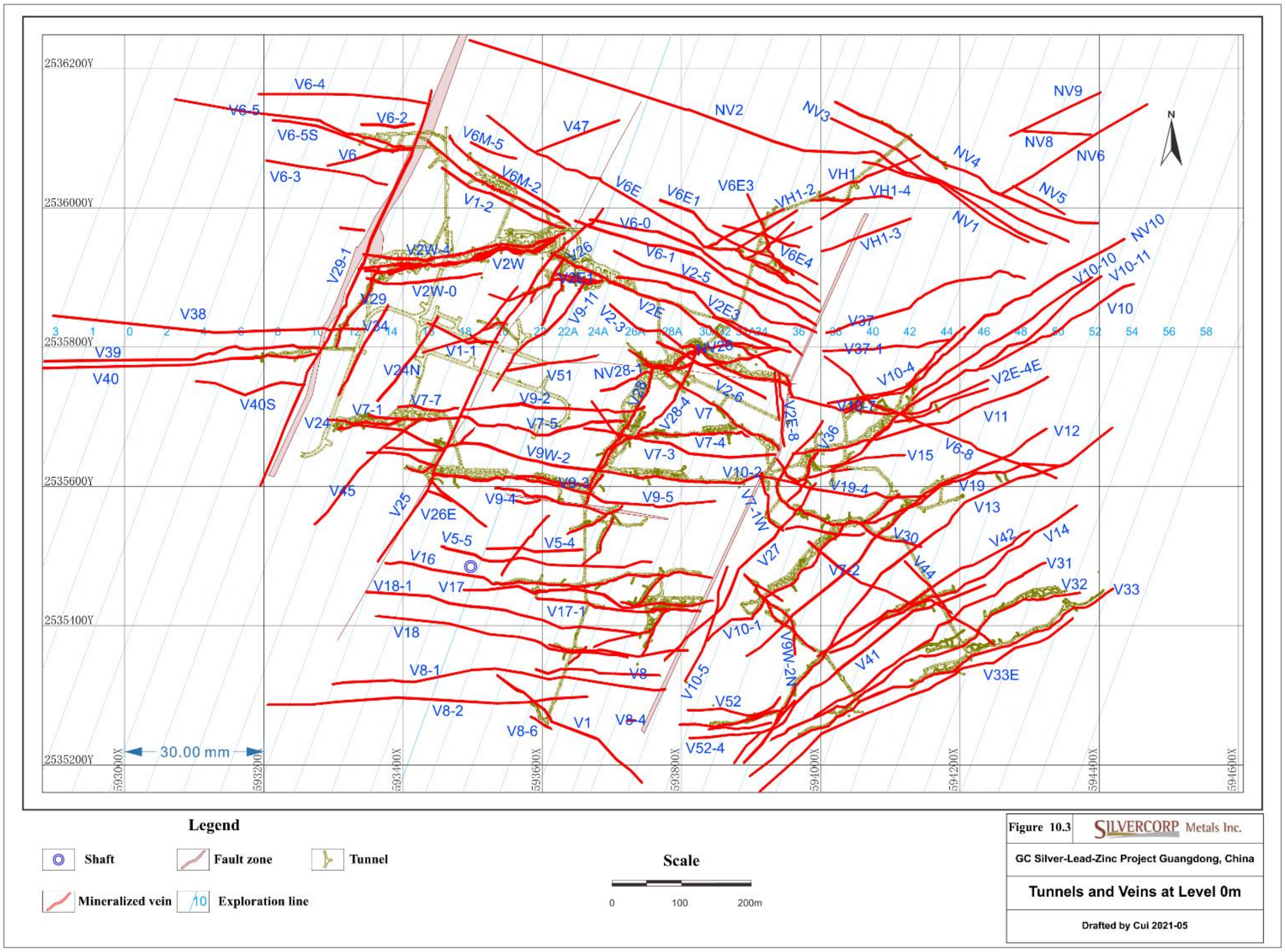
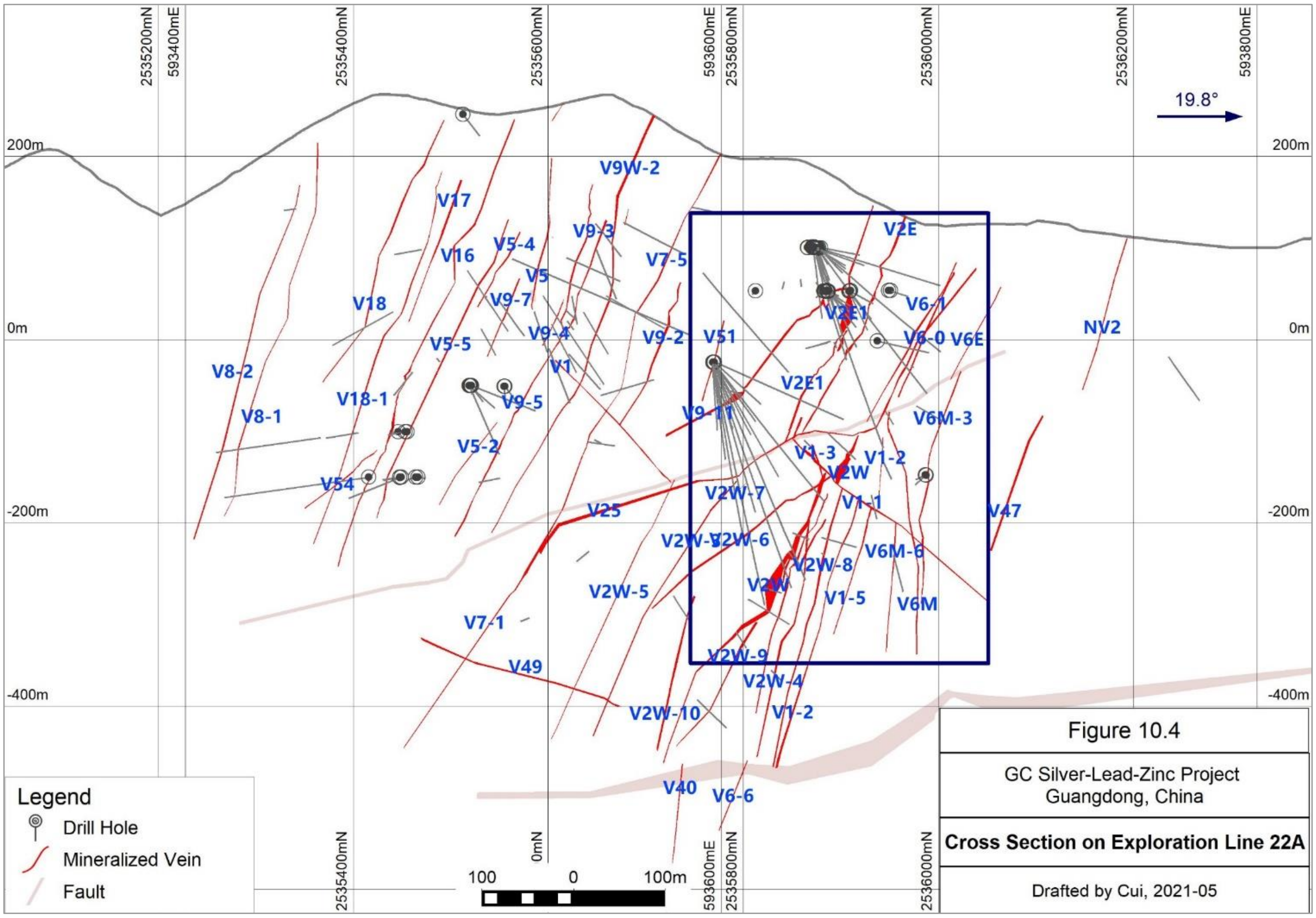
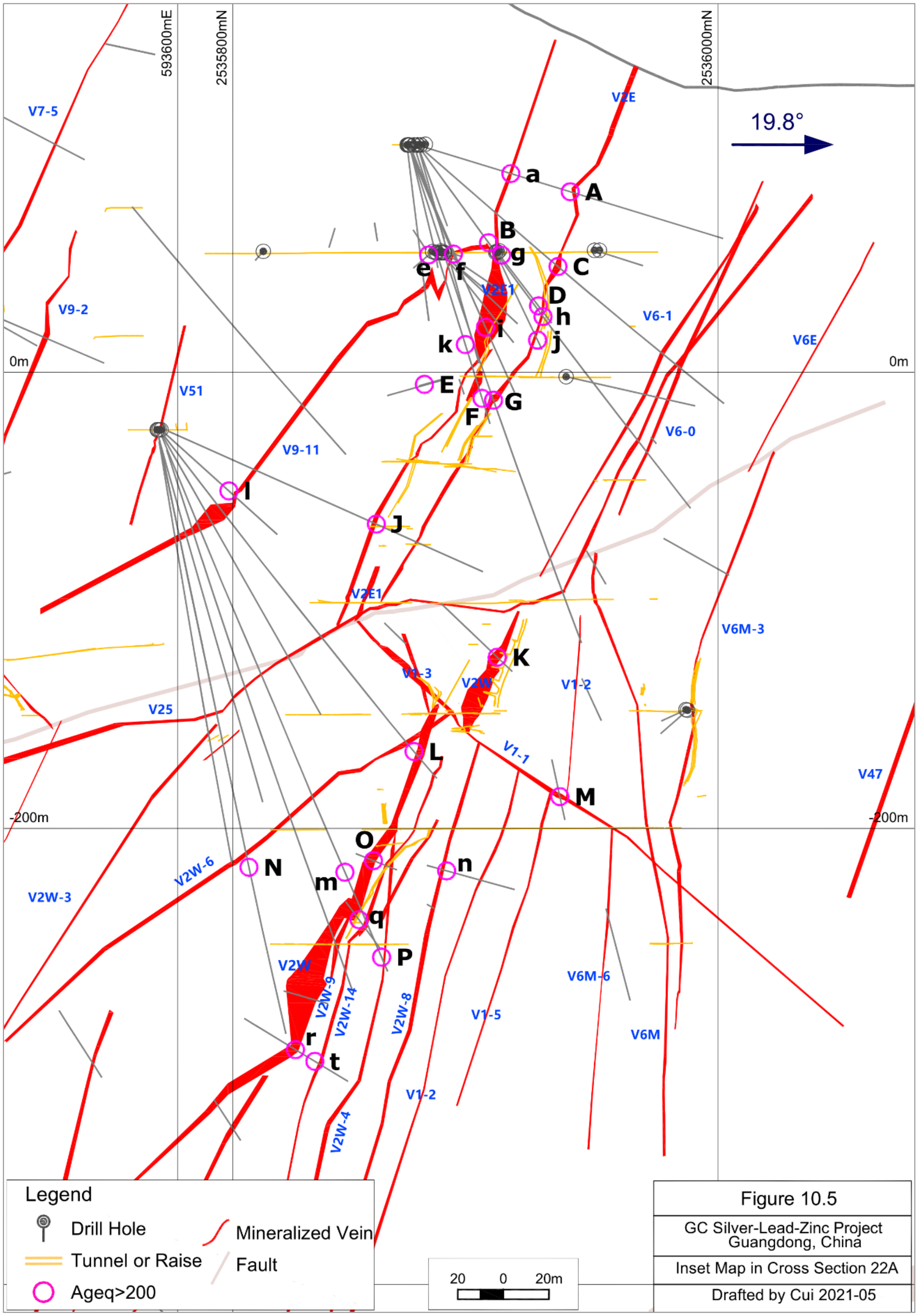


Figure 10.4 Cross section on Exploration Line 22A



Source: Silvercorp Metals Inc.

Figure 10.5 Inset map for Cross Section 22A



Source: Silvercorp Metals Inc.

Table 10.4 Drillhole intersections highlighted on Figure 10.5

Figure 10.5 point	Vein	Hole ID	From (m)	To (m)	Horizontal width (m)	Interval length (m)	Ag (g/t)	Pb (%)	Zn (%)	AgEq (g/t)
a	V2E1	CK2301	44.70	45.75	1.03	0.99	19	0.34	5.33	268
A	V2E	CK2301	71.68	73.28	1.56	1.51	146	3.06	3.39	448
B	V9-11	CK2303	51.63	54.28	2.34	2.19	118	3.62	3.20	440
C	V2E	CK2302	79.82	83.02	3.18	2.99	109	2.96	4.12	438
D	V2E	20CK22A02	29.74	31.44	1.61	1.45	95	0.42	5.03	335
e	V9-11	20CK10513	1.84	4.89	1.79	1.65	65	2.14	2.85	298
E	V9-10	CK2163	29.61	29.91	0.18	0.18	50	0.67	5.19	310
f	V9-11	CK2307	51.28	52.45	0.81	0.76	38	0.27	3.52	205
F	V2E	20CK22A03	65.11	69.25	3.70	3.15	59	3.13	2.58	330
g	V2E1	20CK10309	8.02	12.06	2.54	2.34	64	1.67	3.14	285
G	V2E	CK2305	116.38	119.63	2.07	1.95	349	0.66	1.77	460
h	V2E	CK2303	92.68	93.73	0.93	0.87	45	0.29	5.51	300
i	V2E1	CK2307	80.65	93.25	8.67	8.15	47	1.93	1.63	215
j	V2E	20CK22A01	41.83	43.75	1.65	1.63	50	1.88	3.36	291
J	V2E1	CK2311	100.63	102.83	1.61	1.51	176	2.03	3.14	415
k	V2E1	20CK22A03	42.07	42.75	0.65	0.61	84	1.97	0.61	210
K	V2W	CK2217	154.89	160.20	4.43	4.17	118	2.99	6.76	563
l	V9-11	CK2124	42.12	43.22	0.60	0.56	104	1.25	2.35	269
L	V2W	CK2317	177.36	184.27	2.20	2.06	82	2.50	4.94	423
m	V2W	CK2313	210.03	212.93	2.10	1.97	45	1.11	3.58	257
M	V1-1	CK2260	194.35	198.17	1.22	1.14	37	2.53	4.07	342
n	V2W-8	19CK2403	82.18	84.11	2.03	1.84	181	0.23	1.08	240
N	V2W-6	CK2316	195.17	197.17	1.12	1.05	43	3.17	4.17	385
O	V2W	19CK10509	60.53	64.23	3.68	3.34	71	2.35	6.66	480
P	V2W-4	CK2313	251.81	252.71	0.65	0.61	91	0.59	6.55	406
q	V2W	19CK10510	66.98	71.47	4.42	4.00	35	2.17	2.24	242
r	V2W	18CK10707	196.74	199.25	2.81	2.39	32	1.96	3.77	295
t	V2W-14	18CK10707	208.42	209.55	1.27	1.08	90	1.37	1.40	220

Note: Ag equivalent is calculated using the equation AgEq = Ag g/t+50.46*Pb%+43.53*Zn%.
Source: Silvercorp Metals Inc.

Figure 10.6 Cross section on Exploration Line 34

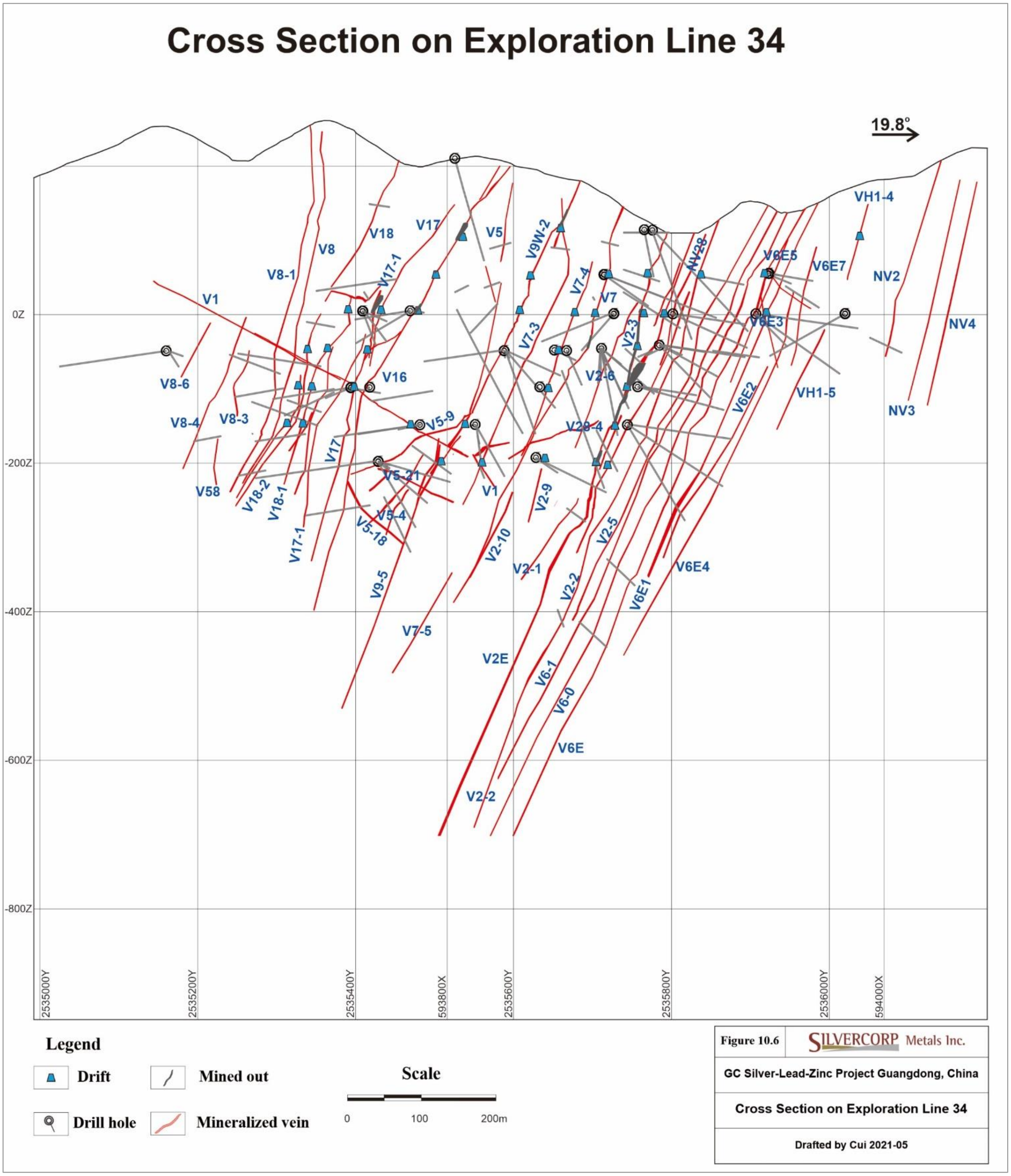
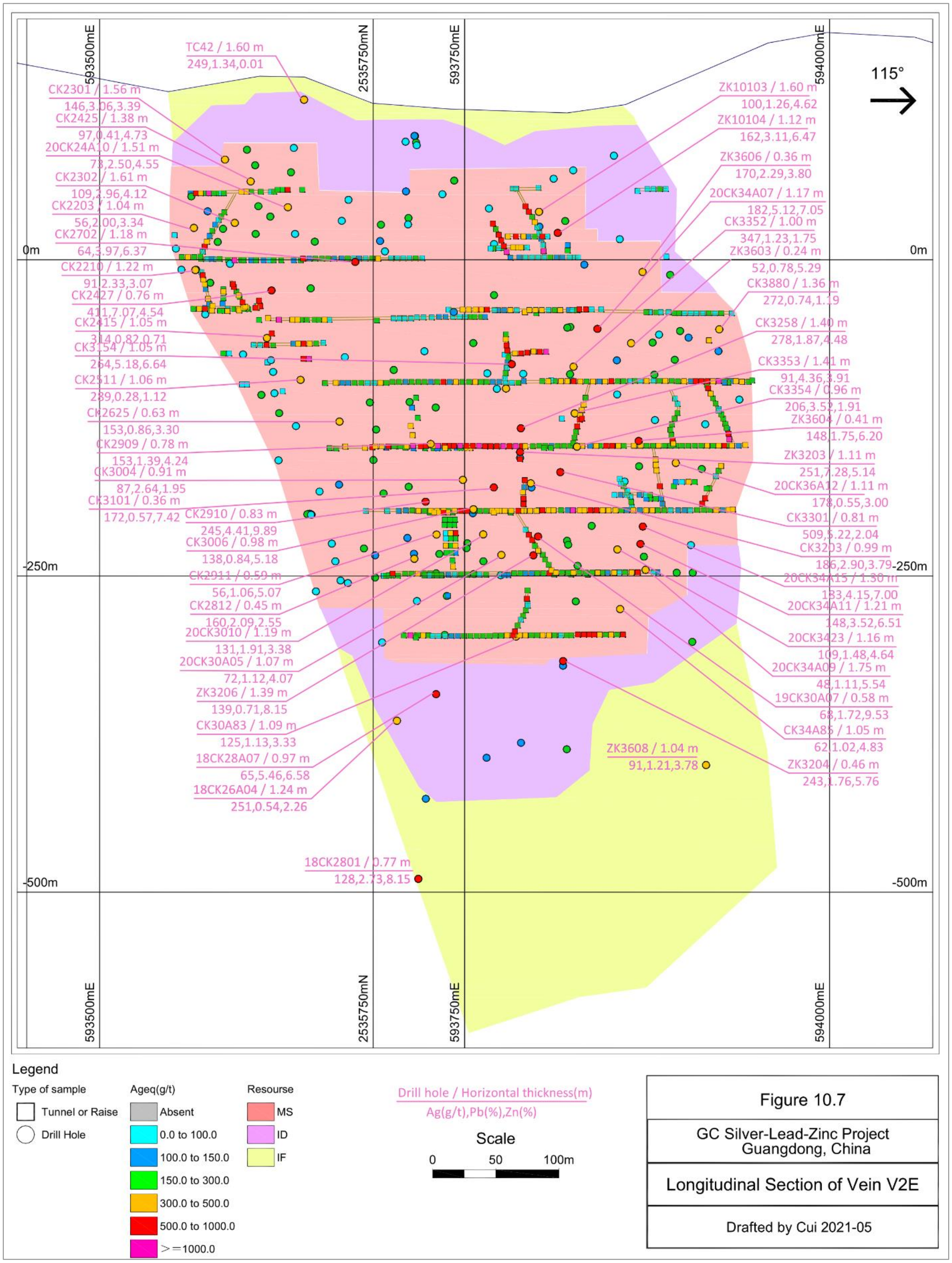


Figure 10.7 Longitudinal section of Vein V2E



Source: Silvercorp Metals Inc.

10.2.3 Bulk density

In the 2019 Technical Report the following comments on bulk density were made:

"Average bulk density for all samples after removal of outliers was calculated to be 3.57 t/m^3. AMC noted that the average grade of the selected samples is around 65% higher than the average grade of the Mineral Resources, which raises the possibility that the average bulk density of 3.57 t/m^3 may err on the high side."

It was recommended that:

- Additional bulk density samples from representative veins be taken with varying base metal and pyrite content.
- The average grade of bulk density samples should reasonably approximate the average grade of the Mineral Resources.
- Bulk density samples be assayed for total S in addition to Ag, Pb, and Zn.
- Bulk density samples should also encompass bounding waste material in situations where minimum mining widths are applied for Mineral Resource estimation purposes.

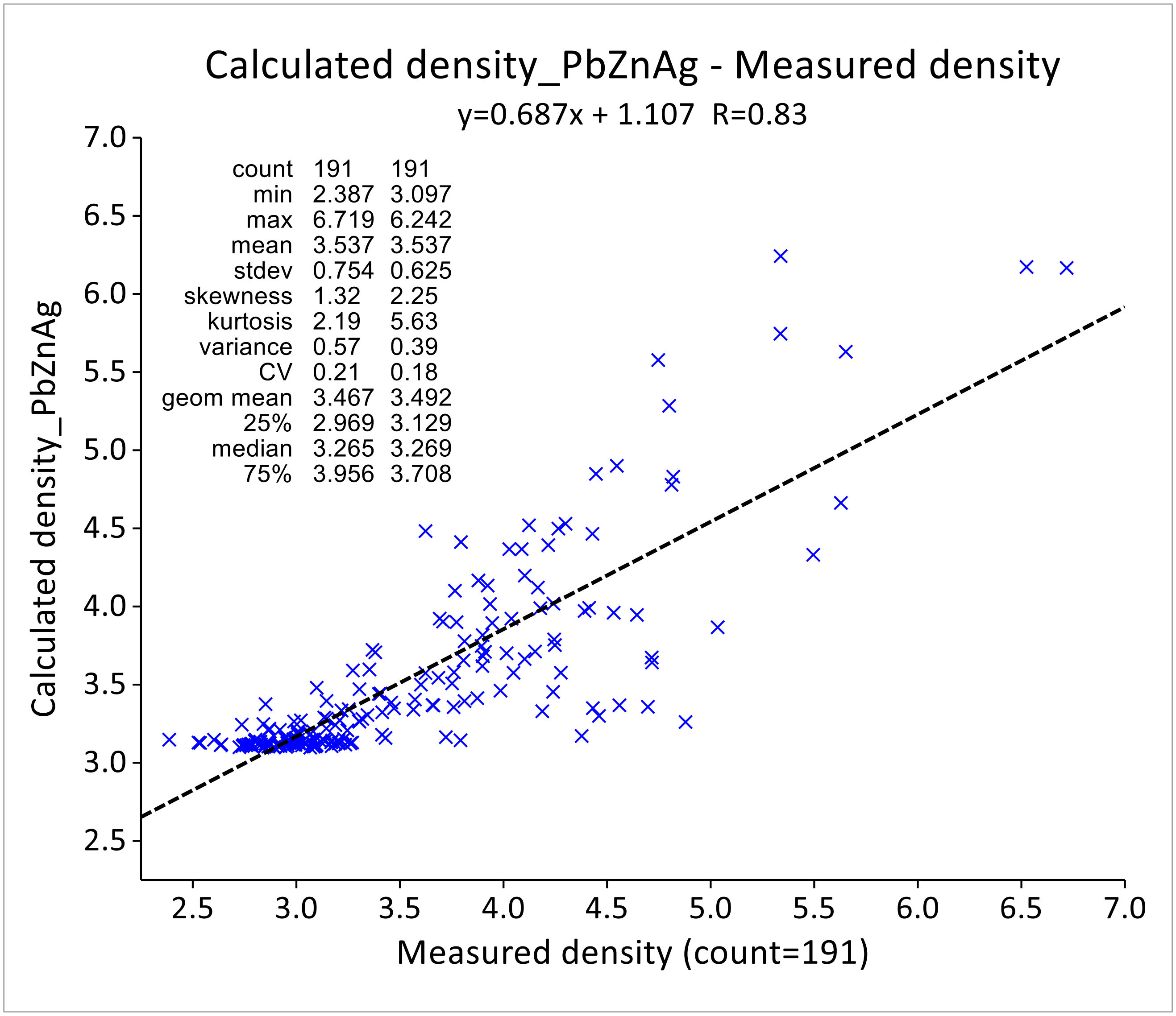
Since the 2019 Technical Report, Silvercorp has collected 191 samples.

The new AMC-derived density formula for the GC deposit is based on the new samples and is a multiple linear regression model using lead, zinc, and silver grades.

$$DENSITY = 3.094919 + (0.040827 \times Pb) + (0.034253 \times Zn) + (0.000482 \times Ag)$$

The QP notes that this formula is only applied within mineralization wireframes. Barren rock is assumed to have a density of 2.60, as discussed in Section 15. A scatterplot showing the measured density versus the density estimated by linear regression is shown in Figure 10.8.

Figure 10.8 Measured density vs density estimated by linear regression with Pb, Zn, Ag



Source: AMC Consultants Pty Ltd based on data provided by Silvercorp Metals Inc.

The majority of the resource samples and the block model only have analyses and estimates of lead, zinc, and silver, so using a multiple regression including iron is not feasible for the resource model. However, the QP notes that when the linear regression model includes all four metals (iron, lead, zinc, and silver), the correlation coefficient improves. From a geological perspective, this is accounting for the pyrite at GC that is not directly related to mineralization. It is from this basis that the QP makes the following conclusions:

- The three-element linear regression model (lead, zinc, and silver) provides better estimates of density than the average density used in the previous resource model. The regression model should be applied to the estimated block grades to derive block density and block tonnage.
- Adding iron to the regular assay suite for samples used for resource estimation would enable a significant improvement in the density estimates. A similar improvement would be expected by addition of sulphur to the assay suite, assuming that any sulphur not occurring in galena or sphalerite is probably in iron sulphides. The aim should be to move to use of the four-element regression model as soon as possible.

10.3 Recommendations

In regard to the drilling database, the QP recommends that all records (drillhole and channel samples) be assigned a consistent year between the collar and assay files. This will reduce reporting discrepancies.

The QP makes the following recommendations for future density measurements:

- Each density sample should be geologically logged, with particular attention to the degree of oxidation and the presence or absence of vughs or porosity.
- The minimum size of the density samples should be 1 kg. The part of the sample that is selected for assaying should be as representative of the mineralization in the part used for density measurement as possible. Assaying of the density sample itself is preferable but only if the wax does not lead to problems with assay sample preparation.
- Iron and / or sulphur should be added to the regular assay suite for samples used for resource estimation.
- Additional bulk density measurements on representative samples with varying base metal and pyrite content should be made.
- Bulk density measurements should also be made on samples from the bounding waste material so that in situations where minimum mining widths are applied for Mineral Resource estimation purposes, the bulk density of the diluted ore can be correctly estimated.
- The density of oxidized and fresh ores should be estimated separately.

10.4 Conclusion

In the QP's opinion there are no drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of drill results.

11 Sample preparation, analyses, and security

11.1 Introduction

This section describes the sampling methods, analytical techniques, and assay Quality Control / Quality Assurance (QA/QC) protocols employed at the GC Property to the end of December 2020. All work programs were managed by Silvercorp and carried out in accordance with Silvercorp's internal procedures.

The QP has reviewed sample preparation, analysis, security, and QA/QC protocols and associated data collected during operations at the Property between 2011 and 2020. QA/QC samples were not incorporated into drillhole or underground sampling programs prior to 2011, and only partially incorporated into underground sampling programs prior to 2014. Pre-2011 work accounts for 11% of all drilling and 3% of all underground sampling.

11.1.1 Drillhole sampling

Drilling completed at the Property comprises NQ sized (48 mm) diamond core collared from both surface and underground. Drill core is collected in wooden core trays by drilling personnel. Silvercorp geologists visit the drill site daily to check drilling progress, drill core quality and correct depth markings. Once checks are complete, core is transported to the surface core shack at the mine camp for further processing.

Silvercorp personnel complete all logging and sampling processes. This comprises the collection of core recovery data, detailed lithological, vein and mineralization logging, core photography, and core sampling. After geological logging, sample intervals are determined by the geologist based on the presence of veining and sulphide content, respecting geological and mineralization contacts. Sample lengths generally range from 5 cm and up to 2 m, averaging 1.1 m in length. During the sampling process the geologist records the hole ID and relevant depth interval of the sample in a sample book with a pre-numbered sample ID and tear off tags.

After the core has been photographed, core to be sampled is cut in half with a rock saw. One half of the core is collected and placed into cotton bags and the other half of the core is returned to the core tray for archival storage (or quartered if a duplicate sample is required). The sample number for the corresponding interval is then marked on the outside of the cotton bag, and a tear off tag with the sample number is inserted into the bag. The sample number is also recorded on the retained half of the core with an indelible marker for future reference. Sample bags are then sealed and placed into larger rice bags and secured for shipment to the laboratory.

11.1.2 Underground sampling

Underground samples comprise a composite of chips collected from channels cut into tunnels, cross cuts, and the bottom of trenches. Tunnels are typically sampled along sample lines perpendicular to the mineralized vein structure on 5 m intervals within mineralized zones and increasing to 15 to 25 m within non-mineralized zones. Samples collected from the walls of cross cuts and the bottom of trenches are generally restricted to the thickness of the mineralized structure.

Samples include vein material and associated wallrock. Samples are collected in cotton bags labelled with a unique sample number. Sample bags are then sealed and placed into larger rice bags and secured for shipment to the laboratory.

11.2 Sample preparation and analysis

Silvercorp has used two primary laboratories for sample preparation and analysis since 2008. ALS Chemex (Guangzhou) CO., Ltd. (ALS Guangzhou), part of ALS Global, located in Guangdong Province was used as the primary laboratory between 2008 and 2014. Silvercorp's Gaocheng Mine Site Laboratory (GC Lab) has been used as the primary laboratory since 2014.

ALS Guangzhou is accredited with International Standards Organization (ISO) standards 9001:2015 and 17025:2007 and China National Accreditation Service (CNAS). The accreditation covers General requirements for the Competence of Testing and Calibration Laboratories.

The GC Lab is owned and operated by Silvercorp and is not certified by any standards association.

11.2.1 Sample shipment and security

Drill core is stored in a clean and well-maintained core shack in the GC camp complex (Figure 10.1). This core shack is locked when unattended and monitored by two security personnel 24 hours a day.

Samples are shipped to the laboratory in sample bags inside sealed poly-woven rice bags. Between 2008 and 2014, samples were transported by Silvercorp personnel in a pickup truck and then couriered to ALS laboratories in Guangzhou. Between 2014 and 2020 samples were transported to the GC lab by Silvercorp personnel.

11.2.2 ALS Guangzhou

ALS Guangzhou was used by Silvercorp as the primary laboratory for GC sample preparation and analysis from 2008 to 2014, and as an umpire laboratory in subsequent years. At ALS Guangzhou, samples are dried, then crushed to greater than 70% passing <2 mm. The crushed sample is then split using a riffle splitter and up to 250 g pulverized to achieve 85% passing 75 microns.

Prepared samples are digested using ALS assay procedure OG62. In the process samples are digested with nitric, perchloric, hydrofluoric and hydrochloric acids (four-acid digest), evaporated, have hydrochloric acid and de-ionized water added, and then are heated for an allotted time. The cooled sample is then diluted to volume with de-ionized water, homogenized and analyzed by inductively coupled plasma – atomic emission spectrometry (ICP-AES) or atomic absorption spectrometry (ICP-AAS).

Detection ranges for the OG62 method are presented in Table 11.1.

Table 11.1 ALS Chemex lab method and detection limits

Element	ALS method	Units	Lower limit	Upper limit
Ag	Ag-OG62	ppm	1	1,500
Pb	Pb-OG62	%	0.001	20
Zn	Zn-OG62	%	0.001	30

Source: Compiled by AMC Mining Consultants (Canada) Ltd. from data provided by Silvercorp Metals Inc.

Silver samples returning assays greater than 1,500 g/t Ag are subsequently analyzed by ALS fire assay (method AG GRA-21). This method has a lower detection of 5 g/t and an upper limit of 10,000 g/t.

11.2.3 Gaocheng mine laboratory

The GC Lab has been used as the primary laboratory for GC sample preparation and analysis since 2014.

At the GC Lab, samples are dried for 12 hours at 75 – 80°C, crushed to 2 – 5 mm with a jaw crusher, then further crushed to 0.84 – 1.0 mm with a roll crushing machine. The crushed sample is split through a riffle splitter resulting in a subsample of 300 g. This sample is ground with a pulverizer made in Jiangxi, China to 0.125 – 0.074 mm. The pulverizer is cleaned regularly by grinding quartz sand, then cleaned with high pressure air.

Prepared samples (0.5 g) are digested using two acid digests. Ag, Pb, and Zn are analyzed using atomic-absorption spectrometry (AAS). Lead and zinc reporting above the upper detection limit (3%) are analyzed using a separate titration process. This process has a lower detection limit of 2% and an upper detection limit of 80% for Pb and Zn.

Fire assay is used to analyze high grade silver. This process has an upper detection limit of 5,000 ppm Ag.

Detection limits for the GC Lab analytical process are presented in Table 11.2.

Table 11.2 Silvercorp GC lab detection limits

Element	Detection range	Over limit notes	Over limit upper detection limit
Ag	5 - 1,000 ppm	>1,000 g/t overlimit samples analyzed by fire assay	5,000 ppm
Pb	0.001 - 3%	>3% overlimit samples analyzed by separate titration	80%
Zn	0.001 - 3%	>3% overlimit samples analyzed by separate titration	80%

Source: Silvercorp Metals Inc.

11.3 QA/QC monitoring program

11.3.1 Overview

Silvercorp has established QA/QC procedures which cover sample collection and processing at the GC Property. These QA/QC protocols have been progressively refined since 2011. Certified Reference Materials (CRMs) and coarse blanks have been included with drilling samples since 2011, and with underground samples since 2014. Field duplicates have been included with drilling samples since 2012 and with underground samples since 2014. Check (umpire) samples (pulp duplicates) have been sent to a separate 'umpire' laboratory since 2012.

In 2018, Silvercorp further improved their QA/QC protocols to include regular and more frequent submission of CRMs, coarse blanks, and field duplicates with drilling and underground samples. Coarse reject duplicates and pulp duplicates were also incorporated into drill sampling programs. The proportion of check samples sent to a different laboratory was also increased. In 2019, Silvercorp initiated real-time monitoring of QA/QC protocols.

A summary of QA/QC samples included in drilling and underground sampling programs since 2011 is provided in Table 11.3. Table 11.4 summarizes the insertion rates of these QA/QC samples.

Table 11.3 GC QA/QC samples by year

Year [1]	Drilling							Underground sampling				
	Drill samples [2]	CRMs	Blanks	Duplicates			Umpire samples [3]	Channel samples [2]	CRMs	Blanks	Field duplicates [3]	Umpire samples [4]
				Field	Coarse	Pulp						
Pre-2011 [5]	5,300	0	0	0	0	0	0	102	0	0	0	0
2011	1,859	68	82	0	0	0	60	34	0	0	0	0
2012	4,707	98	133	94	0	0	2,247	1,142	0	0	0	103
2013	7,235	105	132	106	0	0	3,094	2,145	0	0	0	11
2014	1,617	44	50	44	0	0	109	1,991	31	29	35	102
2015	1,729	45	48	41	0	0	31	4,139	64	67	68	0
2016	1,974	82	81	80	0	0	33	4,299	71	71	74	0
2017	4,150	150	153	155	0	0	46	5,183	84	84	84	0
2018	5,178	178	184	184	60	60	303	5,786	281	289	289	976
2019	5,085	164	176	163	163	163	0	7,629	122	124	118	482
2020	9,473	331	407	331	331	327	467	6,961	136	141	138	382
Total	**48,307**	**1,265**	**1,446**	**1,198**	**554**	**550**	**6,390**	**39,411**	**789**	**805**	**806**	**2,056**

Notes:
[1] Breakdown by year is approximate. Year compiled by AMC based on drill date recorded in collar file and assay files. Where missing, dates were compiled from assay date or interpolated by sorting data by sample ID.
[2] Samples with no assays are not included in totals.
[3] Additional CRMs, blanks and duplicates were submitted with umpire samples sent to check laboratory.
[4] Underground duplicates comprise only field duplicates.
[5] Includes all drilling completed prior to 2011 including that by previous operators
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Table 11.4 GC QA/QC insertion rates

Year [1]	Drilling							Underground sampling				
	Drill samples [2]	CRMs (%)	Blanks (%)	Duplicates (%)			Umpire samples [3] (%)	Samples	CRMs (%)	Blanks (%)	Field duplicates [3] (%)	Umpire samples [4] (%)
				Field	Coarse	Pulp						
Pre-2011 [5]	5,300	0.0	0.0	0.0	0.0	0.0	0.0	102	0.0	0.0	0.0	0.0
2011	1,859	3.7	4.4	0.0	0.0	0.0	3.2	34	0.0	0.0	0.0	0.0
2012	4,707	2.1	2.8	2.0	0.0	0.0	47.7	1,142	0.0	0.0	0.0	9.0
2013	7,235	1.5	1.8	1.5	0.0	0.0	42.8	2,145	0.0	0.0	0.0	0.5
2014	1,617	2.7	3.1	2.7	0.0	0.0	6.7	1,991	1.6	1.5	1.8	5.1
2015	1,729	2.6	2.8	2.4	0.0	0.0	1.8	4,139	1.5	1.6	1.6	0.0
2016	1,974	4.2	4.1	4.1	0.0	0.0	1.7	4,299	1.7	1.7	1.7	0.0
2017	4,150	3.6	3.7	3.7	0.0	0.0	1.1	5,183	1.6	1.6	1.6	0.0
2018	5,178	3.4	3.6	3.6	1.2	1.2	5.9	5,786	4.9	5.0	5.0	16.9
2019	5,085	3.2	3.5	3.2	3.2	3.2	0.0	7,629	1.6	1.6	1.5	6.3
2020	9,473	3.5	4.3	3.5	3.5	3.5	4.9	6,961	2.0	2.0	2.2	5.5
Total	**48,307**	**2.6**	**3.0**	**2.5**	**1.1**	**1.1**	**13.2**	**39,411**	**2.0**	**2.0**	**2.0**	**5.2**

Notes:
[1] Breakdown by year is approximate. Year compiled by AMC based on drill date recorded in collar file and assay files. Where missing, dates were compiled from assay date or interpolated by sorting data by sample ID.
[2] Samples with no assays are not included in totals.
[3] Additional CRMs, blanks and duplicates were submitted with umpire samples sent to check laboratory.
[4] Underground duplicates comprise only field duplicates.
[5] Includes all drilling completed prior to 2011 including that by previous operators.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

11.4 Certified Reference Materials

11.4.1 Description

Ten CRMs have been used by Silvercorp since 2011 (Table 11.5). CRMs GSO-2, GSO-4, and GBW07173 were sourced from The Institute of Geophysical and Geochemical Exploration and approved by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China. CRMs with prefix "CDN" were sourced from CDN Resource Laboratories Ltd in Langley, BC, Canada. Details of the CRMs used at the Gaocheng Property are presented in Table 11.4.

Table 11.5 Gaocheng Certified Reference Materials

CRM ID	In use	Ag expected value (g/t)	Ag measure of variation (g/t) [1, 2]	Pb expected value (%)	Pb measure of variation (%) [1, 2]	Zn expected value (%)	Zn measure of variation (%) [1, 2]
GBW07173	2011	92	±11	2.14	±0.17	6.06	±0.29
GSO-4 (GBW07165) [4]	2011 - 2013	148	±6	5.13	±0.08	13.90	±0.20
GSO-2 (GBW07163)	2011 - 2018	220	±10	2.17	±0.07	4.26	±0.15
CDN-FCM-7 [3]	2013 - 2020	64.7	±4.1	0.629	±0.042	3.85	±0.19
CDN-ME-1410 [3]	2018-2020	69	±3.8	0.248	±0.012	3.68	±0.084
CDN-ME-1306 [3]	2018-2020	104	±7	1.6	±0.07	3.17	±0.15
CDN-ME-1801 [3]	2018-2020	108	±6	3.08	±0.1	7.43	±0.3
CDN-ME-1206 [3]	2018-2020	274	±14	0.801	±0.044	2.38	±0.15
CDN-ME-1604 [3]	2018-2020	309	±15	4.83	±0.15	0.72	±0.03
CDN-ME-1807 [3]	2018-2020	324	±15	2.34	±0.1	2.43	±0.08

Notes:
[1] For GSO-2 and GSO-4 the measure of variation = t0.01 x s / N, where "t0.01" is the listed value of the t-distribution at the 99% confidence level, "s" the standard deviation and "N" the number of data sets used.
[2] For GBW07173 the measure of variation = one standard deviation.
[3] For "CDN" standards the measure of variation = two standard deviations.
[4] GSO-4 was replaced with CDN-FCM-7 in 2013 because of its purported poor performance.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Gaocheng currently uses seven CRMs supplied by CDN Resource Laboratories. All CRMs have a relative standard deviation (RSD) of less than 5%.

Insertion of CRMs by Silvercorp was implemented in 2012 for drill samples and in 2014 for underground samples. CRM insertion rates for drilling have not been systematic, varying from approximately 1 CRM in 60 samples to 1 CRM in 20 samples until 2018. In 2018, Silvercorp modified protocols to include the insertion of 1 CRM in approximately 30 samples. These protocols have not yet been implemented systematically for underground sampling with insertion rates varying from ~1 in 10 to ~ 1 in excess of 200 samples.

In 2019, Silvercorp implemented monitoring of CRMs on a batch-by-batch basis. Quality of assay data is visually reviewed by a designated geologist using quality control charts. Assay results of a CRM within ±2 standard deviations (SD) of the recommended value are considered acceptable, and assay data outside the ±3SD control lines are deemed failed assays. When two or more consecutive assays of CRMs occur outside the control lines in a sample batch, Silvercorp will notify the laboratory immediately to check their internal QA/QC procedures and re-assay samples of the batch with failed CRM assays. Original assay results are replaced by re-assays. Only approved assay results are used for Mineral Resource estimation.

11.4.2 Discussion on CRMs

CRMs contain known concentrations of silver, lead, and zinc which are inserted into the sample stream to check the analytical accuracy of the laboratory. Industry best practice typically advocates an insertion rate of at least 5 – 6% of the total samples assayed (Long et al. 1997; Mendez 2011; Rossi and Deutsch 2014). CRMs should be monitored on a batch-by-batch basis and remedial action taken immediately if required. For each economic mineral, the use of at least three CRMs is recommended with values:

- At the approximate cut-off grade (COG) of the deposit.
- At the approximate expected grade of the deposit.
- At a higher grade.

Since the implementation of Silvercorp's QA/QC program in 2011, a total of 1,265 CRMs were included with drill samples, and 789 included with underground samples representing average insertion rates of 2.6% and 2% respectively. Since Silvercorp's overhaul of the QA/QC program in 2018, CRM insertion rates have increased to approximately 3.5% of drill samples and 2.8% of underground samples.

The average grade of the GC Mineral Resource is approximately 83 g/t Ag, 1.2% Pb, and 2.7% Zn at a 105 g/t AgEq COG. Given that metals are generally moderately (positively) correlated, a CRM monitoring the 105 AgEq COG would comprise approximately 35 g/t Ag, 0.5% Pb, and 1% Zn. Between 2011 and 2017, only two CRMs were effectively used to monitor grade ranges (low and higher grades). A total of five samples of GBW07173 were submitted in 2011 before being discontinued. A total of 77 samples of GSO-4 were inserted between 2011 and 2013 before being replaced by CDN-FCM-7 in 2013. Between 2013 and 2017 only GSO-2 and CDN-FCM7 were used to monitor laboratory performance. An additional six CRMs were purchased by Silvercorp in 2018.

Present CRMs in use monitor the approximate COG range reasonably well for Pb by CRMs CDN-FCM-7 (0.629% Pb) and for Zn by CDN-ME-1604 (0.72% Zn). The QP notes however that no CRM monitors Ag grades below 60 g/t Ag. Average deposit grades and higher grades have been monitored reasonably well by various CRMs since 2018. The grade ranges monitored by each CRM are noted in Table 11.6, Table 11.7, and Table 11.8.

Industry best practice is to investigate and, where necessary, re-assay batches where two consecutive CRMs assay results occur outside of two standard deviations (warning), or one CRM occurs outside of three standard deviations (fail) of the expected value described on the CRM certificate. Consecutive warnings can be defined by two different CRMs.

Control charts are commonly used to monitor the analytical performance of an individual CRM over time. CRM assay results are plotted in order of analysis along the X axis. Assay values of the CRM are plotted on the Y axis. Control lines are also plotted on the chart for the expected value of the CRM, two standard deviations above and below the expected value (defining a warning threshold), and three standard deviations above and below the expected value (defining a fail threshold). Control charts show analytical drift, bias, trends, and irregularities occurring at the laboratory over time.

CRMs GSO-2 and GSO-4 supplied by The Institute of Geophysical and Geochemical Exploration report a value of "uncertainty" rather than a standard deviation – see note to Table 11.5. As the values of uncertainty defined on the certificate were not considered practical performance limits the QP calculated the standard deviation for these CRMs based on all assay results to date.

Table 11.6 to Table 11.8 and Figure 11.1 to Figure 11.6 summarizes CRM performance between 2011 and 2020.

Table 11.6 Gaocheng Ag CRM results (2011 - 2020)

CRM supplier		**IGGE (China)**			**CDN Resource Laboratories (Canada)**						
CRM ID		GBW07173	GSO-2 #	GSO-4	CDN-FCM-7 #	CDN-ME-1206	CDN-ME-1306	CDN-ME-1410	CDN-ME-1604	CDN-ME-1801	CDN-ME-1807
Expected value (Ag g/t)		92	220	148	64.7	247	104	69	309	108	327
SD (Ag g/t)		11	3.6 *	3.62 *	2.05	7	3.5	1.9	7.5	3	10
Grade range monitored		AG	HG	HG	LG	HG	AG	LG	HG	AG	HG
2011	Number	5	32	31	-	-	-	-	-	-	-
	Warning (>2SD)	0	2	1	-	-	-	-	-	-	-
	Fail (>3SD)	0	11	4	-	-	-	-	-	-	-
2012	Number	-	61	37	-	-	-	-	-	-	-
	Warning (>2SD)	-	5	0	-	-	-	-	-	-	-
	Fail (>3SD)	-	6	0	-	-	-	-	-	-	-
2013	Number	-	75	9	21	-	-	-	-	-	-
	Warning (>2SD)	-	1	1	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	0	0	-	-	-	-	-	-
2014	Number	-	37	-	38	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2015	Number	-	52	-	57	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	1	-	-	-	-	-	-
2016	Number	-	98	-	55	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2017	Number	-	79	-	155	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2018	Number	-	34	-	134	80	59	13	52	81	6
	Warning (>2SD)	-	0	-	0	0	0	2	0	4	0
	Fail (>3SD)	-	0	-	0	0	0	0	0	0	0
2019	Number	-	-	-	46	28	62	11	30	90	17
	Warning (>2SD)	-	-	-	0	0	0	0	2	0	0
	Fail (>3SD)	-	-	-	1	1	3	0	0	0	0

CRM supplier		IGGE (China)			CDN Resource Laboratories (Canada)						
2020	Number	-	-	-	62	43	91	56	84	102	31
	Warning (>2SD)	-	-	-	0	0	0	1	6	0	1
	Fail (>3SD)	-	-	-	1	1	0	0	0	1	0
Total	**Number**	**5**	**468**	**77**	**568**	**151**	**212**	**80**	**166**	**273**	**54**
	Warning (>2SD)	**-**	**8**	**2**	**0**	**0**	**0**	**3**	**0**	**4**	**1**
	Fail (>3SD)	**-**	**17**	**4**	**3**	**1**	**3**	**0**	**0**	**1**	**0**

Notes: Drillhole and underground channel samples combined. Table excludes CRMs included with umpire samples. Original assay results. IGGE=The Institute of Geophysical and Geochemical Exploration, SD=standard deviation, LG=low grade, AG=average grade, HG=high grade.
* Standard deviation used for CRM control limits derived from assay results.
# Control chart presented.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Table 11.7 Gaocheng Pb CRM results (2011 - 2020)

CRM supplier		IGGE (China)			CDN Resource Laboratories (Canada)						
CRM ID		GBW07173	GSO-2 #	GSO-4	CDN-FCM-7	CDN-ME-1206	CDN-ME-1306	CDN-ME-1410 #	CDN-ME-1604	CDN-ME-1801	CDN-ME-1807
Expected value (Pb %)		2.14	2.17	5.13	0.629	0.801	1.60	0.248	4.83	3.08	2.34
SD (Pb %)		0.17	0.03 *	0.08 *	0.021	0.022	0.035	0.006	0.075	0.05	0.05
Grade range monitored		HG	HG	HG	LG	AG	AG	LG	HG	HG	HG
2011	Number	5	32	31	-	-	-	-	-	-	-
	Warning (>2SD)	-	10	4	-	-	-	-	-	-	-
	Fail (>3SD)	-	11	1	-	-	-	-	-	-	-
2012	Number	-	61	37	-	-	-	-	-	-	-
	Warning (>2SD)	-	3	1	-	-	-	-	-	-	-
	Fail (>3SD)	-	1	0	-	-	-	-	-	-	-
2013	Number	-	75	9	21	-	-	-	-	-	-
	Warning (>2SD)	-	0	0	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	0	0	-	-	-	-	-	-
2014	Number	-	37	-	38	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2015	Number	-	52	-	57	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	1	-	-	-	-	-	-

CRM supplier		IGGE (China)			CDN Resource Laboratories (Canada)						
2016	Number	-	98	-	55	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	2	-	-	-	-	-	-
	Fail (>3SD)	-	1	-	0	-	-	-	-	-	-
2017	Number	-	79	-	155	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	1	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2018	Number	-	34	-	134	80	59	13	52	81	6
	Warning (>2SD)	-	0	-	0	0	0	0	32	0	0
	Fail (>3SD)	-	2	-	0	0	0	3	12	0	0
2019	Number	-	-	-	46	27	62	11	30	90	17
	Warning (>2SD)	-	-	-	0	0	0	1	0	0	0
	Fail (>3SD)	-	-	-	1	0	1	0	0	0	0
2020	Number	-	-	-	62	44	91	56	84	102	31
	Warning (>2SD)	-	-	-	1	0	1	0	0	1	0
	Fail (>3SD)	-	-	-	1	2	1	1	0	1	0
Total	**Number**	**5**	**468**	**77**	**568**	**151**	**212**	**80**	**166**	**273**	**54**
	Warning (>2SD)	**0**	**13**	**5**	**4**	**0**	**1**	**1**	**32**	**1**	**0**
	Fail (>3SD)	**0**	**15**	**1**	**3**	**2**	**2**	**4**	**12**	**1**	**0**

Notes: Drillhole and underground channel samples combined. Table excludes CRMs included with umpire samples. Original assay results. IGGE=The Institute of Geophysical and Geochemical Exploration, SD=standard deviation, LG=low grade, AG=average grade, HG=high grade.
* Standard deviation used for CRM control limits derived from assay results.
# Control chart presented.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

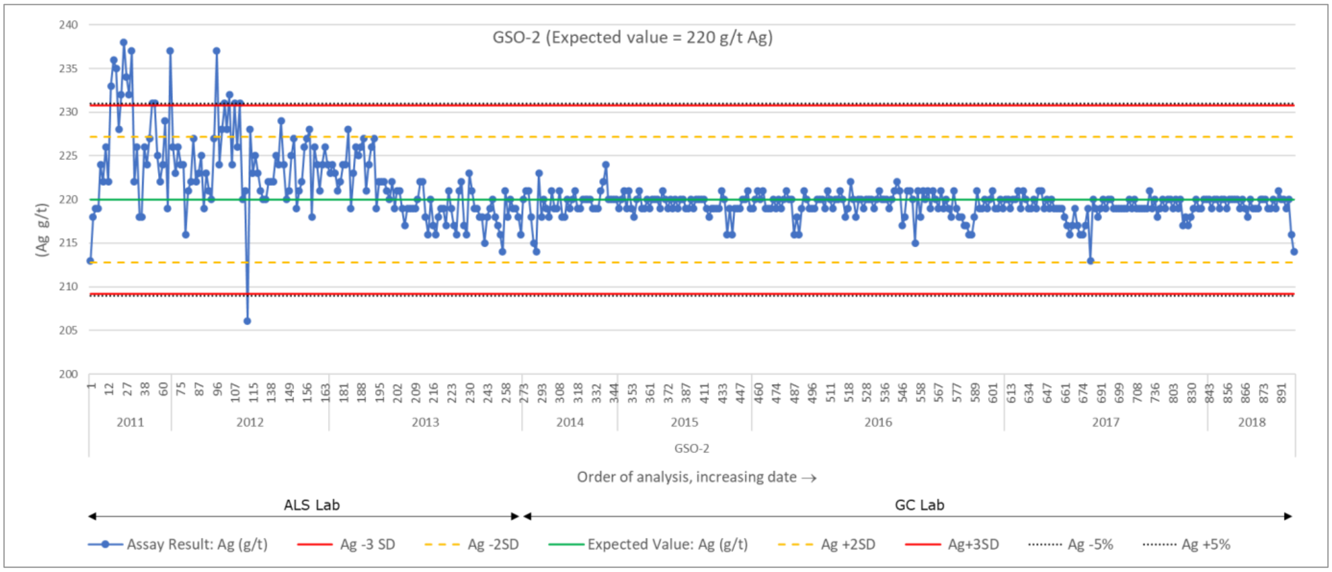
Table 11.8 Gaocheng Zn CRM results (2011 - 2020)

CRM supplier		IGGE (China)			CDN Resource Laboratories (Canada)						
CRM ID		GBW07173	GSO-2	GSO-4	CDN-FCM-7 #	CDN-ME-1206	CDN-ME-1306	CDN-ME-1410	CDN-ME-1604 #	CDN-ME-1801	CDN-ME-1807
Expected Value (g/t)		6.06	4.26	13.9	3.85	2.38	3.17	3.682	0.72	7.43	2.43
SD (g/t)		0.29	0.04 *	0.25 *	0.095	0.075	0.075	0.042	0.015	0.15	0.04
Grade range monitored		HG	HG	HG	HG	AG	HG	HG	LG	HG	AG
2011	Number	5	32	31	-	-	-	-	-	-	-
	Warning (>2SD)	-	10	6	-	-	-	-	-	-	-
	Fail (>3SD)	-	5	1	-	-	-	-	-	-	-
2012	Number	-	61	37	-	-	-	-	-	-	-
	Warning (>2SD)	-	21	1	-	-	-	-	-	-	-
	Fail (>3SD)	-	9	0	-	-	-	-	-	-	-
2013	Number	-	75	9	21	-	-	-	-	-	-
	Warning (>2SD)	-	2	4	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	0	0	-	-	-	-	-	-
2014	Number	-	37	-	38	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2015	Number	-	52	-	57	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	1	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2016	Number	-	98	-	55	-	-	-	-	-	-
	Warning (>2SD)	-	1	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2017	Number	-	79	-	155	-	-	-	-	-	-
	Warning (>2SD)	-	0	-	0	-	-	-	-	-	-
	Fail (>3SD)	-	0	-	0	-	-	-	-	-	-
2018	Number	-	34	-	134	80	59	13	52	81	6
	Warning (>2SD)	-	0	-	-	0	0	2	2	25	0
	Fail (>3SD)	-	1	-	-	0	0	11	1	0	0
2019	Number	-	-	-	46	27	62	11	30	90	17
	Warning (>2SD)	-	-	-	0	0	0	0	0	0	1
	Fail (>3SD)	-	-	-	0	0	0	0	0	0	1

CRM supplier		IGGE (China)			CDN Resource Laboratories (Canada)						
2020	Number	-	-	-	62	44	91	56	84	102	31
	Warning (>2SD)	-	-	-	0	1	0	1	0	0	0
	Fail (>3SD)	-	-	-	0	0	1	1	1	0	1
Total	**Number**	**5**	**468**	**77**	**568**	**151**	**212**	**80**	**166**	**273**	**54**
	Warning (>2SD)	**0**	**34**	**11**	**0**	**1**	**0**	**3**	**2**	**25**	**1**
	Fail (>3SD)	**-**	**15**	**1**	**1**	**1**	**0**	**12**	**2**	**1**	**1**

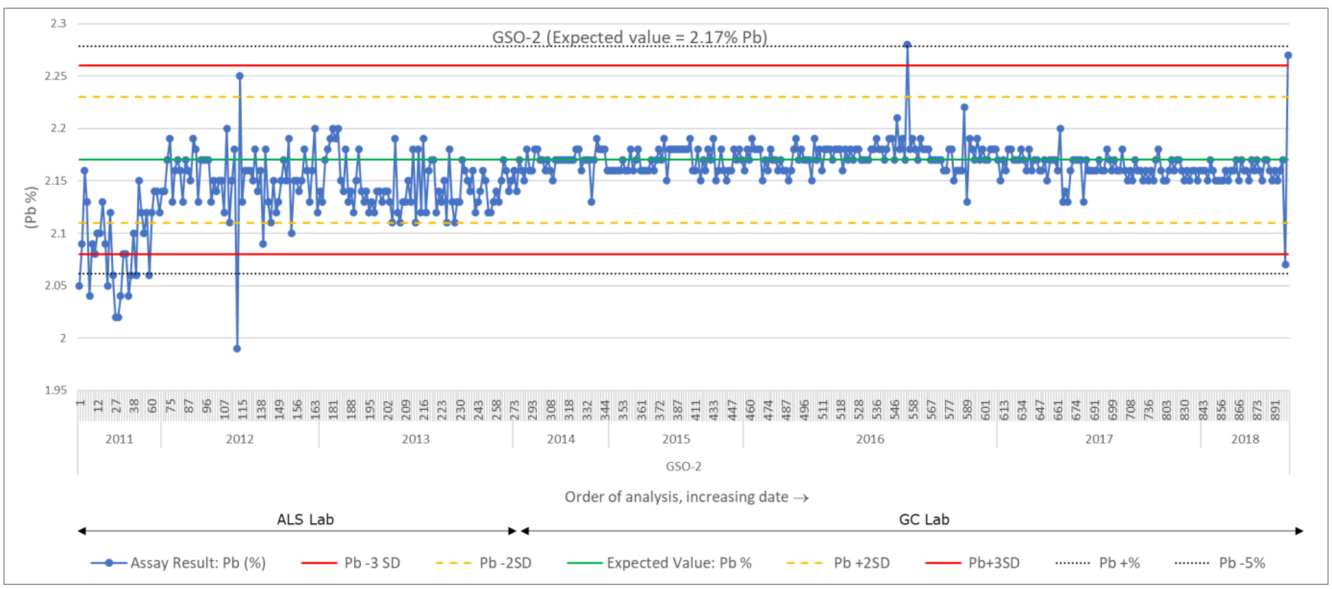
Notes: Drillhole and underground channel samples combined. Table excludes CRMs included with umpire samples. Original assay results. IGGE=The Institute of Geophysical and Geochemical Exploration, SD=standard deviation, LG=low grade, AG=average grade, HG=high grade.
* Standard deviation used for CRM control limits derived from assay results.
# Control chart presented.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.1 Control chart for GSO-2 (Ag)



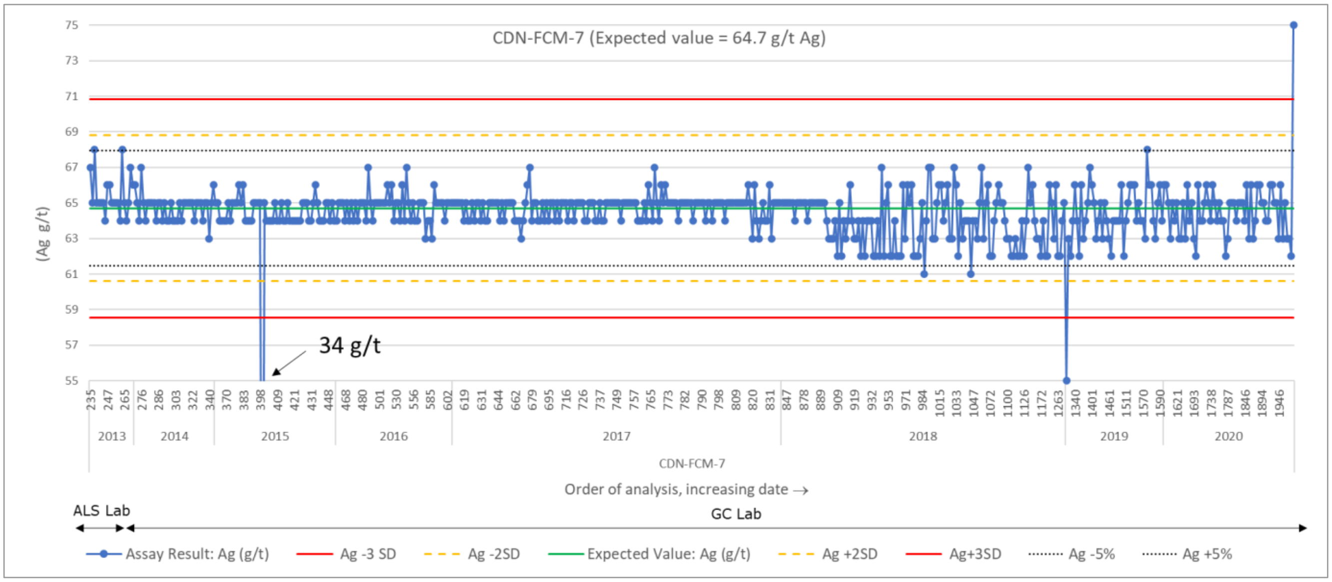
Notes: Includes drilling and underground channel samples, Laboratories shown. Note the high proportion of warnings and fails in 2011 and 2012. Zn control chart shows similar trends.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.2 Control chart for GSO-2 (Pb)



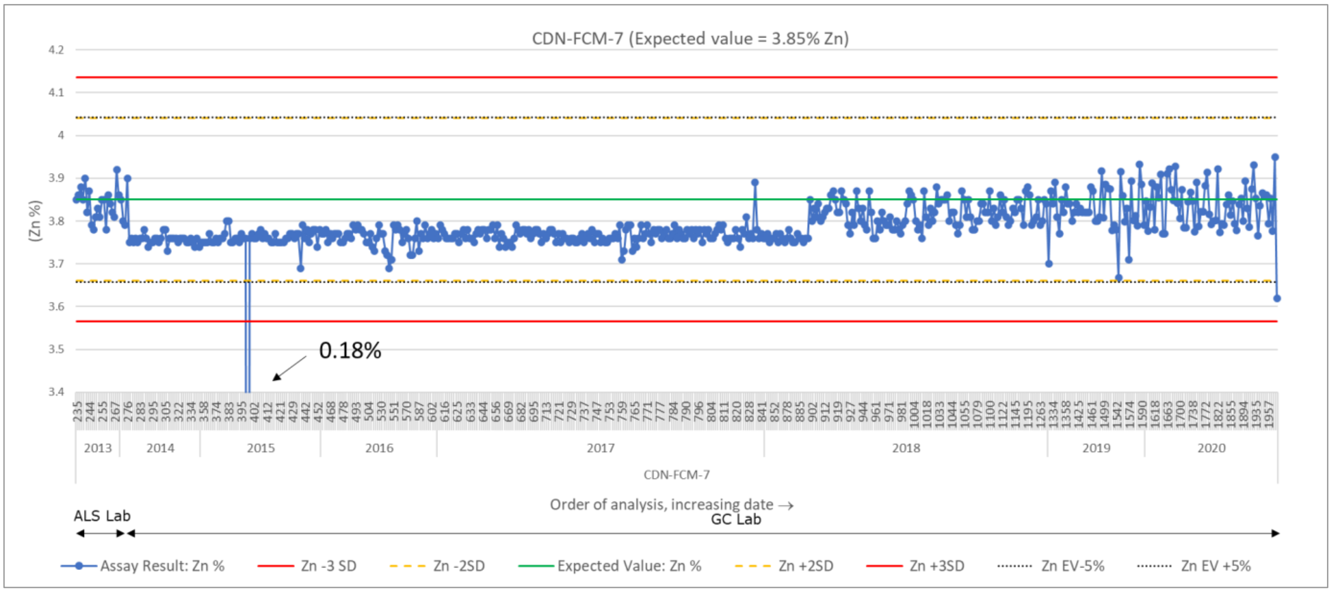
Notes: Includes drilling and underground channel samples, Laboratories shown. Note the high proportion of warnings and fails during 2011.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.3 Control chart for CDN-FCM7 (Ag)



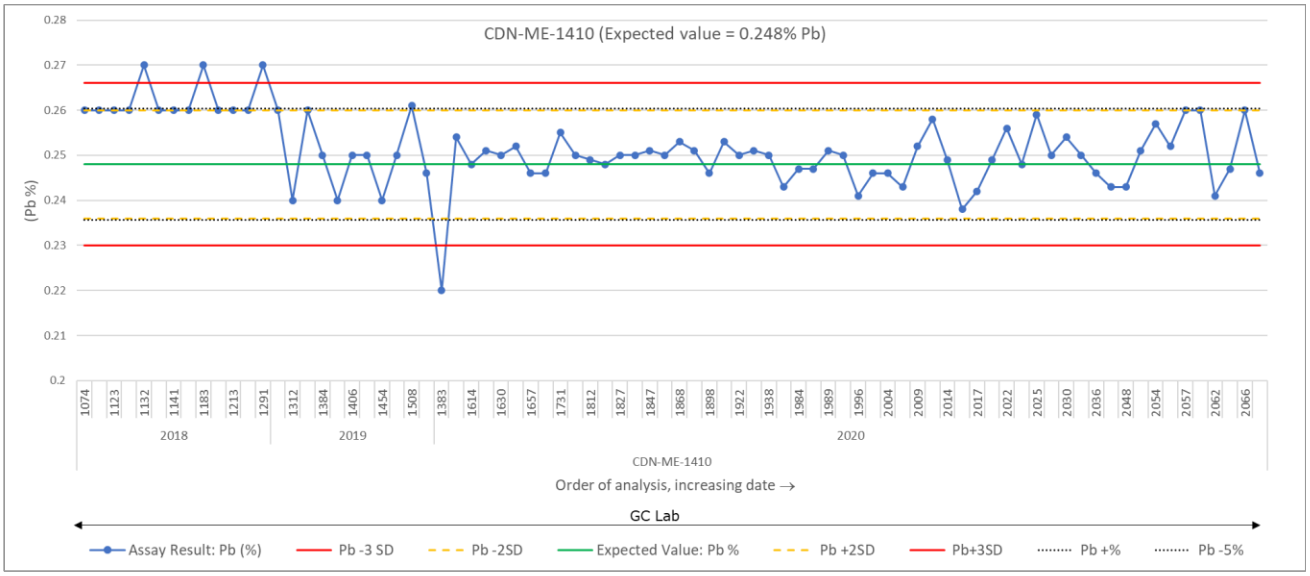
Notes: Includes drilling and underground channel samples, Laboratories shown. A new shipment of CRM CDN-FCM7 was received in April 2018.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.4 Control chart for CDN-FCM7 (Zn)



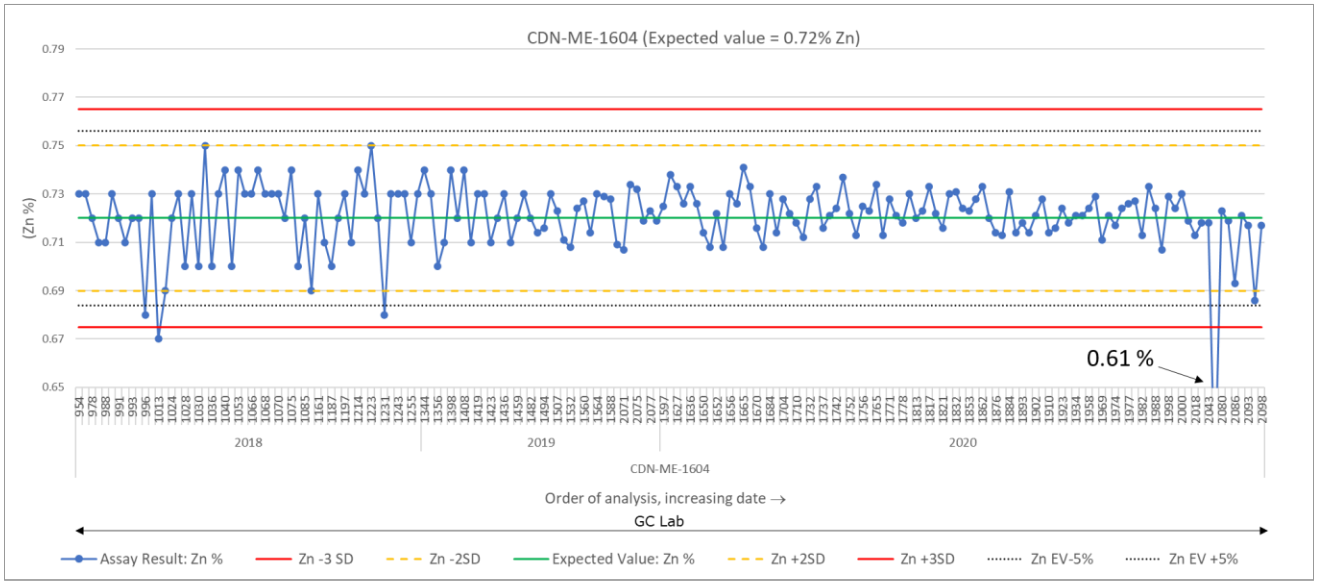
Notes: Includes drilling and underground channel samples. All analyses completed by GC lab. A new shipment of CRM CDN-FCM7 was received in April 2018. Pb control chart shows similar trends.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.5 Control chart for CDN-ME-1410 (Pb)



Notes: Includes drilling and underground channel samples. All analyses completed by GC lab. Original assay results. Note the positive bias in 2018. Ag and Zn control chart shows similar trends but Ag positively biased and Zn negatively biased in 2018.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.6 Control chart for CDN-ME-1604 (Zn)



Notes: Includes drilling and underground channel samples. All analyses completed by GC lab. Original assay results. Ag and Pb control charts show similar trends.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

The QP notes the following based on the review of CRMs used at Gaocheng between 2011 and 2020:

- CRMs results after 2014 show reasonable analytical accuracy, with minimal systematic bias, and relatively low warning and failure rates.
- In 2019, Silvercorp's protocols were revised so that CRMs were monitored in real time, and batches with failed CRMs were re-assayed. Certificates for failed batches were provided to the QP and have been used for all CRM analysis from 2019 to 2020.

- CRM insertion procedures were improved for drilling samples in 2018 and comprise 3.5% of the total samples, with CRMs being inserted systematically at a rate of about 1 CRM in ~30 samples (Table 11.4).
- The use of CRMs in underground sampling improved significantly in 2018 (to 4.9%) but decreased to 2% or less in 2019 and 2020. Insertion of CRMs since 2019 has not been systematic with insertion rates varying between 1 CRM in 10 samples to in excess of 1 CRM in 200 samples (Table 11.4).
- While CRM insertion rates were improved in 2018, current insertion rates are less than the preferred rate of 5%. CRMs are not inserted with underground samples in a systematic fashion.
- The six CRMs adequately monitor average grades and higher grades at Gaocheng but are less effective at monitoring the expected grade ranges at COGs, specifically with respect to Ag.
- Some accuracy issues are noted during the period between 2011 and 2014 where ALS was used as the primary laboratory and CRMs were not effectively monitored and addressed in real time (Figure 11.1, Figure 11.2).
- As noted in previous technical reports, there was an improvement in CRM performance when the primary lab changed from ALS to the GC lab in 2014. The notable accurate and precise performance of the GC lab with respect to GSO-2 from 2014 to 2018 suggests that the lab may have been aware of the expected values of CRMs, diminishing the usefulness as a blind check (Figure 11.1, Figure 11.2). There is a similar concern with respect to the GC lab and CDN-FCM-7, although the consistently 2 – 3% low bias shown for the lead and zinc CRM assays, while not of material concern to Mineral Resource estimates, suggests that the lab may believe the certified values to be less than their true values (0.60% Pb instead of 0.63% Pb, and 3.75% Zn instead of 3.85% Zn) (Figure 11.4).
- Silvercorp's revision to QA/QC protocols in approximately April 2018 included sourcing additional CRMs, blind CRM insertion and more systematic insertion of CRMs with drilling. CRMs were not systematically monitored on a real time basis until 2019.
- CRM CDN-FCM7 control chart (Figure 11.3, Figure 11.4) shows a marked change in CRM results in approximately April 2018, which coincides with a new shipment of CRM CDN-FCM7 (Figure 11.4).
- A number of consecutive warnings and fails are noted in CRM CDN-ME-1410 during 2018 associated with a 4 – 5% bias (high for Pb and Ag, low for Zn). This bias appears to have been corrected in 2019 (Figure 11.5).
- A number of consecutive low warning and fails are noted in CRM CDN-ME-1604 with a 5% negative bias for Pb. This bias was corrected in 2019. A 4% negative bias is noted in this same CRM for Ag, however only a small number of warnings and failures are noted.
- Silvercorp's process of overwriting original results from failed batches with re-analysis is not ideal as it does not facilitate an efficient audit of QA/QC.

11.4.3 CRM recommendations

The QP recommends that the following improvements be made to the QA/QC protocols with respect to CRMs:

- Consider procurement of an additional CRM to monitor low grades which cover the expected COGs.
- Consider purchasing at least one 'pigeon pair' CRM with similar, but not identical expected values to a CRM currently in use. This will provide an additional check on laboratory accuracy.
- Revise protocols so that CRMs are inserted using a systematic approach at a rate of 1 CRM in every 20 samples (5%) for both drilling and underground samples. Consider implementation

of practises such as assigning CRM samples in the sample tag books prior to actual sampling, so that CRM samples occur regularly and within each batch of samples.

- Continue to submit CRMs blind (with no identification), so that the expected results are not known by the laboratory.
- Continue monitoring CRM results in a 'real-time' basis and ensure that sample batches where CRMs return results outside of two standard deviations, or one CRM outside of three standard deviations are investigated and reanalyzed.
- Maintain a 'table of fails' which documents the remedial action completed on any failed batch.
- Implement a system whereby the original assays of failed batches are retained in the sample database and available for audit.
- Continue communication between the geology department and laboratory to ensure that any sample biases noted are investigated and addressed in a timely fashion.

11.5 Blank samples

11.5.1 Description

Silvercorp uses a Carboniferous dolomitic limestone from a local source as a blank material. This material has previously been submitted to the umpire laboratory to confirm that concentrations of Ag, Pb, and Zn are suitably low. Blank samples are submitted as crushed coarse samples within both the drilling and underground sampling streams.

Silvercorp has inserted 1,446 blanks with drillhole samples between 2011 and 2020 and a further 805 blanks with underground chip samples between 2014 and 2020. Blank samples represent 3% and 2% of the total drillhole and underground channel samples, respectively. In 2018, Silvercorp increased the insertion of blank materials (in line with CRMs) to approximately one blank in 30 samples in drilling. As with CRMs, blank insertion in underground sampling streams has not been systematic and varies between one blank in 10 samples to one blank in more than 200 samples.

Silvercorp's protocols until 2018 considered blank samples with assay results greater than 30 g/t Ag, 0.3% Pb, or 0.3% Zn to have failed. This protocol was revised in 2018 and failure limits reduced to 8 g/t Ag, 0.1% Pb, and 0.1% Zn.

11.5.2 Blank discussion

Coarse blanks test for contamination during both the sample preparation (crushing, pulverizing) and assay process. Pulp or fine blanks test for contamination during the analytical process. Both coarse and fine blanks should be inserted in each batch sent to the laboratory and comprise 4 – 5% of total samples submitted (Long et al. 1997; Mendez 2011; Rossi and Deutsch 2014).

Blank samples should be monitored in a real-time basis as the results of sample batches are received. Failed blank samples should be investigated and sample batches where contamination is identified should be re-assayed. The generally accepted criterion is that 80% of coarse blanks should be less than three times the lower limit of analytical detection, and 90% of pulp blanks should be less than two times the lower limit of analytical detection.

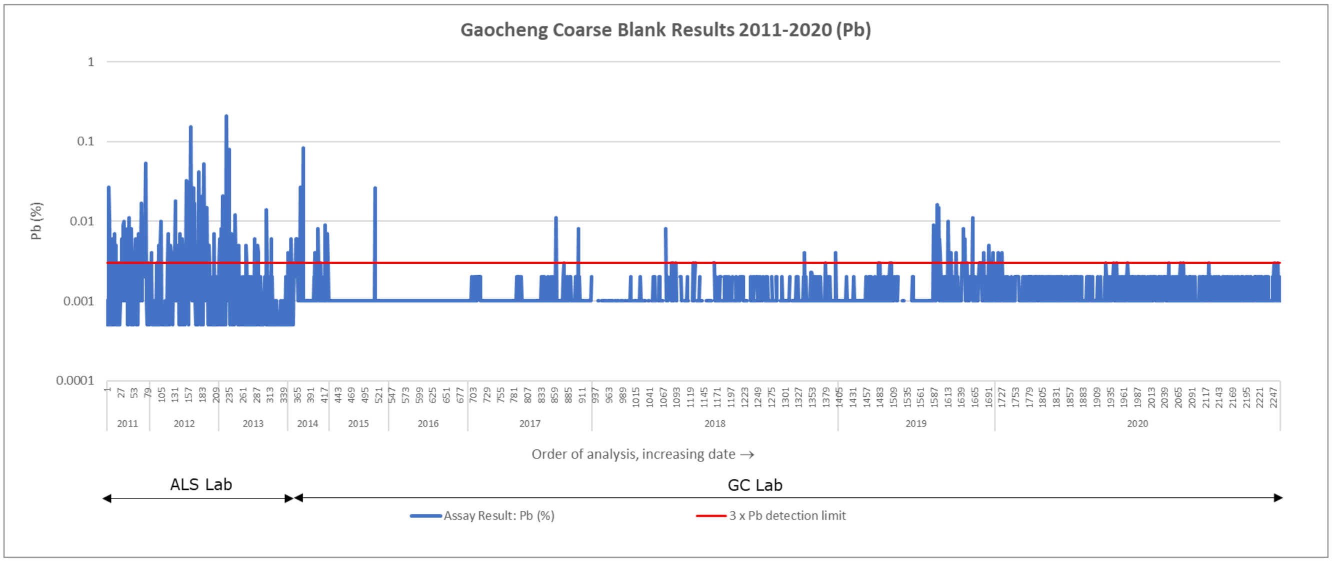
Table 11.9 summarizes blank performance between 2011 and 2020 using Silvercorp fail criteria and the generally accepted criteria. Figure 11.7 and Figure 11.8 show blank control charts for the same period for Pb and Zn.

Table 11.9 Gaocheng coarse blank results

Year	Lab	Detection limits	Number of blank samples	Ag				Pb				Zn			
				SVM fail		3 x LDL Fail		SVM fail		3 x LDL Fail		SVM fail		3 x LDL Fail	
				Fail limit (g/t)	n fails	Fail (g/t)	n fails	Fail limit (g/t)	n fails	Fail limit (%)	n fails	Fail limit (%)	n fails	Fail limit (%)	n fails
2011	ALS	Ag LDL=1 g/t Pb LDL=0.001% Zn LDL=0.001%	82	30	2	3	3	0.3	0	0.003	25	0.3	0	0.003	65
2012			133	30	1	3	3	0.3	1	0.003	36	0.3	4	0.003	78
2013			132	30	2	3	4	0.3	1	0.003	19	0.3	6	0.003	80
2014	GC	Ag LDL=5 g/t Pb LDL=0.001% Zn LDL=0.001%	79	30	1	15	1	0.3	0	0.003	11	0.3	0	0.003	22
2015			115	30	0	15	0	0.3	0	0.003	1	0.3	2	0.003	2
2016			152	30	0	15	0	0.3	0	0.003	0	0.3	0	0.003	0
2017			237	30	1	15	0	0.3	0	0.003	2	0.3	1	0.003	3
2018			473	8	0	15	0	0.1	0	0.003	3	0.1	0	0.003	4
2019			300	8	0	15	0	0.1	0	0.003	22	0.1	1	0.003	14
2020			548	8	0	15	0	0.1	0	0.003	2	0.1	0	0.003	1
Totals			**2,251**		**7**		**11**		**2**		**121**		**14**		**269**

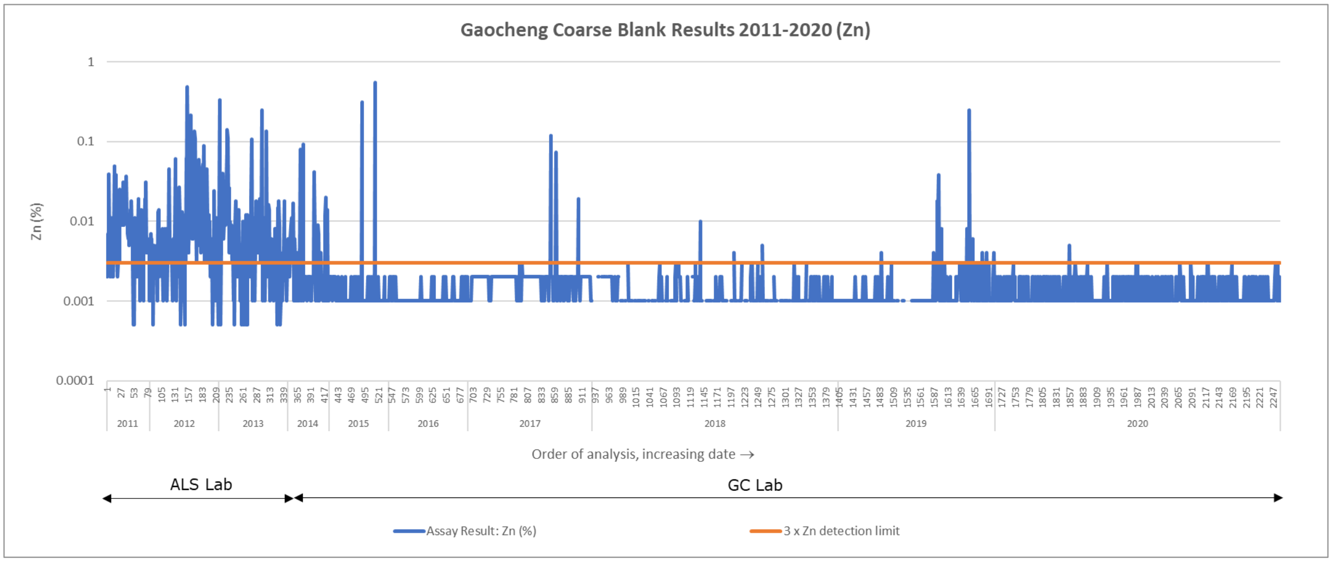
Notes: ALS=ALS Guangzhou, GC=Gaocheng site laboratory, n=number of samples, LDL=lower limit of analytical detection. SVM failure limits changed in 2018. Drill and underground samples combined.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.7 Gaocheng blank performance 2011 - 2020 (Pb)



Notes: Primary laboratory changed from ALS Guangzhou to Gaocheng in March 2014. Below detection samples are recorded as half the lower limit of analytical detection. Drilling and underground samples combined.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Figure 11.8 Gaocheng blank performance 2011 - 2020 (Zn)



Notes: Primary laboratory changed from ALS Guangzhou to Gaocheng in March 2014. Below detection samples are recorded as half the lower limit of analytical detection. Drilling and underground samples combined.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

The QP notes the following based on the review of blanks used at Gaocheng between 2011 and 2020:

- For the period 2011 to 2020 the number of blank samples with assay results in excess of three times the LDL are 11, 121, and 269 for Ag, Pb, and Zn, respectively. This equates to an approximate failure rate of 0.5% for Ag, 5% for Pb, and 12% for Zn. Overall failure rates are within acceptable criteria; however, failed batches do not appear to have been investigated and remedial actions implemented.
- A high number of Pb and Zn blank failures occurred between 2011 and 2014, when ALS was the primary laboratory. This may reflect systematic contamination during sample preparation or analysis or the use of a blank material with elevated Pb and Zn concentrations. No remedial action was taken.
- Blank samples inserted between 2014 and 2020 have a substantially lower rate of failure. The decreased failure rate occurred soon after the GC lab took over as the primary laboratory. The reasons for the significant change in results are not known, however, this could be the result of more stringent cleaning procedures being implemented at GC or changes made to the source of blank material.
- The blank failure parameters used by Silvercorp between 2011 and 2018 were insufficient to detect laboratory contamination and were revised in 2018. The revised failure limit of 8 g/t Ag is more stringent than generally accepted best practises. The revised failure limits of 0.1% for Pb and Zn are too generous and do not initiate investigation of potential contamination on a batch-by-batch basis.
- Coarse blank insertion rates are generally in line with CRMs over the period 2011 to 2020 averaging 3% of all drill samples and 2% of all underground samples. Blank sample rates increased to 4.3% for drill samples in 2020 but have remained relatively unchanged for underground samples, with the exception of 2018, where insertion rates increased to 5% of total samples submitted. As with CRMs, the insertion of blanks in underground sampling has not been systematically applied with insertion rates being highly variable between sample batches.

11.5.3 Blank recommendations

The QP recommends that the following improvements be made to the QA/QC protocols with respect to blanks:

- Revise protocols so that blanks are inserted using a systematic approach at a rate of at least one blank in every 25 samples (4%) for both drilling and underground samples.
- Insert blanks immediately after expected high grade mineralization.
- Implement the use of both coarse and fine (pulp) blank material to enable sample preparation and analytical processes to be monitored for contamination.
- Continue to submit blanks blind (with no identification), so that the results are not known by the laboratory.
- Revise and further reduce failure rates for Pb and Zn from the current levels of 0.1% Pb and 0.1% Zn.
- Implement the monitoring of blank results in 'real-time' and ensure that sample batches where blanks exceed failure limits are investigated and reanalyzed.
- Maintain a 'table of fails' which documents the remedial action completed on any failed batch.
- Implement a system whereby the original assays of failed batches are retained in the sample database and available for audit.
- Continue communication between the geology department and laboratory to ensure that any sample biases noted are investigated and addressed in a timely fashion.

11.6 Duplicate samples

11.6.1 Description

Silvercorp's current QA/QC protocols include the insertion of field duplicates, coarse reject duplicates, and pulp duplicates. Field duplicates have been included with drilling samples since 2012 and with underground samples since 2014. Coarse duplicates and pulp duplicates have been included in drillhole sample batches since 2018. In the period between 2011 and 2020, a total of 2,517 quarter core field duplicates, 554 coarse reject duplicates, and 550 pulp duplicates was submitted with drillhole samples, and 806 field duplicates were submitted with underground samples (Table 11.3).

Field duplicates are collected at a rate of one field duplicate in every 30 drill samples and one duplicate in every 50 underground samples. Field duplicates of core samples are prepared by cutting the unsampled half of the core into quarters and including one of these quarters as a separate sample in the original laboratory submission. Underground field duplicates comprise the collection of a separate sample from rock chips taken at the same location in the face, back or wall of tunnels, and including this in the initial laboratory submission.

Coarse reject and pulp duplicates are included at a rate of approximately one coarse duplicate and one pulp duplicate in every ~30 drill samples. Samples are identified by the geologist during the sampling process and marked on the sample submittal form. The laboratory collects a second sample during the relevant preparation process (after crushing for coarse reject duplicates, and after pulverization for pulps duplicates).

Silvercorp monitors field duplicates using scatter graph plots of the grades of original samples against the grades of the corresponding duplicate. A 45-degree line representing equal grades of the original and the duplicate are included on the plot as well as a line representing 20% error. Silvercorp expects field duplicates to be within 20% of the original sample.

11.6.2 Duplicate samples discussion

Duplicate samples are taken at successive points within the sample preparation and analysis process to understand the variances occurring at each stage of the process. Pulp duplicates monitor variance associated with sub-sampling of the pulp, the analysis process as well as the inherent geological variability. Coarse reject duplicates monitor these same variances plus the variance associated with sub-sampling of the coarse reject. Field duplicates monitor all previously described variances plus the variance associated with the actual sampling process.

While duplicate samples should encompass the entire range of grades seen within a deposit to ensure that the geological heterogeneity is understood, most duplicate samples should be selected from zones of mineralization. Unmineralized or very low-grade samples approaching the stated limit of lower detection are commonly inaccurate, and do not provide a meaningful assessment of variance.

Generally accepted industry best practice is to include a combination of field, coarse and pulp duplicates in the original sample stream in approximately equal proportions at a combined insertion rate of 5 to 6% (Long et al. 1997; Mendez 2011; Rossi and Deutsch 2014).

Duplicate data can be assessed using a variety of approaches. The QP typically assesses duplicate data using scatter plots and absolute relative paired difference (RPD) plots. These plots measure the absolute difference between a sample and its duplicate. In these analyses, pairs with a mean of less than 15 times the lower limit of analytical detection (LDL) are excluded. Removing these low values ensures that there is no undue influence on the RPD plots due to the higher variance of grades expected near the lower detection limit, where precision becomes poorer (Long et al. 1997).

The performance of duplicates is dependent on the mineralization style, inherent geological variance and variance associated with sampling. The relative precision of a duplicate sample will increase as the variance associated with sub-sampling is removed. Pulp duplicates should therefore be more precise (alike) than coarse duplicates as they do not incorporate the sampling errors associated with collection of the sub-sample from the coarse reject. Coarse reject duplicates should be more precise than field duplicates.

The generally accepted criterion is that 85 - 90% of field duplicate samples should have an absolute relative difference of 25%. The threshold RPD decreases to 20% for coarse duplicates and to 10% for pulp duplicates (Rossi and Deutsch 2014).

Table 11.10 presents the results of quarter core field duplicates and underground duplicate samples. Work programs from 2011 to 2017 have been combined to provide sufficient samples for meaningful analysis.

Table 11.10 Gaocheng field duplicates (drilling and underground samples)

Time period	Element	Detection limits	Quarter core duplicate samples			Underground duplicate samples		
			n dup	n>15xLDL	% <25% RPD	n dup	n>15xLDL	% <25% RPD
2011 - 2017	Ag	5 *	520	120	72.5	261	97	70.1
	Pb	0.001		426	55.4		239	54.0
	Zn	0.001		496	61.3		269	64.5
2018	Ag	5	184	48	70.8	289	181	83.4
	Pb	0.001		168	49.4		284	67.2
	Zn	0.001		182	68.7		288	83.0
2019	Ag	5	163	49	63.3	118	70	81.4
	Pb	0.001		148	55.4		116	67.2
	Zn	0.001		162	71.0		118	85.6
2020	Ag	5	331	118	77.1	138	95	88.4
	Pb	0.001		315	58.4		137	70.8
	Zn	0.001		331	81.2		138	89.1

Notes: n dup=number of duplicate samples, LDL=lower limit of analytical detection, RPD=absolute relative percent difference between original samples and duplicate. *=detection limit was 1 g/t from 2011 to 2013 and 5 g/t from 2014 - 2017.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

Table 11.11 presents the results of coarse reject and pulp duplicates for drill samples for each year since 2018.

Table 11.11 Gaocheng coarse reject and pulp duplicates (drilling only)

Time period	Element	Detection limits	Coarse reject duplicates			Pulp duplicates		
			n dup	n>15xLDL	% <20% RPD	n dup	n>15xLDL	% <10% RPD
2018	Ag	5	60	21	90.5	60	20	100.0
	Pb	0.001		54	96.3		54	94.4
	Zn	0.001		58	94.8		58	100.0
2019	Ag	5	163	54	96.3	163	59	100.0
	Pb	0.001		151	96.7		151	92.7
	Zn	0.001		162	99.4		162	99.3
2020	Ag	5	331	124	100.0	327	126	100
	Pb	0.001		315	98.7		312	97.1
	Zn	0.001		331	99.4		327	99.7

Notes: n dup=number of duplicate samples, LDL=lower limit of analytical detection, RPD=absolute relative percent difference between original samples and duplicate.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

The QP notes the following based on the review of duplicates used at Gaocheng between 2011 and 2020:

- Quarter core duplicates and underground sample field duplicates performance is sub-optimal. Underground duplicates generally perform slightly better than field duplicates. There is a slight improvement in underground duplicate performance for Ag and Zn from 2018.
- The percentage of quarter core duplicates samples within a 25% RPD ranges from 66 - 77% for Ag, 49 - 58% for Pb, and 61 - 81% for Zn.
- The percentage of underground samples within 25% RPD ranges from 70 - 88% for Ag, 54 - 70% for Pb, and 64 - 89% for Zn.

- Coarse reject duplicate performance is reasonable with more than 90% of samples (for Ag, Pb, and Zn) being within 20% RPD. This suggests minimal variance is occurring in processes following crushing.
- Pulp reject duplicate performance is reasonable with more than 90% of samples (for Ag, Pb, and Zn) being within 10% RPD. This is consistent with the results of coarse duplicates and suggests minimal variance is occurring in processes following pulverization.
- Poor performance of field duplicates, when viewed in context of coarse reject and pulp reject results, demonstrates that a significant source of variance occurs during the initial sampling processes. This suggests that the use of quarter core as a field duplicate may not be appropriate and suggests that the size of underground samples may be less than optimal.
- Within field duplicates the percentage of Pb duplicate samples within 20% RPD is significantly less than that of Ag or Zn. This may be due to Pb preferentially occurring within coarse grained galena.

11.6.3 Duplicate samples recommendations

The QP recommends that the following improvements be made to the QA/QC protocols with respect to CRMs:

- Implement procedures to collect and submit coarse reject and pulp duplicates into the underground sample stream.
- Duplicate insertion rates should be increased to match that of drilling samples (approximately 5 - 6%).
- Investigate the cause of poor field duplicate performance in both core and underground samples. This could include a test phase that incorporates the following:
  - Completing polished section petrology to understand the particle size and nature of mineralization.
  - Submitting the second half of the core, instead of quarter core as the field duplicates (if required, a thin slice of core could be sliced off and retained for archival storage before cutting the core into halves).
  - Consider increasing the size of underground samples.

11.7 Check (umpire) samples

11.7.1 Description

Silvercorp regularly submits a portion of pulps to a third-party check (umpire) laboratory for independent analysis. Since 2011, a total of 6,390 drillhole samples, and 2,056 underground samples have been submitted for analysis. Laboratories used for check analysis since 2012 have included the following:

- Gaocheng site laboratory (when not used as the primary laboratory).
- ALS Guangzhou (when not used as the primary laboratory).
- The Chengde Huakan 514 Geology and Mineral Testing and Research Institute (Chengde) in Chengde, Hebei Province.
- The Analytical Laboratory of the Inner Mongolia Geological Exploration Bureau (Inner Mongolia) in Hohhot, Inner Mongolia.

Table 11.12 summarizes the number of drillhole and underground samples sent to the respective check laboratories between 2011 and 2020.

Silvercorp submits pulp rejects for check sample analysis. Individual samples are selected randomly from mineralized samples (>100 g/t AgEq) and encompassing a variety of grade ranges.

Silvercorp monitors check samples using scatter graph plots and quantile-quantile plots.

Table 11.12 Gaocheng check (umpire) laboratories used 2011 - 2020

Year	Primary Laboratory	Umpire Laboratory	n drillhole check assays	n underground check assays
2011	ALS	Chengde	60	-
2012	ALS	GC	2,175	-
		Inner Mongolia	49	103
		Chengde	23	-
2013	ALS	GC	2,969	-
		Inner Mongolia	74	11
		Chengde	51	-
2014	ALS	GC	71	101
		Inner Mongolia	-	1
	GC	Chengde	38	-
2015	GC	Chengde	31	-
2016	GC	Chengde	33	-
2017	GC	Chengde	46	-
2018	GC	ALS	303	976
2019	GC	ALS	-	482
2020	GC	ALS	467	382
Total			**6,390**	**2,056**

Notes: n=number of samples.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

11.7.2 Check sample discussion

Check laboratory samples are pulp samples sent to a separate laboratory to assess the accuracy of the primary laboratory. Check samples measure analytical variance and sub-sampling variance. Generally accepted practises are that at least 4 - 5% of total samples submitted to the primary laboratory should be sent to a third-party check laboratory (Mendez 2011; Rossi and Deutsch 2014).

Table 11.12 presents the results of the major check sampling programs completed between 2011 and 2020 to assess the performance of primary laboratories.

Table 11.13 Results of check samples

Time period	Primary Lab	Check Lab	Element	Number of sample pairs*	n>15xLDL	Mean of original sample	Mean of check samples	% Samples within 10% RPD
2012 -2013	ALS	GC	Ag	5,144	493	30.9	31.8	70.6
			Pb		3,101	0.26	0.27	55.3
			Zn		4,522	0.83	0.84	62.3
2014 - 2017	GC	Chengde	Ag	148	27	57.5	52.7	55.6
			Pb		143	0.85	0.80	55.2
			Zn		148	2.65	2.60	70.2
2018	GC	ALS	Ag	1,279	398	128.1	125.3	85.2
			Pb		977	2.18	2.17	82.1
			Zn		998	4.19	4.11	92.5
2019	GC	ALS	Ag	482	206	147.8	148.5	83.5
			Pb		478	1.83	1.79	82.6
			Zn		482	4.48	4.50	96.5
2020	GC	ALS	Ag	849	406	139.6	139.1	87.1
			Pb		837	1.83	1.79	88.3
			Zn		849	4.38	4.40	98.0

Notes: *Excludes samples with no assay.
Source: Compiled by AMC Mining Consultants (Canada) Ltd. 2021 from data provided by Silvercorp Metals Inc.

The QP notes the following based on the review of check samples used at Gaocheng between 2011 and 2020:

- Silvercorp's Gaocheng check samples submitted since 2011 comprise 13.2% of all drillhole samples, and 5.2% of all underground samples submitted.
- Check sampling rates have been submitted inconsistently at rates of between 0% to 47.7% of total samples on a year-by-year basis (Table 11.3, Table 11.4).
- A major check sampling program was completed in 2012 and 2013 comprising checks of more than ~48% and ~43% of samples respectively, which Silvercorp advised was related to commissioning of the GC site lab.
- Between 2015 and the end of 2017 very few check samples were submitted for analysis.
- Since 2018 (except for 2019 where no check samples were submitted with drilling) check sampling has been relatively consistent and comprising more than 5% of total samples.
- Check samples submitted between 2012 and 2014 are less than optimal with between ~55% and 71% of samples within a 10% RPD. If these samples were used primarily to assess the performance of the GC Lab during commissioning, then these samples may not provide a meaningful assessment of the primary lab.
- The number of check samples collected between 2014 and 2017 is not considered sufficient for meaningful analysis.
- Since 2018, between 82% and 98% of check samples pairs are within a 10% RPD, demonstrating acceptable analytical precision. Check samples submitted during this time included CRMs and duplicates.
- Check samples collected between 2012 and 2020 do not show any significant or systematic bias suggesting acceptable analytical accuracy of the primary lab.

11.7.3 Check sample recommendations

The QP recommends submitting at least 5% of drilling and underground samples to a third party, umpire laboratory for assays on a regular basis.

11.8 General comments and conclusions

Silvercorp has implemented sample preparation, analysis, and security protocols at the Gaocheng Property in line with industry standards. Silvercorp has established QA/QC procedures which cover sample collection and processing at the Property. These QA/QC protocols have been progressively refined since 2011. CRMs and coarse crushed blanks have been included with drilling samples since 2011, and with underground samples since 2014. Field duplicates have been included with drilling samples since 2012 and with underground samples since 2014. Check (umpire) samples (pulp duplicates) have been sent to a separate 'umpire' laboratory since 2012. In 2018, Silvercorp further improved its QA/QC protocols to include regular and more frequent submission of CRMs, coarse blanks, and field duplicates with drilling and underground samples. Coarse reject duplicates and pulp duplicates were also incorporated into drill sampling programs. The proportion of check samples sent to a different laboratory was also increased. In 2019, Silvercorp initiated real-time monitoring of QA/QC protocols.

The QP notes that QA/QC procedures were not implemented until 2012. In addition, low QA/QC sampling rates, poor CRM and blank performance, the absence of significant duplicate samples, and check assays occurred during the 2012 and 2013 programs. This collectively reduces the confidence in 19,101 drillhole samples and 3,423 underground samples collected prior to 2014 (representing 40% and 9% of the respective sample databases). The QP has reviewed the spatial location of data collected prior to 2014 and notes that, in general, much of the data from this period relates to the upper portion of the GC deposit where a significant proportion of Mineral Resources has been mined out. Outside of mined areas, pre-2014 data is predominantly wide spaced drilling supporting Inferred classification. QA/QC results related to drilling completed since 2014 confirm reasonable accuracy and precision of associated data.

The QP does not consider issues discussed above with pre-2014 QA/QC to be a material concern and considers the Gaocheng sample database acceptable for Mineral Resource estimation.

11.9 Recommendations

In addition to recommendations outlined in Sections 11.4.3, 11.5.3, 11.6.3, and 11.7.3, the QP recommends that QA/QC samples be inserted randomly within sample batches as opposed to the present practise of consistently inserting consecutive CRMs, blanks, and duplicates. This will make it more difficult for the laboratory to pre-determine the QA/QC types.

12 Data verification

12.1 Site visit

On 23, 24, and 25 January 2018, AMC Principal Geologist Ms Dinara Nussipakynova, P.Geo., visited the Property to undertake the following verification steps:

- Discussions with site geologists regarding:
  - Sample collection.
  - Sample preparation.
  - Sample storage.
  - QA/QC.
  - Geological interpretation.
  - Underground mapping procedures.
- A review of the GC onsite laboratory.
- A review of underground workings.
- An inspection of the core shed and drill core intersections.

12.2 Assay data verification

In 2017 and 2018, under supervision of Ms Nussipakynova, AMC employees undertook random cross-checks of assay results in the database with original assay results on the assay certificates returned from ALS Minerals and Silvercorp's onsite GC lab for Ag, Pb, and Zn. This verification included comparing 1,175 of the 14,023 assays contained within mineralized wireframes comprising drillhole and underground sampling data collected between 2008 and 2018. The results of data verification are presented in Table 12.1.

Table 12.1 Data verification results pre-2012 to 2018

Year	Samples within wireframe	# Samples selected for verification	Assays confirmed	Error noted	Certificate not found	Total samples verified	% Samples verified
Pre-2012	2,417	151	136	0	15	136	6
2013	725	36	35	1	0	36	5
2014	1,287	71	70	1	0	71	6
2015	1,783	97	95	0	2	95	5
2016	2,091	104	98	4	1	103	5
2017	2,868	153	152	0	0	153	5
2018	2,852	563	557	6	0	557	20
Total	**14,023**	**1,175**	**1,143**	**12**	**18**	**1,151**	**8**

In 2021, under supervision of Ms Nussipakynova, Terra Reinelt of AMC undertook random cross-checks of assay results in the database with original assay results on the assay certificates returned from Silvercorp's onsite GC lab for Ag, Pb, and Zn from 2019 - 2020. This verification included comparing 401 of the 7,905 assays contained within mineralized wireframes comprising drillhole and underground sampling data collected from 2019 - 2020. The results of this and prior data verification are presented in Table 12.2.

Table 12.2 Data verification results to 2020

Year	Samples within wireframe	# Samples selected for verification	Assays confirmed	Error noted	Certificate not found	Total samples verified	% Samples verified
2019	3,883	198	192	8	0	198	5
2020	4,022	203	193	13	0	203	5
Sub total 2019 - 2020	7,905	401	385	21	0	401	5
Pre-2012 to 2018	14,023	1,175	1,143	12	18	1,151	8
Grand total	21,928	1,576	1,528	33	18	1,552	7

12.3 Data validation

Data validation was carried out using the normal routines in Datamine where the database was checked for collar, survey, and assay inconsistencies, overlaps, and gaps.

12.4 AMC discussion

The QP makes the following observation based on the site visit:

- Site geologists are appropriately trained and are conscious of the specific sampling requirements of narrow vein, high-grade deposits.

The QP makes the following observations based on the pre-2012 to 2017 data verification:

- Six errors were noted out of 594 samples checked, representing an error rate of 1.0%.
  - All errors identified were related to data entry:
    - One instance where the assay results for the adjacent sample on the certificate was entered.
    - Four instances where the sample prefix was omitted in the sample database and the incorrect assays loaded (e.g., G169092 vs 169092).
    - One instance where the sample number was entered incorrectly in the database and did not match the certificate (M890074 vs M89074).
- Pb and Zn (recorded as percent) are rounded to two decimal places in the GC database.
- Ag values (recorded as g/t) are rounded to nearest g/t.
- Assays reporting below detection limit are recorded at the detection limit.

The QP makes the following observations based on the 2018 data verification:

- Six errors were noted out of 557 samples checked representing an error rate of 1.0%.
  - All errors identified were related to data entry where the sample number was entered incorrectly in the database and did not match the certificate.

The QP makes the following observations based on the 2019 to 2020 data verification:

- 21 errors were noted out of 401 samples checked representing an error rate of 5.2%.
  - All errors identified were related to data entry where the sample number was entered incorrectly in the database and did not match the certificate.
  - In addition to the above, there were typing errors in the sample ID names in 15 samples (G19O280 – G19O297).

12.5 Recommendations

The QP recommends that Silvercorp implement the following:

- Modification of the central database so that assay data be recorded without rounding to accurately reflect the original assay certificates.
- Improve internal ongoing validation of the existing sample database to ensure that assays and sample IDs are correctly entered.

12.6 Conclusions

Verification issues identified prior to 2019 were fixed in the database before Mineral Resource estimation. The QP does not consider the 2019 to 2020 data verification issues to have a material impact on Mineral Resource estimates. The QP considers the assay database to be acceptable for Mineral Resource estimation.

13 Mineral processing and metallurgical testing

13.1 Introduction

This section includes significant extracts from the equivalent sections from the 2012, 2018, and 2019 Technical Reports. Since the 2012 Technical Report, no further metallurgical testing has been done, but the mill functioned in a trial mode up to 2014 and, since that point (FY2015 starting Q2 2014), has been in commercial production. The commentary below discusses metallurgical test work carried out prior to mill start-up, and results from actual processing operations. Further commentary on production operations is provided in Section 17.

Metallurgical testing for the GC Project was carried out by the Hunan Research Institute of Non-Ferrous Metals and reported in May 2009 in the report "Development and Research of the Comprehensive Recovery Test of Lead Zinc Silver Tin Sulphur for the Lead Zinc Ore Dressing in GC Mine Area". This report was made available to AMC in English translation by Silvercorp. The testwork was summarized in the January 2011 GMADI report as part of the "Design Instructions" for the plant design. Information from the original Hunan Institute report was referenced in preparing this section of the report.

The objectives of the testwork were, following on from the previous testwork of 2007 on samples from artisanal mining dumps, to: i) maximize silver recovery to the lead concentrate, ii) investigate the potential for tin recovery, iii) develop a process flow sheet with appropriate operating parameters as a basis for the industrial scale implementation of lead, zinc, sulphur (and possibly tin) recovery, iv) determine the product quality characteristics relative to the relevant national standards.

13.2 Metallurgical samples

The mineralization and vein structure have been well-summarized in this report and in the 2019, 2018, 2012, and 2009 Technical Reports. Figure 10.2 of this report shows the veins and drillhole locations.

For the purposes of assessing the representativeness of the metallurgical test samples, the following was noted in the 2012 Technical Report:

- The samples derive from 152 drillhole intersections drilled along Lines 24 – 48, representing the central main cluster of veins.
- The main metal tonnage in the resource is contained in veins V2, V6, V7, and V10, although V6 is not as well represented in the reserve, presumably because of its depth.
- The high-grade Ag-Pb-Zn shoots occur at the intersections of the WNW and E-W striking faults.
- The Zn mineralization is more pervasive; Ag and Pb are more locally concentrated but intensive, continuous, and wide within the breccia fault zones.

The distribution of the metallurgical samples, relative to the 2012 Mineral Reserve estimated tonnages and grades for the major veins, was discussed in the 2012 Technical Report. The conclusion was made that the metallurgical sample grades approximated closely to the average reserve grades and, although vein V2 was somewhat under-represented, the weight distribution of the samples followed fairly closely the distribution by weight of the main veins that made up the 2012 Mineral Reserve.

Table 13.1 shows the average weight % metallurgical sample grades, 2012 Mineral Reserve grades from the metallurgical sample veins, and average mill head grades from FY2015 through to and including the end of 2020 (Q3 FY2021).

Table 13.1 Metallurgical samples relative to 2012 Mineral Reserve and FY2015 to Q3 FY2021 mill head grades

Mineralization reference	Ag g/t	Pb %	Zn %
Met samples average grades	147	1.42	3.26
2012 Reserve grades metallurgical sample veins	114	1.28	2.85
Mill Head Grades FY2015 to Q3 FY2021	94	1.59	2.94

As can be seen from Table 13.1, the actual production mill head grades are closer to the average 2012 Mineral Reserve grades for silver and zinc, but closer to the metallurgical sample grades for lead.

13.3 Mineralogy

The sulphide mineralization is typical of mesothermal silver-lead-zinc-quartz-pyrite veins and has been described in general terms by O'Connor in earlier Technical Reports. AMC previously noted that the sphalerite is described as having very fine inclusions of chalcopyrite and that this "diseased" sphalerite would promote general sphalerite flotation and inhibit selectivity against it in the lead (and copper) flotation.

The main focus of the Hunan Research Institute mineralogical work was on the silver deportment, relative to the projected importance of silver revenue.

The occurrence of silver is in three main forms, as summarized below together with the approximate weight distribution:

- Elemental silver, 23%.
- Silver sulphides, e.g., acanthite and argentite (both Ag_2S), 41%.
- Silver in sulphides, i.e., as solid solution or inclusions, 33%.

In liberation terms, the principal elemental silver and silver sulphide associations are approximately 13% free, 40% with galena, 14% with sphalerite, and 30% with other sulphides, mainly pyrite, also pyrrhotite and arsenopyrite.

Of the silver in sulphides the occurrence is summarized in Table 13.2.

Table 13.2 Silver associations

Mineral	Wt %	Ag g/t	Ag % distribution
Galena	1.6	2,897	46.2
Sphalerite	4.8	352	16.8
Other sulphides (pyrite, pyrrhotite, arsenopyrite)	16.7	207	34.5

These mineralogical results, with the silver spread across the sphalerite and pyrite as well as the galena, have implications for metallurgical performance. As silver is only paid in the lead concentrates, previous discussion referenced compromising lead concentrate grades (and zinc recovery) in order to maximize silver recovery to a payable (i.e., lead) concentrate. This is dealt with further in Section 13.4 in consideration of optimization of the process flowsheet. The QP also considered that the presence of elemental silver and silver sulphides would benefit from the use of a precious metal specific collector like a dithiophosphinate (e.g., Cytec 3418A) in addition to the standard dithiophosphate collectors used in the testwork. GC mine adopted the QP suggestion and the testwork is still going on with the beneficiation reagent BK903G purchased from BGRIMM Technology Group (BGRIMM) of China.

The tin mineralogy was seen to be dominated by cassiterite (75%) with minor amounts of stannite (14%), tin in silicates (6%), and colloidal tin (5%). However, the granulometric distribution of the tin was noted as very fine (<75 µm), which does not augur well for effective gravity concentration.

13.4 Metallurgical testwork

The QP has previously noted that no comminution testwork had been carried out so that no work index data or similar was available for grinding circuit design. Production operations have obviously superseded this commentary.

The prime focus of the flotation testwork was on lead – and, therefore, silver recovery and both open circuit and closed-circuit flotation tests were conducted to derive the final metallurgical performance predictions, in line with normal practice. Some investigations into copper-lead separation and tin recovery were also carried out.

13.4.1 Lead flotation conditions

A series of rougher-scavenger flotation tests was performed to determine the optimum grind size, collector selection and dosage, and modifier regime. These tests were followed by kinetic rougher tests to determine the flotation residence time required.

Initial tests on various grind sizes ranging from 65% passing 75 µm to 90% passing 75 µm showed that, based on lead recovery and the silver grade in the lead concentrate, the optimum grind size was 80% passing 75 µm. The QP noted, however, that silver recovery was still increasing at finer sizes and investigations into regrinding the rougher concentrate could be warranted.

The basic chemical regime selected was based on lime for pH adjustment, and pyrite depression with a combination of zinc sulphate and sodium sulphite for depressing sphalerite, and a modest dosage of sodium sulphide to enhance flotation of any oxidized ores (note that an excess of sodium sulphide depressed lead). The use of cyanide in combination with zinc sulphate, the preferred combination in western complex sulphide flotation plants for sphalerite and pyrite depression, was not considered for environmental reasons.

Optimum rougher dosages were found to be:

- Lime 2,000 g/t.
- Sodium sulphide 500 g/t.
- Zinc sulphate 1,000 g/t.
- Sodium sulphite 500 g/t.

Based on this regime, investigations were carried out into the collector type and dosage from which it was concluded that the best result in terms of lead and silver recovery was a combination of a dithiocarbamate (the QP noted that this is more usually used for selective copper flotation) and a dithiophosphate, at 25 g/t and 10 g/t, respectively. The QP also noted that no tests were carried out with a precious metal's specific collector of the type previously mentioned and considered this to be an improvement opportunity.

Conditions for cleaner flotation were determined to be 700 g/t lime and 400 g/t zinc sulphate, with no further additions of sodium sulphide or sodium sulphite.

The kinetic rougher tests showed that a laboratory flotation time of five minutes was required (subject to the usual scale-up factors for industrial design).

13.4.2 Zinc and pyrite flotation conditions

Only limited testwork on zinc and pyrite flotation was carried out, based on the 2007 testwork and industry practice of copper sulphate as an activator and sodium iso-butyl xanthate (SIBX) under alkaline conditions as the collector for zinc flotation. This was followed by lowering the pH to 8 with sulphuric acid, and flotation of the pyrite with more SIBX.

Acceptable zinc concentrate grades (52% Zn) at reasonable open-circuit recoveries and high pyrite recoveries were achieved.

13.4.3 Sulphide circuit flotation tests

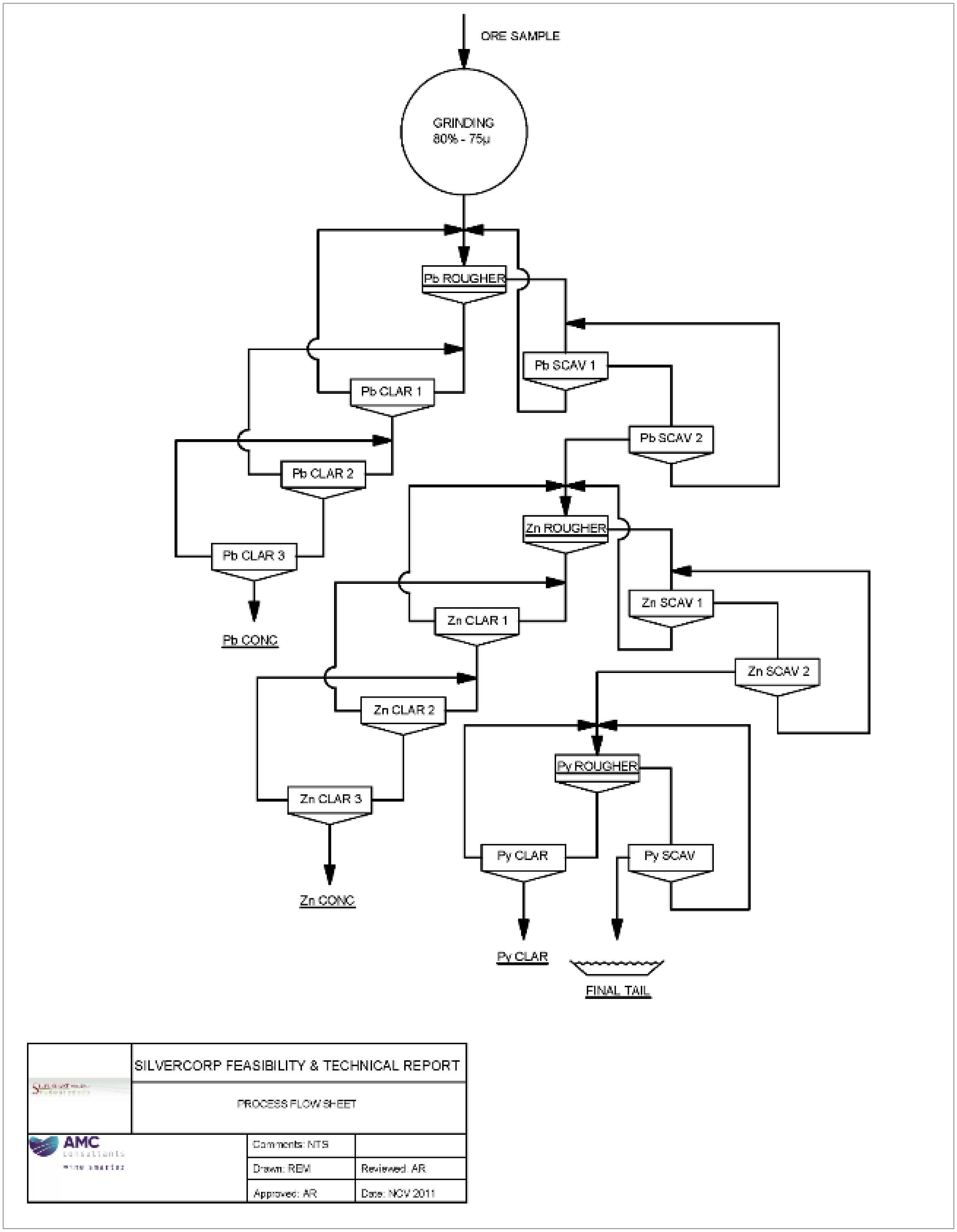
Based on the conditions established for lead, zinc, and pyrite flotation and with three stages of cleaning for lead and zinc flotation and one cleaner for pyrite flotation, a full open-circuit test of sulphide minerals flotation was conducted, as a proof of concept of the overall circuit.

A 48% Pb concentrate at 72% recovery was achieved; zinc recovery was lower (49%) to a 52% Zn concentrate with a substantial amount of the zinc tied up in lead circuit cleaner tails and scavenger concentrates that, in practice, would be recycled. The remainder of the sulphur was largely recovered to a 48% S pyrite concentrate.

This test demonstrated that sulphide flotation to saleable lead and zinc concentrates at acceptable (for batch tests) recoveries, and a high recovery of the balance of the sulphur to a pyrite concentrate was possible.

Determination of likely recoveries in an actual industrial scale flotation plant with recycling of intermediate "middlings" streams such as cleaner tails and scavenger concentrates was noted to require closed circuit flotation testing. This was carried out according to the flowsheet shown in Figure 13.1.

Figure 13.1 Closed circuit flotation test flowsheet



It was not clear to the QP from the testwork data and report of the extent to which this closed-circuit test approached the locked cycle test standards commonly used in western laboratories. There was no information on how many cycles were performed (the usual minimum is six) and whether circuit stability was in fact achieved as the circulating loads of middling approached a sort of equilibrium. The most likely consequence of not attaining equilibrium was seen to be that concentrate grades may be over-estimated and recoveries under-estimated.

Notwithstanding this, the results as presented in Table 13.3 appeared reasonable and in accord with expectations from the mineralogy and experience of similar ores. These results constituted the design basis for the flowsheet and the 2012 Technical Report financial model.

Table 13.3 Closed circuit flotation test results

Product	Wt %	Grades				Recoveries %			
		% Pb	% Zn	% S	Ag g/t	Pb	Zn	S	Ag
Pb Conc	2.63	46.35	9.53		3,009	84.7	7.74		62.8
Zn Conc	5.84	0.92	48.95		268	3.73	88.2		12.4
Pyrite Conc	14.65	0.81	0.41	42.52	190	8.24	1.85	61.3	22.1
Tailings	76.88	0.06	0.09	0.53	4.5	3.38	2.18	4.01	2.74
Feed	100.0	1.44	3.24	10.16	126	100.0	100.0	100.0	100.0

Note: Copper-lead separation not deemed commercially viable.

13.4.4 Copper-lead separation tests

The closed-circuit test produced a lead concentrate with 3% Cu; accordingly, some preliminary investigations were carried out into producing separate copper and lead concentrates. No details of the experimental conditions were available, but the results showed that an 18.5% copper concentrate was produced at 67.6% recovery, but with 7.2% Pb and 16.6% Zn - not attractive to a smelter. The lead concentrate assayed 57.2% Pb at 89% recovery, with negligible copper levels. There was no information on silver deportment.

The QP understands that no further work has been done and no consideration given to incorporating a copper recovery circuit; the QP would consider that reasonable, given the results.

13.4.5 Tin recovery tests

Despite the low tin head grade and fine size distribution of the tin previously referred to, an extensive series of tests to recover tin was performed.

Attempts to produce a saleable grade tin concentrate through either froth flotation or centrifugal, enhanced gravity (high-g) devices were unsuccessful.

Finally, a concentrate of >50% Sn was obtained by spiral concentration followed by tabling of sized streams of the spiral concentrate, then froth flotation on the table concentrate to remove the sulphides also concentrated by the gravity processes. Overall tin recovery from these batch tests was of the order of 30%. It was estimated that, in a closed circuit, tin recovery to a saleable concentrate would be 37%.

The QP considered that the concentrate grade was still relatively low but that if an appropriate smelter customer could be found, a tin recovery circuit could, in fact, be potentially economically viable.

13.4.6 Optimization opportunities

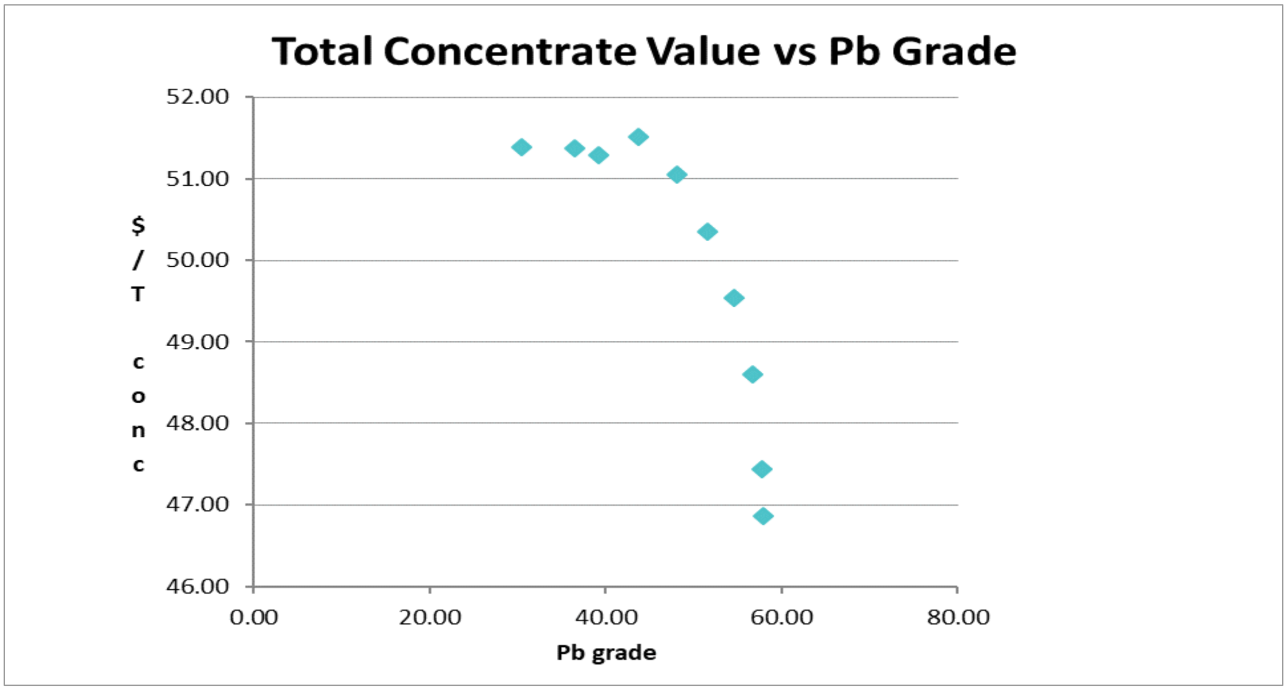
It is the QP's experience with silver-lead-zinc concentrates that the optimum grade-recovery point for the lead concentrate is driven by maximizing silver recovery and is often at a surprisingly low lead grade. This is particularly so in a fully integrated mine-concentrator-smelter operation and at higher silver prices.

As part of the 2012 Technical Report, the QP carried out a preliminary assessment of the optimization opportunity for moving to a lower grade point on the grade-recovery curve, referencing certain parameters. These are indicated below:

- Analysis of the open-circuit flotation test results to derive grade-recovery data for the lead concentrate and lead-zinc selectivity.
- Polynomial curve-fitting of this data to derive predictive formulae (relying on interpolation only, not extrapolation).
- Estimation from the flotation test data, covering a range of lead and silver grades, of the silver content of the lead concentrate at various lead grades (approx. 65 g/t Ag per 1% Pb).
- Calculation of the concentrate value at a range of concentrate grades from 30% to 60% Pb, allowing for:
  - Incremental increases in silver recovery with increasing lead recovery (and lower lead grade).
  - Declining lead and silver payables as grade falls.
  - Zinc losses from the zinc concentrate to the lead concentrate (Zn non-payable).
- No allowance made for incremental transport costs (no data available).

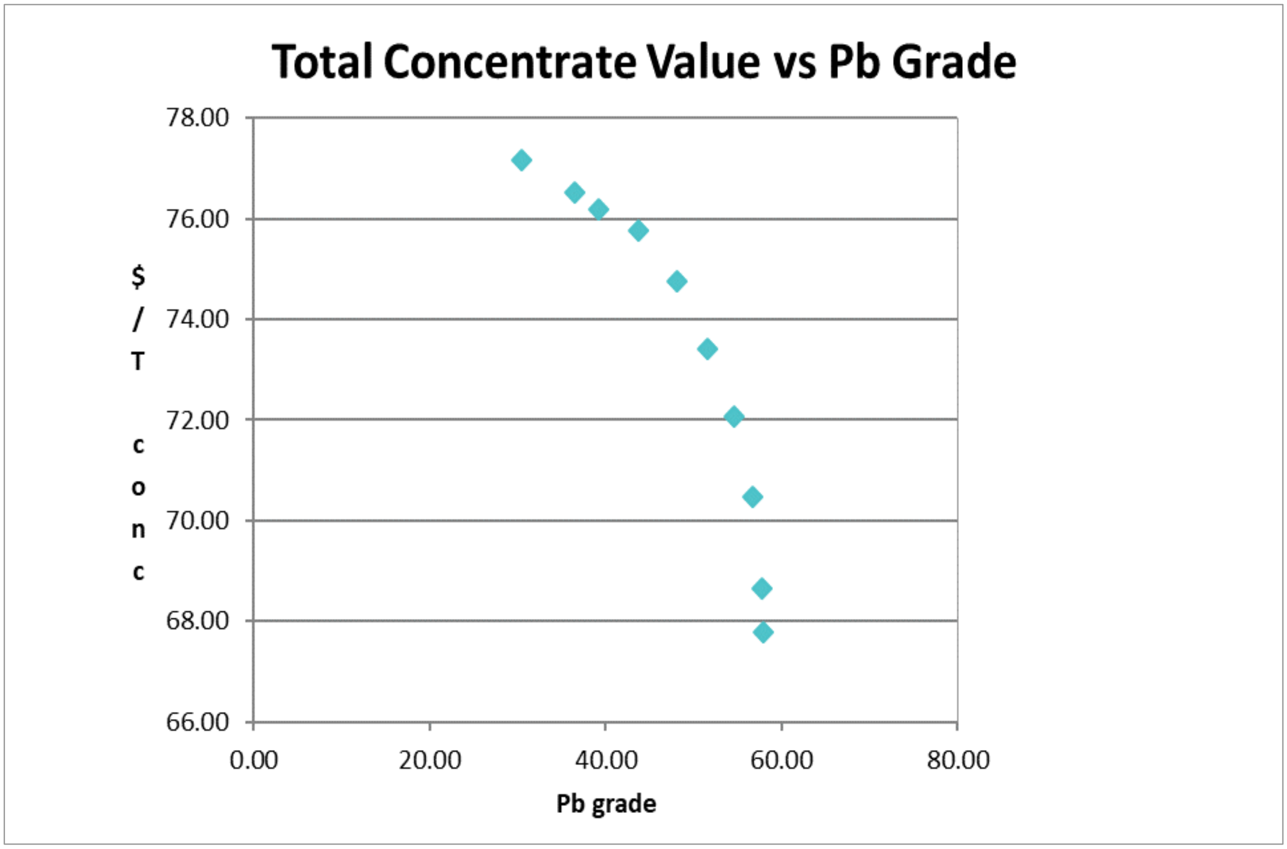
The results of this exercise are summarized in Figure 13.2 and Figure 13.3 below, where two silver prices were considered, what was deemed a 'longer-term' projection of US$18/oz, and a significantly higher price of US$30/oz. Note that, in both cases, lead and zinc prices of US$1.00/lb were used.

Figure 13.2 Concentrate value vs % Pb (Ag $18/oz)



Source: Compiled by AMC Mining Consultants (Canada) Ltd. using information provided by Silvercorp Metals Inc.

Figure 13.3 Concentrate value vs % Pb (Ag $30/oz)



Source: Compiled by AMC Mining Consultants (Canada) Ltd. using information provided by Silvercorp Metals Inc.

It is clear from the above graphs, and accepting the preliminary nature of the evaluation, that the optimum grade-recovery point is sensitive to silver prices. At the 'longer-term' price, the strategy targeting a lead concentrate grade of 46% Pb is seen to be close to the optimum of around 43%; however, at a silver price of around US$30/oz, and assuming lead and zinc prices around US$1/lb, it would make more sense to pursue a strategy of maximizing lead and silver recovery, at the expense of zinc recovery and, within smelter contract constraints (min. 35% Pb grade), lead concentrate grade.

13.5 Concentrate quality considerations

For the metallurgical testing, the main issues highlighted by GMADI with respect to concentrate quality relative to the national standards were:

- Copper and zinc levels in the lead concentrate (3% and 9% respectively), which the QP considered to be more of a commercial issue rather than a material quality issue.
- Arsenic level in the zinc concentrate (0.57% As) which exceeds the 0.4% As level for an otherwise clean Grade 3 concentrate.
- Arsenic level in the pyrite concentrate (1.15% As) which exceeds the 0.07% As level in the top category (Grade 1) of the standard.

The QP considered that the only potential quality issue was arsenic (As). Experience reported in operations indicates that the As level in the zinc concentrate has been maintained below 1% (As content in Zn concentrate 0.91% and 0.83% in 2019 and 2020, respectively) with, in most instances, a similar result for the pyrite concentrate. The QP also notes the Silvercorp concentrate selling arrangements whereby:

- Should the As level ever be higher than 1.0% in zinc concentrates, the payable Zn content would be discounted by 0.5% Zn for every 1% As above the 1.0% As level.
- For instances where the pyrite concentrate has an As content above 1.0%, a penalty is paid on a case-by-case basis.

13.6 Summary of testwork outcomes

The key outcomes of the metallurgical testwork were as noted in the following sub-sections.

13.6.1 Metallurgical samples

The metallurgical samples were adequately representative of the main part of the orebody and of the 2012 Mineral Reserves.

13.6.2 Mineralogy

The mineralogy is more challenging than Silvercorp's Ying Mine in Henan province, mainly because the silver content is more widely spread across the mineral suite, i.e., in the sphalerite and pyrite as well as being of payable content in association with the galena.

13.6.3 Laboratory testwork

13.6.3.1 Grinding

No grinding testwork had been carried out at the time of the 2012 Technical Report. Although this would normally be a standard inclusion in any feasibility study, the QP made allowance to compensate for this deficiency in the discussion around process design.

13.6.3.2 Flotation

- Batch flotation tests established a workable set of flotation conditions and reagents, although an opportunity was recognized to pursue the use of a precious metal specific collector like Cytec A3418A.
- Closed circuit flotation tests allowed derivation of reasonable predictions of concentrate grades and recoveries, as summarized in Table 13.3 above.

13.6.3.3 Tin recovery

Despite the fine grain size and resulting low gravity recoveries, a tin recovery circuit appended to the end of the main circuit was projected to be low cost and potentially viable.

13.6.4 Optimization opportunities

Relative to the high silver price environment of 2012, a recommendation was made that attention should be paid to increasing further the silver recovery, even at the expense of a lower % Pb concentrate grade, and with smelter contracts to be negotiated accordingly.

13.6.5 Concentrate quality

Copper and zinc levels in the lead concentrate are a commercial rather than a material quality issue; however arsenic levels in the lead and zinc concentrates were previously seen to be potentially material and were seen as meriting further investigation. The QP now notes that GC lead and zinc concentrates are acceptable to the Chinese smelters with which Silvercorp has contracts (see Section 13.5 above).

13.7 Mill operation FY2015 to end-2020 (Q3 FY2021)

Table 13.4 is a summary of mill results since the start of commercial production in 2014 Q2 (start of FY2015) through to the end of 2020 (Q3 FY2021). The QP has noted that the closed-circuit test work conducted to provide design data for the flotation circuit produced results that appeared reasonable in accordance with experience of similar ores. The mill was designed and constructed using these data.

In operations, the mill has consistently exceeded the lead closed-circuit test result of 85% recovery, averaging 87.8% since FY2015 and 89.7% since FY2019. Lead concentrate grade has generally improved, averaging 46.8% since FY2019, versus the closed-circuit test value of 46%.

Zinc recovery has largely shown a consistent improvement since the start of operations, averaging 85.4% in FY2019 and FY2020, and achieving 88.2% in FY2021 Q1 to Q3, compared to the closed-circuit test performance of 88%. The grade of zinc in zinc concentrate has averaged 45.2% since the start of operations, versus the closed-circuit value of 49%.

Silver recovery has consistently exceeded the closed-circuit value of 75.2%, averaging 78.0% since the start of operations and 82.6% for the first three quarters of FY2021.

In the past, sulphur has been recovered. This has not been the case in the last two years due to poor market conditions for sulphur.

Table 13.4 Gaocheng mill performance FY2015 to 2020 (Q3 FY2021)

Fiscal year	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**	**FY2021Q1-3**
Ore mined (tonnes)	253,321	257,575	260,746	245,783	284,218	287,633	264,389
Ore milled (tonnes)	261,315	256,861	260,696	244,338	288,995	290,611	267,230
Head grades							
Silver (g/t)	107	94	94	98	86	97	85
Lead (%)	1.35	1.76	1.44	1.45	1.52	1.91	1.69
Zinc (%)	2.65	2.53	2.81	2.78	2.99	3.31	3.45
S grade (%)	9.29	9.19	10.55	10.4	9.80	10.33	9.95
Average metal grades of lead concentrate							
Ag (g/t)	1,947.50	1,589.03	1,729.77	1,984.44	1,605.29	1,483.54	1,451.82
Pb (%)	39.06	44	42.45	45.2	47.92	47.70	44.88
Average metal grades of zinc concentrate							
Ag (g/t)	516.75	420.73	389.28	395.96	386.78	345.44	314.21
Zn (%)	45.21	47.38	45.09	43.53	45.08	45.39	44.59
Sulphur concentrate and tailings							
S grade (% in concentrate)	47.71	49.7	49.48	49.4	49.4		
Ag grade (g/t in tailings)	18.73	10.93	18.69	25.75	19.25	24.28	16.45
Pb grade (% in tailings)	0.14	0.13	0.14	0.17	0.11	0.17	0.13
Zn grade (% in tailings)	0.18	0.13	0.22	0.32	0.27	0.24	0.22
S grade (% in tailings)	5.43	3.28	3.9	8.57	7.46	8.48	7.76
Pb concentrate (t)	7,799	9,022	7,586	6,685	8,281	10,401	8,987
Zn concentrate (t)	12,355	11,354	13,760	12,746	16,270	18,231	18,230
S concentrate (t)	12,769	21,464	15,458	186	3,303		
Tailings (t)	228,391	215,023	223,892	224,720	261,141	261,979	240,013
Ag recovered from lead concentrate (kg)	15,189	14,336	13,122	13,266	13,293	15,430	13,047

Fiscal year	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021Q1-3
Ag recovered from zinc concentrate (kg)	6,384	4,777	5,356	5,047	6,293	6,298	5,728
Total Ag recovered (kg)	21,573	19,113	18,478	18,313	19,586	21,728	18,775
Pb recovered in lead concentrate (t)	3,047	3,970	3,220	3,021	3,968	4,961	4,033
Zn recovered in zinc concentrate (t)	5,585	5,379	6,205	5,548	7,334	8,275	8,128
S processed (t)	6,092	10,668	7,649	92	1,632		
Recovery rates							
Silver recovered in lead concentrate (%)	53.63	59.22	53.73	55.17	53.19	54.93	57.42
Silver recovered in zinc concentrate (%)	23.30	19.70	21.90	20.99	25.18	22.42	25.21
Total Ag recovery rate (%)	76.93	78.92	75.63	76.16	78.38	77.36	82.62
Lead recovery (%)	86.25	88.00	85.74	85.42	90.40	89.30	89.52
Zinc recovery (%)	80.59	82.76	84.67	81.75	84.86	86.01	88.19
S recovery (%)	25.10	45.17	27.82	0.36	5.76		

14 Mineral Resource estimates

14.1 Introduction

The Mineral Resource estimates for the Gaocheng deposit have been prepared by Mr Shoupu Xiang, Resource Geologist of Silvercorp. Ms Dinara Nussipakynova, P.Geo., of AMC, has reviewed the methodologies and data used to prepare the Mineral Resource estimates and, after some adjustment to the Mineral Resource classification and capping, is satisfied that they comply with reasonable industry practice. Ms Nussipakynova takes responsibility for these estimates.

The Mineral Resources include a relatively small amount of material (less than 1% of the total Mineral Resources) below the lower elevation limit (-530 m elevation) of Silvercorp's current mining licenses. However, because of the nature of Chinese regulations governing applications for new or extended mining licenses, and because Mineral Resources have been shown to extend below the current lower limit, the QP is satisfied that there is no material risk of Silvercorp not being granted approval to extend the lower depth limit of its licenses to develop these Mineral Resources as and when required.

Other than the low risk referred to above the QP is not aware of any known environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other similar factors that could materially affect the stated Mineral Resource estimates.

This estimate supersedes the previous estimate outlined in the 'NI 43-101 Technical Report on the Gaocheng Ag-Zn-Pb Project in the Guangdong Province, People's Republic of China' dated 30 June 2019. The previously estimate had an effective date of 30 June 2019 and included drilling to 31 December 2018.

The drilling and underground channel data used in this report (effective date 31 March 2021) include results of all drilling carried out on the Property to 31 December 2020.

The estimation was carried out in Micromine™ software. Interpolation was carried out using inverse distance squared (ID^2) for all the veins.

The results of the current estimate are summarized in Table 14.1.

Table 14.1 Mineral Resources as of 31 December 2020

Classification	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)	Contained metal		
					Ag (koz)	Pb (M lbs)	Zn (M lbs)
Measured	5.286	88	1.3	3.1	14,906	154	360
Indicated	4.747	75	1.1	2.5	11,457	111	259
Measured and Indicated	10.033	82	1.2	2.8	26,363	265	619
Inferred	8.441	87	1.0	2.4	23,562	195	442

Notes:
- CIM Definition standards (2014) were used for reporting the Mineral Resources.
- Mineral Resources are reported at a cut-off grade of 105 g/t AgEg.
- The equivalency formula is Ag g/t+50.46*Pb%+43.53*Zn% using prices of US$18.20/oz Ag, US$0.94/lb Pb, and US$1.08/lb Zn and estimated recoveries of 82.6% Ag, 89.5% Pb, and 87.3% Zn.
- Sample results up to 31 December 2020.
- Mineral Resources have been depleted to account for mining to 31 December 2020.
- Veins factored to a minimum extraction width of 0.4 m.
- Mineral Resources are inclusive of Mineral Reserves reported in Section 15.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration
- The numbers may not compute exactly due to rounding.

Source: Silvercorp Metals Inc., reproduced as a check by AMC Mining Consultants (Canada) Ltd.

14.2 Data used

14.2.1 Drillhole database

The data used in the estimate consists of surface and underground diamond drillholes and channel samples. The underground channel samples are from tunnels, raises, and crosscuts. Silvercorp maintains the drill and channel data in an Access database and provided the data to AMC in that format. The number of holes and number of assays used in the estimate, by year of drilling, are shown in Table 14.2.

Table 14.2 Summary of data used in 2020 estimation

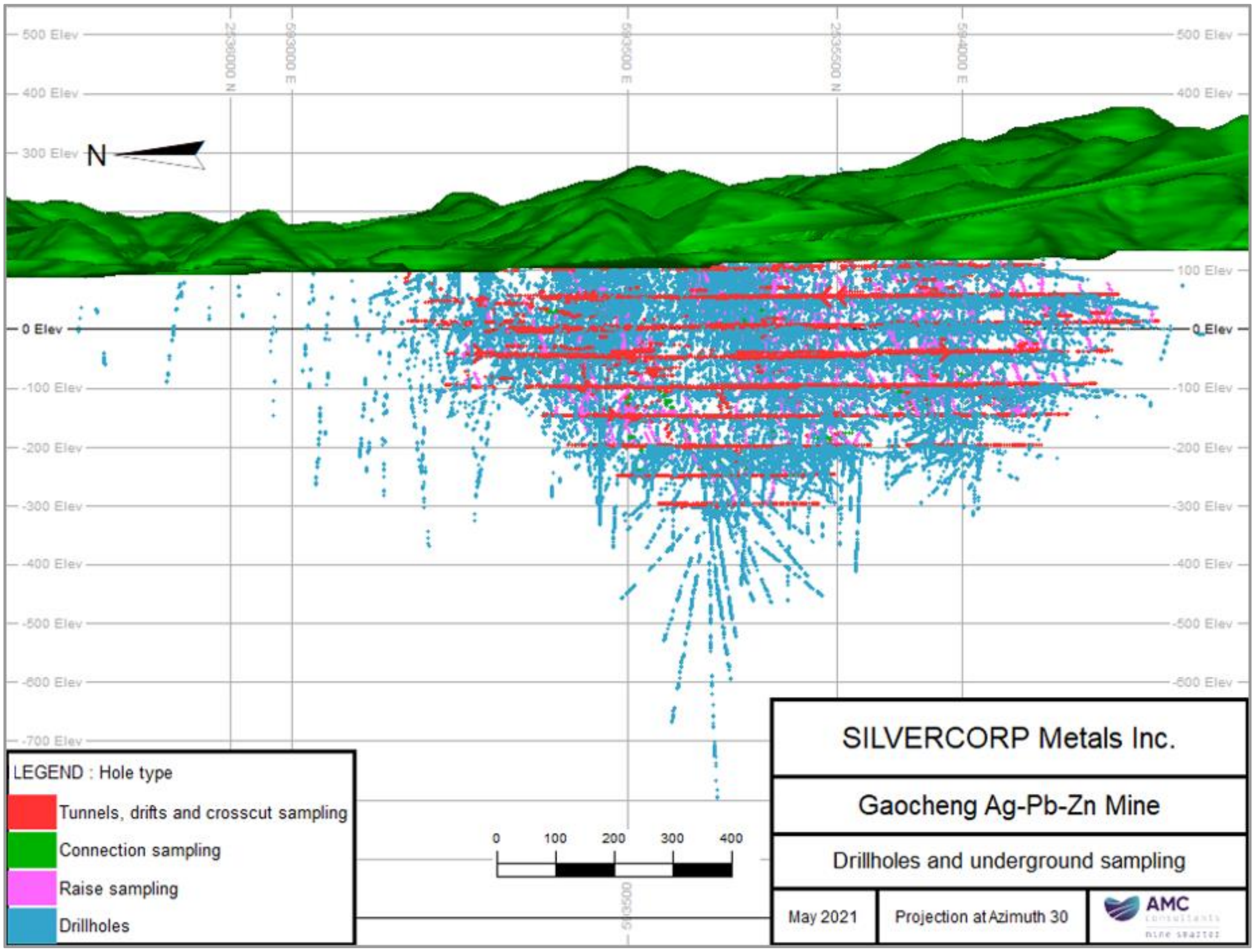
Year	Trench			Underground channel			Surface drillhole			Underground drillhole		
	No	No. of samples	Length (m)	No	No. of samples	Length (m)	No	Metres sampled	Length (m)	No	Metres sampled	Length (m)
2002							3	92	680			
2005							3	84	972			
2006				12	1,121	3,674						
2007	23	143	1,593	38	104	119	47	1,740	8,335			
2008							29	2,041	10,417			
2011				17	34	25						
2012				389	1,003	1,111						
2013				782	2,125	2,415	87	3,990	26,341	231	6,100	34,764
2014				832	2,138	1,806				187	3,480	29,545
2015	14	14	18	1,619	3,866	2,708	24	640	54	183	3,416	30,703
2016				1,732	4,432	3,418	4	99	370	131	2,120	12,633
2017				2,003	5,369	3,780	4	205	882	191	4,865	25,032
2018				2,188	5,700	3,601	187	5,291	24,778			
2019				2,991	7,620	4,685				197	5,686	25,506
2020				2,689	7,047	4,502				346	9,419	34,953
Total	**37**	**157**	**1,611**	**15,292**	**40,559**	**31,844**	**388**	**14,182**	**72,829**	**1,466**	**35,086**	**193,136**

Notes:
- Drill data to 31 December 2020.
- Numbers may not add due to rounding.

Source: Silvercorp Metals Inc., reproduced as a check by AMC Mining Consultants (Canada) Ltd.

Figure 14.1 shows a view of the drillholes and channel samples.

Figure 14.1 View of Gaocheng drillholes and channel sampling



Source: AMC Mining Consultants (Canada) Ltd., based on data provided by Silvercorp Metals Inc.

14.2.2 Bulk density

A bulk density was assigned to all blocks in the model using the formula:

DENSITY = 3.094919 + (0.040827 X Pb%) + (0.034253 x Zn%) + (0.000482 x Ag (g/t))

The regression formula is based on 191 samples. This formula and recommendations for bulk density are discussed in Section 10.

14.3 Geological interpretation

The Gaocheng deposit consists of 156 veins. Lithological domains were constructed for each vein. The vein domains were modelled in Micromine and provided by Silvercorp to the QP. The vein domains are based on the vein structure and not on grade. The domains were reviewed and accepted by the QP.

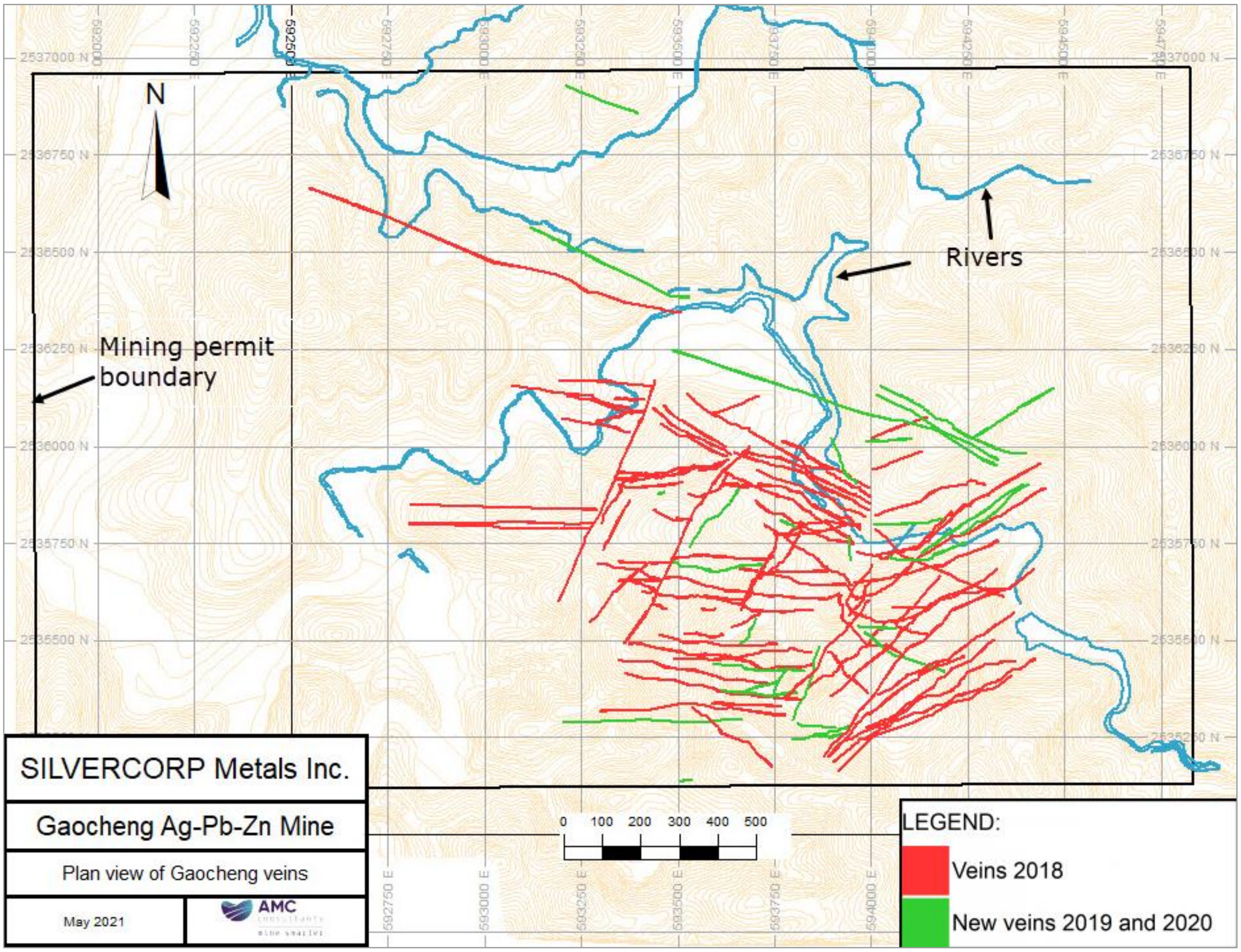
As the lithology domains constrained the extent of the veins, these domains were also used for the mineralization domains.

The blocks inside the block model are coded by estimated silver, lead, and zinc.

Figure 14.2 shows the mineralization domains (red colour) in the plan view.

Visual checks were carried out to ensure that the constraining wireframes respected the raw data.

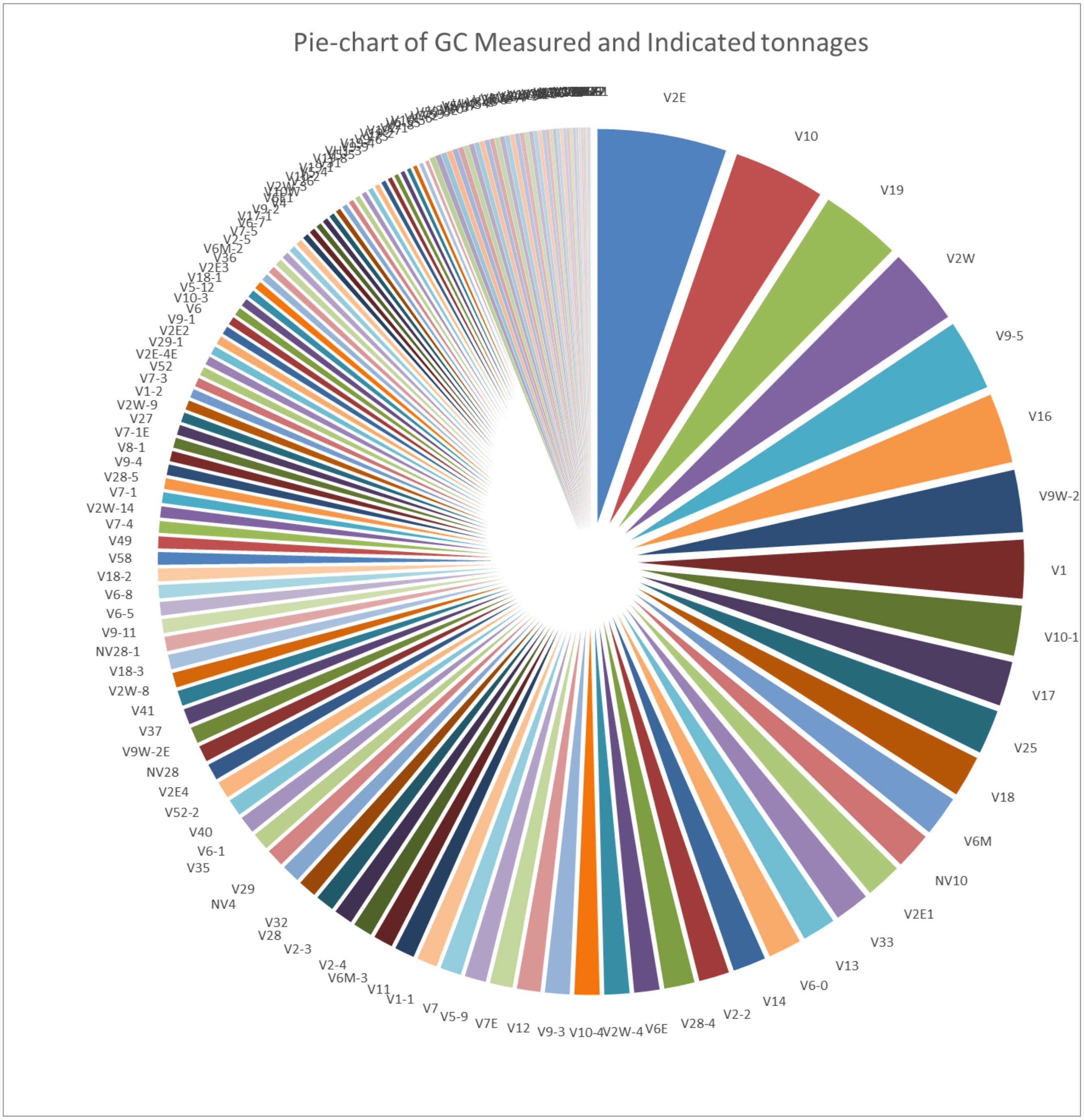
Figure 14.2 Plan view of mineralization domains



Source: AMC Mining Consultants (Canada) Ltd., based on data provided by Silvercorp Metals Inc.

As illustrated in Figure 14.2 above, the Gaocheng deposit is comprised of 156 veins, including numerous small veins. Figure 14.3 below shows a pie chart of the veins by tonnes of classified material. As it is not feasible to list the details of all 156 veins in all tables, the sections discuss all vein methodologies but only the 10 largest veins based on classified tonnes are shown in the tables. Procedures and parameters of these 10 veins are representative of the whole.

Figure 14.3 Pie chart of 156 veins by Measured and Indicated tonnes



Source: AMC Mining Consultants (Canada) Ltd. 2021.

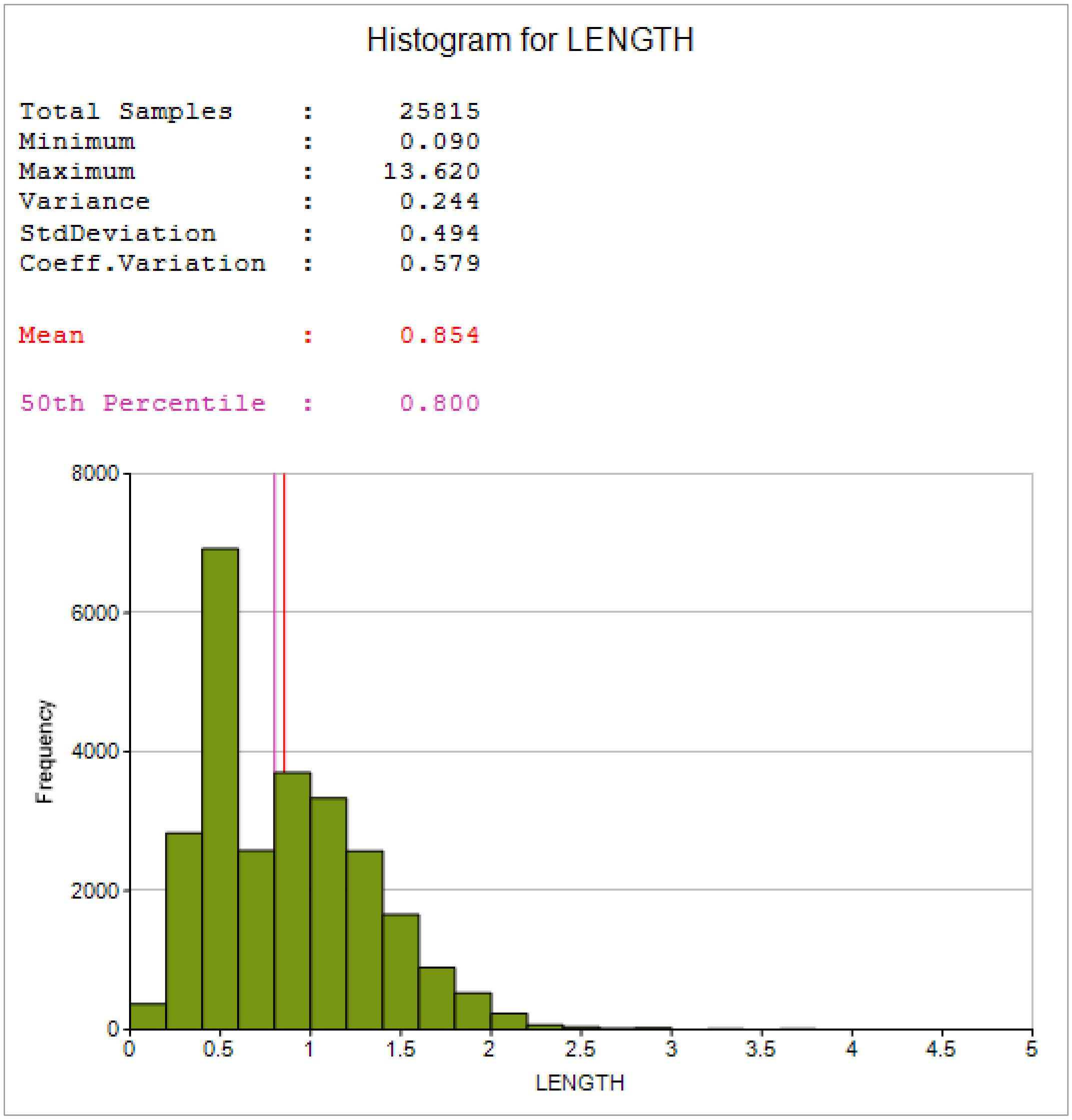
14.4 Statistics, compositing, and capping

Drillhole and channel sample intervals were flagged and coded using 3D vein wireframes. Each vein was treated as a separate block model and estimated independently.

The assay file provided contained 90,278 samples. The total number of samples within the mineralization wireframes is 23,596 including 1,822 inserted zeroes. This is approximately 7.7% of the data.

A compositing interval was selected by reviewing sample length histograms and by comparing length-weighted raw grade statistics with composited grade statistics. A mineralized sample length histogram from the GC mine is displayed in Figure 14.4. A composite length of 0.4 m was chosen as it does not distort the grade distribution for the mine when compared to the length-weighted raw grade statistics.

Figure 14.4 GC mineralized sample length histogram



Source: AMC Mining Consultants (Canada) Ltd. 2020.

Capping was applied after compositing. The capping was done by the QP using probability plots and the decile method. The QP then provided Silvercorp with the capping values prior to estimation. This is a refinement upon prior years where the capping values were determined by 97.5% cumulative distributive assay values for each vein.

The review of probability plots and decile method showed that many of the veins do not require capping. Table 14.3 shows a summary of the capping levels.

Table 14.3 Grade capping summary

Element	No of veins capped	Lowest cap value	Highest cap value
Ag (g/t)	63	40	1,921
Pb (%)	81	1	30
Zn (%)	34	1.8	33

Source: Silvercorp Metals Inc., summarized by AMC Mining Consultants (Canada) Ltd.

The raw, composited, and capped assay data for the 10 largest mineralized veins (based on classified tonnes) are shown in Table 14.4. Note the grades were weighted by sample length.

Table 14.4 Statistics of raw, composited, and capped assay data for the selected 10 veins

		Ag (g/t)			Pb (%)			Zn (%)		
Vein	**Field**	**Raw**	**Comp**	**Capped**	**Raw**	**Comp**	**Capped**	**Raw**	**Comp**	**Capped**
V2E	No Samples	1,379	3,528	3,528	1,379	3,528	3,528	1,379	3,528	3,528
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	2,015	2,015	1,300	53.27	53.27	20.00	20.20	20.20	20.20
	Mean	**105**	**105**	**104**	**1.59**	**1.59**	**1.57**	**3.17**	**3.17**	**3.17**
	Standard Dev.	139.99	136.55	128.66	2.69	2.59	2.32	2.94	2.87	2.87
	Coef. Var.	1.34	1.31	1.24	1.69	1.62	1.48	0.93	0.90	0.90
V10	No Samples	952	2,026	2,026	952	2,026	2,026	952	2,026	2,026
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	846	846	846	29.90	26.61	20.00	31.18	31.18	31.18
	Mean	**65**	**65**	**65**	**1.76**	**1.77**	**1.75**	**3.59**	**3.60**	**3.59**
	Standard Dev.	85.58	83.50	83.54	2.80	2.73	2.60	3.31	3.22	3.23
	Coef. Var.	1.32	1.28	1.29	1.59	1.55	1.49	0.92	0.90	0.90
V19	No Samples	975	1,956	1,956	975	1,956	1,956	975	1,956	1,956
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	1,308	1,199	1,199	49.73	49.73	20.00	38.25	38.25	38.25
	Mean	**86**	**86**	**86**	**1.63**	**1.63**	**1.57**	**4.12**	**4.12**	**4.12**
	Standard Dev.	117.95	114.09	114.10	3.38	3.26	2.73	4.85	4.76	4.76
	Coef. Var.	1.36	1.32	1.32	2.08	2.00	1.74	1.18	1.15	1.15
V2W	No Samples	1,643	4,996	4,996	1,643	4,996	4,996	1,643	4,996	4,996
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	1,533	1,533	1,533	35.33	35.33	25.00	30.00	30.00	30.00
	Mean	**123**	**123**	**123**	**1.82**	**1.82**	**1.80**	**3.45**	**3.45**	**3.45**
	Standard Dev.	135.19	131.35	131.35	3.21	3.12	3.00	3.33	3.25	3.25
	Coef. Var.	1.10	1.07	1.07	1.77	1.72	1.67	0.97	0.94	0.94
V9-5	No Samples	984	2,155	2,155	984	2,155	2,155	984	2,155	2,155
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	1,104	1,104	1,104	33.28	33.28	15.00	29.54	27.54	27.54
	Mean	**84**	**84**	**83**	**1.56**	**1.56**	**1.50**	**3.21**	**3.20**	**3.20**
	Standard Dev.	111.83	109.75	109.57	2.92	2.86	2.42	3.62	3.52	3.52
	Coef. Var.	1.34	1.31	1.31	1.87	1.84	1.62	1.13	1.10	1.10

		Ag (g/t)			Pb (%)			Zn (%)		
Vein	**Field**	**Raw**	**Comp**	**Capped**	**Raw**	**Comp**	**Capped**	**Raw**	**Comp**	**Capped**
V16	No Samples	811	1,605	1,605	811	1,605	1,605	811	1,605	1,605
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	3,321	3,321	1,200	14.62	14.62	8.00	34.76	27.43	27.43
	Mean	**129**	**129**	**120**	**0.83**	**0.83**	**0.81**	**2.39**	**2.40**	**2.38**
	Standard Dev.	261.39	256.58	190.22	1.39	1.38	1.22	3.19	3.13	3.09
	Coef. Var.	2.02	1.99	1.59	1.68	1.66	1.52	1.33	1.30	1.30
V9W-2	No Samples	644	1,565	1,565	644	1,565	1,565	644	1,565	1,565
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	2,517	2,517	1,250	11.00	11.00	7.00	25.12	25.12	25.12
	Mean	**87**	**87**	**84**	**0.48**	**0.48**	**0.47**	**1.83**	**1.83**	**1.83**
	Standard Dev.	189.06	185.79	151.74	1.08	1.07	1.01	2.70	2.66	2.66
	Coef. Var.	2.16	2.13	1.80	2.28	2.25	2.16	1.47	1.45	1.45
V1	No Samples	413	830	830	413	830	830	413	830	830
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	656	656	656	28.49	28.49	28.49	21.10	18.80	18.80
	Mean	**48**	**48**	**48**	**2.33**	**2.33**	**2.32**	**3.32**	**3.32**	**3.32**
	Standard Dev.	66.08	64.07	64.09	3.23	3.12	3.12	3.36	3.26	3.26
	Coef. Var.	1.37	1.33	1.33	1.39	1.34	1.34	1.01	0.98	0.98
V10-1	No Samples	787	1,434	1,434	787	1,434	1,434	787	1,434	1,434
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	1,763	1,763	1,763	11.26	11.26	9.00	46.97	46.97	46.97
	Mean	**113**	**113**	**111**	**0.76**	**0.75**	**0.74**	**5.52**	**5.60**	**5.45**
	Standard Dev.	165.76	162.15	160.84	1.34	1.32	1.28	7.06	6.97	6.77
	Coef. Var.	1.47	1.43	1.44	1.77	1.75	1.72	1.28	1.24	1.24
V17	No Samples	298	608	608	298	608	608	298	608	608
	Minimum	0	0	0	0	0	0	0	0	0
	Maximum	2,345	2,345	1,000	10.35	10.35	5.00	38.37	38.37	33.00
	Mean	**127**	**127**	**105**	**0.62**	**0.63**	**0.57**	**2.34**	**2.42**	**2.28**
	Standard Dev.	312.30	308.99	195.45	1.14	1.14	0.84	5.18	5.23	4.95
	Coef. Var.	2.47	2.44	1.86	1.82	1.82	1.47	2.21	2.16	2.17

Note: Comp=composited assay data.
Source: Silvercorp Metals Inc., reproduced as a check by AMC Mining Consultants (Canada) Ltd.

14.5 Block model

14.5.1 Block model parameters

The parent block size for all veins was 0.8 m by 10 m by 10 m (x, y, z), with sub-celling employed. The sub-celling resulted in minimum cell dimensions of 0.2 m by 2 m by 2 m (x, y, z). Silvercorp exported the 156 block models as Datamine files.

Each vein is a separate block model with the block model origins, dimensions and rotations used for the estimates being different for each vein. The rotation is around the Z axis. The block models were horizontally rotated around the z-axis to align the y-axis to be parallel with the strike of the veins. This provides the best filling direction for the wireframes.

Block model rotation angles are shown in Table 14.5.

Table 14.5 Block models rotation angles

Vein	Z-angle	Vein	Z-angle	Vein	Z-angle	Vein	Z-angle
NV10	48	V19-8*	90	V31	52	V6-4N*	92
NV2	110	V2-1	109	V32	65	V6-5	110
NV28	75	V2-2	115	V33	60	V6-5S	110
NV28-1	85	V2-3	120	V33-1*	82	V6-7*	108
NV3	116	V2-4	100	V33-2*	39	V6-8	115
NV4	120	V25	31	V33E	59	V6E	120
NV6	59	V2-5	110	V34	28	V6E1	113
V1	145	V26	38	V35*	75	V6E2	115
V10	60	V2-6*	115	V36	30	V6E3*	149
V10-1	47	V26E	108	V37	73	V6M	123
V10-10	55	V27	38	V37-1*	83	V6M-2	126
V10-11	48	V28	33	V38	90	V6M-3	115
V10-17	51	V2-8*	103	V39	92	V6N*	94
V10-1S	41	V28-4	50	V4	100	V7	128
V10-2	25	V28-5*	146	V40	89	V7-1	90
V10-3	45	V28-7*	104	V41	58	V7-1E	84
V10-4	58	V29	23	V4-1*	115	V7-2*	118
V10-5	13	V2-9*	114	V45	45	V7-3	100
V10W	47	V29-1	30	V46*	139	V7-4	90
V11	74	V2E	120	V47	71	V7-5*	90
V1-1	115	V2E1	85	V49*	32	V7E	114
V12	46	V2E2	85	V5-12*	49	V7S*	137
V1-2	100	V2E3	108	V5-17*	100	V8	95
V13	50	V2E4*	100	V52*	90	V8-1	95
V14	59	V2E-4E*	78	V5-2	95	V8-2*	90
V16	90	V2E-8*	355	V52-2*	79	V8-5*	95
V1-6*	279	V2W	73	V52-3*	100	V9-1	100
V17	95	V2W-0	85	V5-4	78	V9-11*	40
V17-1*	93	V2W-10*	85	V5-5	93	V9-2	90
V18	95	V2W-11*	63	V5-7*	85	V9-3	90
V18-1	100	V2W-14*	74	V58*	77	V9-4	101
V18-2*	84	V2W-3	90	V59*	346	V9-5	95
V18-3*	63	V2W-4	84	V5-9	43	V9-6*	255
V18-4*	80	V2W-5	104	V6	70	V9-9	70
V19	65	V2W-7*	68	V6-0	120	V9W-2	95
V19-1	102	V2W-8*	100	V6-1	120	V9W-2E	135
V19-2*	99	V2W-9*	75	V6-2	93	VH1	67
V19-4	88	V3*	110	V6-3	105	VH1-3	71
V19-7*	82	V30	107	V6-4	95	VH1-4*	90

Notes: *= New vein since last report.
Source: Silvercorp Metals Inc.

14.5.2 Grade estimation

Interpolation was carried out using the ID^2 method. Three estimation passes were employed.

The search distances are shown in Table 14.6 along with the minimum and maximum number of composite samples used for each pass.

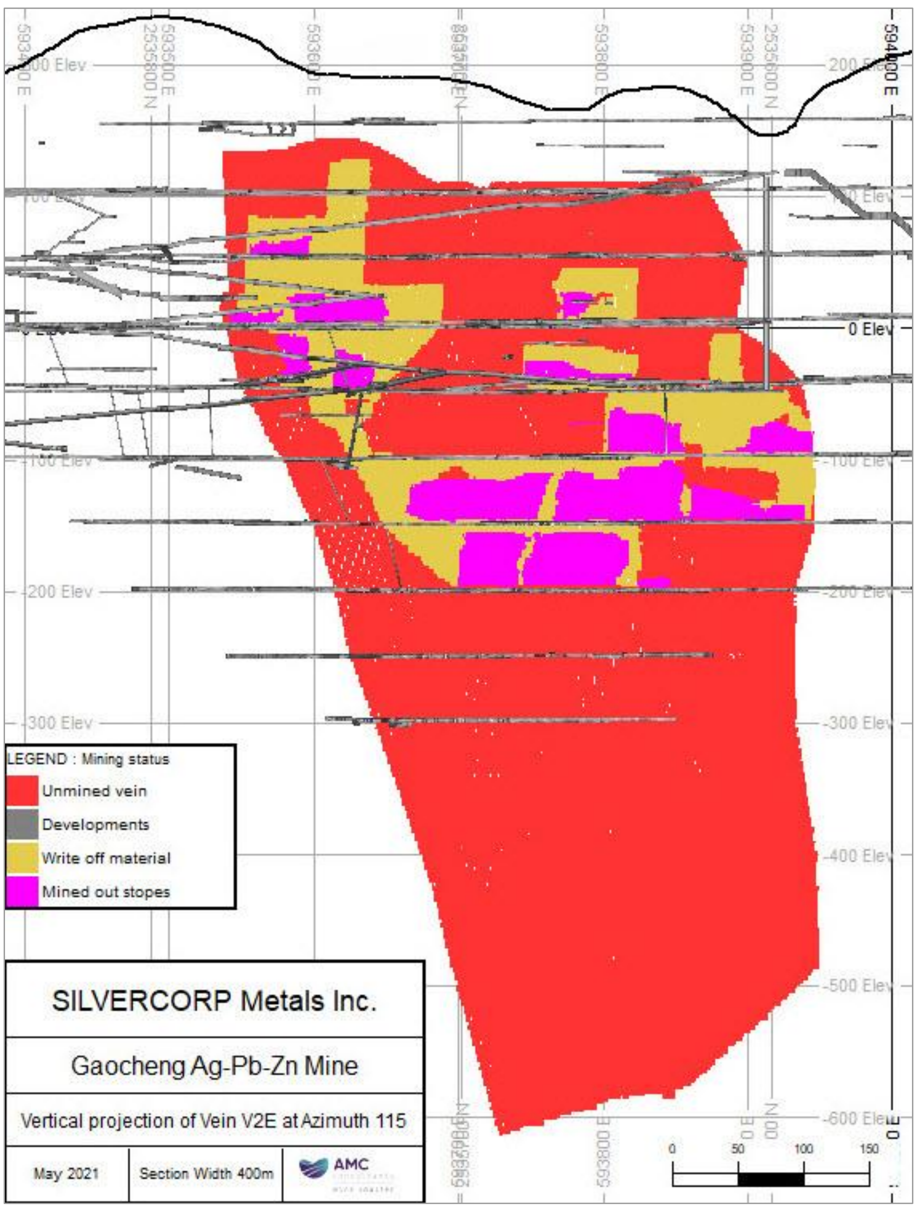
Table 14.6 Micromine search parameters

Pass	Search distance X, Y, Z (m)	Minimum number of samples	Maximum number of samples	Maximum number of samples per drillhole or channel
1	25	4	12	2
2	50	4	12	2
3	200	3	12	2

14.5.3 Mining depletion

Mining depletion and write-offs were coded into the block models by Silvercorp, based on survey information at 31 December 2020. An example of depletion coding is displayed for the V2E vein in Figure 14.5.

Figure 14.5 Mining depletion longitudinal project vein V2E

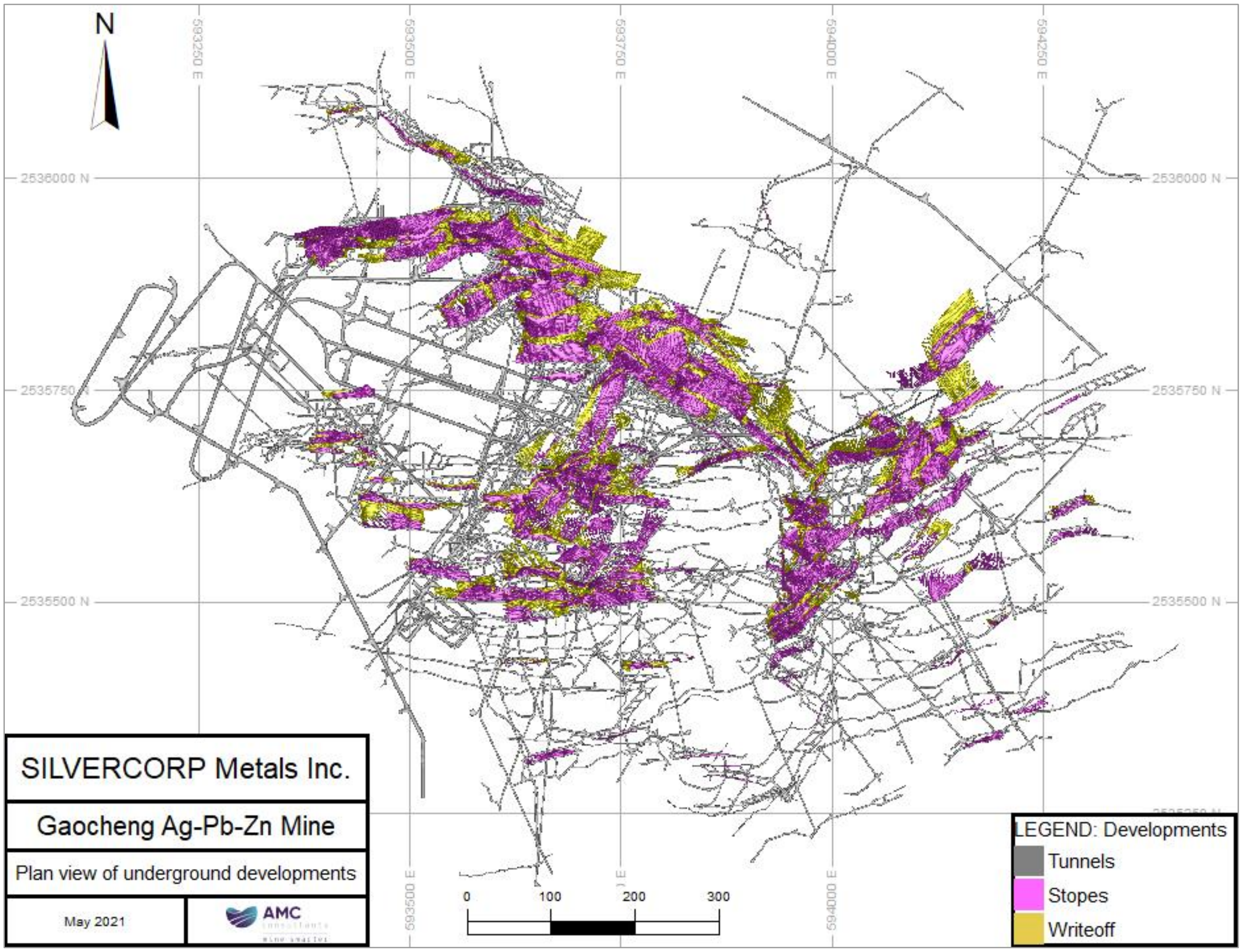


Source: AMC Mining Consultants (Canada) Ltd., based on data provided by Silvercorp Metals Inc.

The total of mined out stopes at a zero-COG is about 1,473,000 tonnes of classified blocks. The tonnage of the underground developments that was assigned in the block models is approximately 209,000 tonnes. The total tonnage assigned to the written-off code (sterilization) is about 778,000 tonnes.

Figure 14.6 shows a composite plan view of mined-out and written-off material.

Figure 14.6 Plan view of mined-out stopes (purple) and written-off shapes (yellow)



Source: AMC Mining Consultants (Canada) Ltd., based on data provided by Silvercorp Metals Inc.

14.5.4 Resource classification

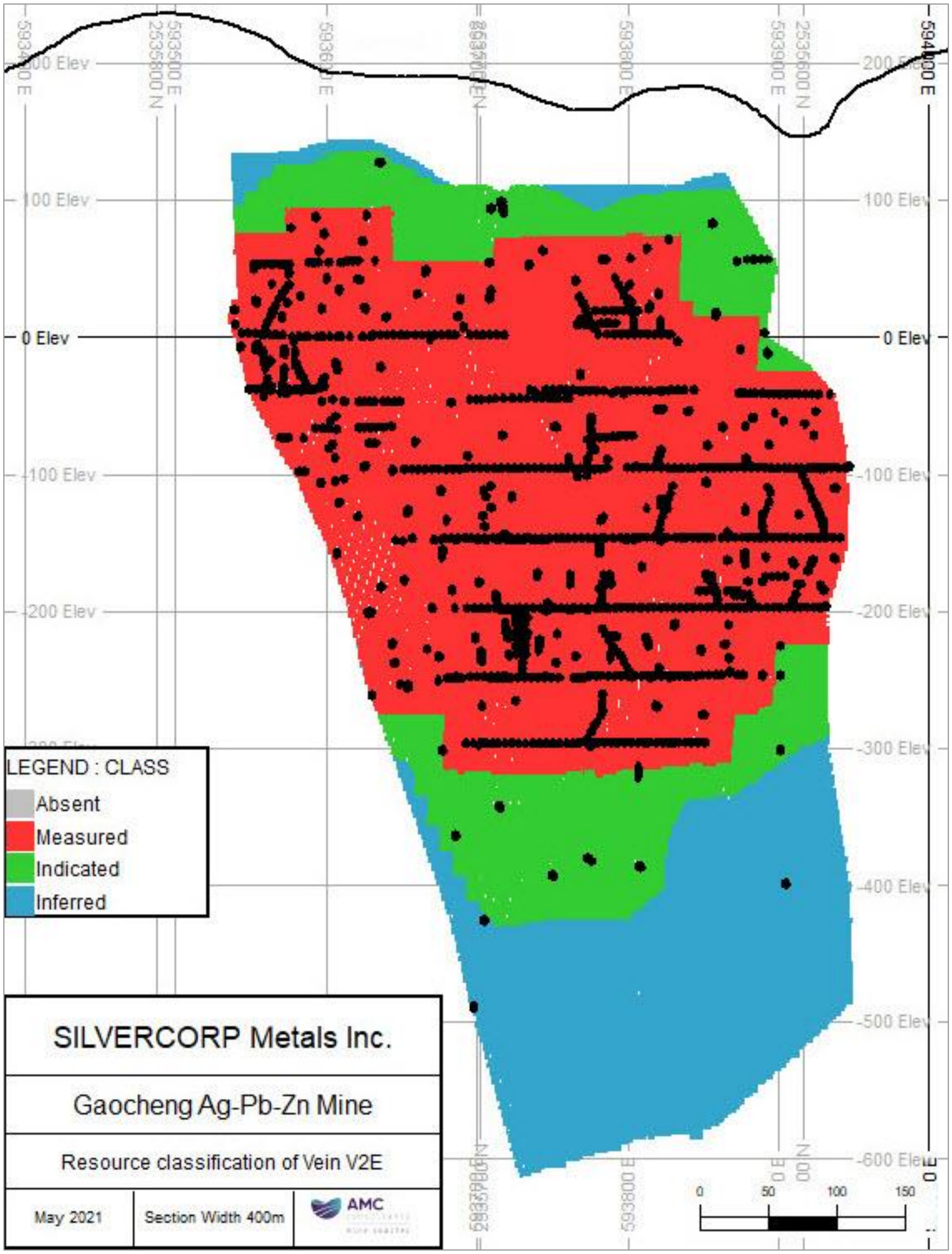
Mineral Resources were classified as Measured, Indicated, and Inferred.

Classification was carried out based on the three search passes used for the estimation, (25 m, 50 m, and 200 m), with a manual review creating volumes based on sample density and the presence or absence of an exploration drive. Measured material was restricted to the presence of tunnels. Outliers were removed and smoothing of the outlines gave a better sense of continuity.

The QP reviewed the classification of each vein and requested changes by Silvercorp where required.

Figure 14.7 shows the block model classification for a selected vein as well as channel and composite samples.

Figure 14.7 Mineral Resource classification vertical section: vein V2E



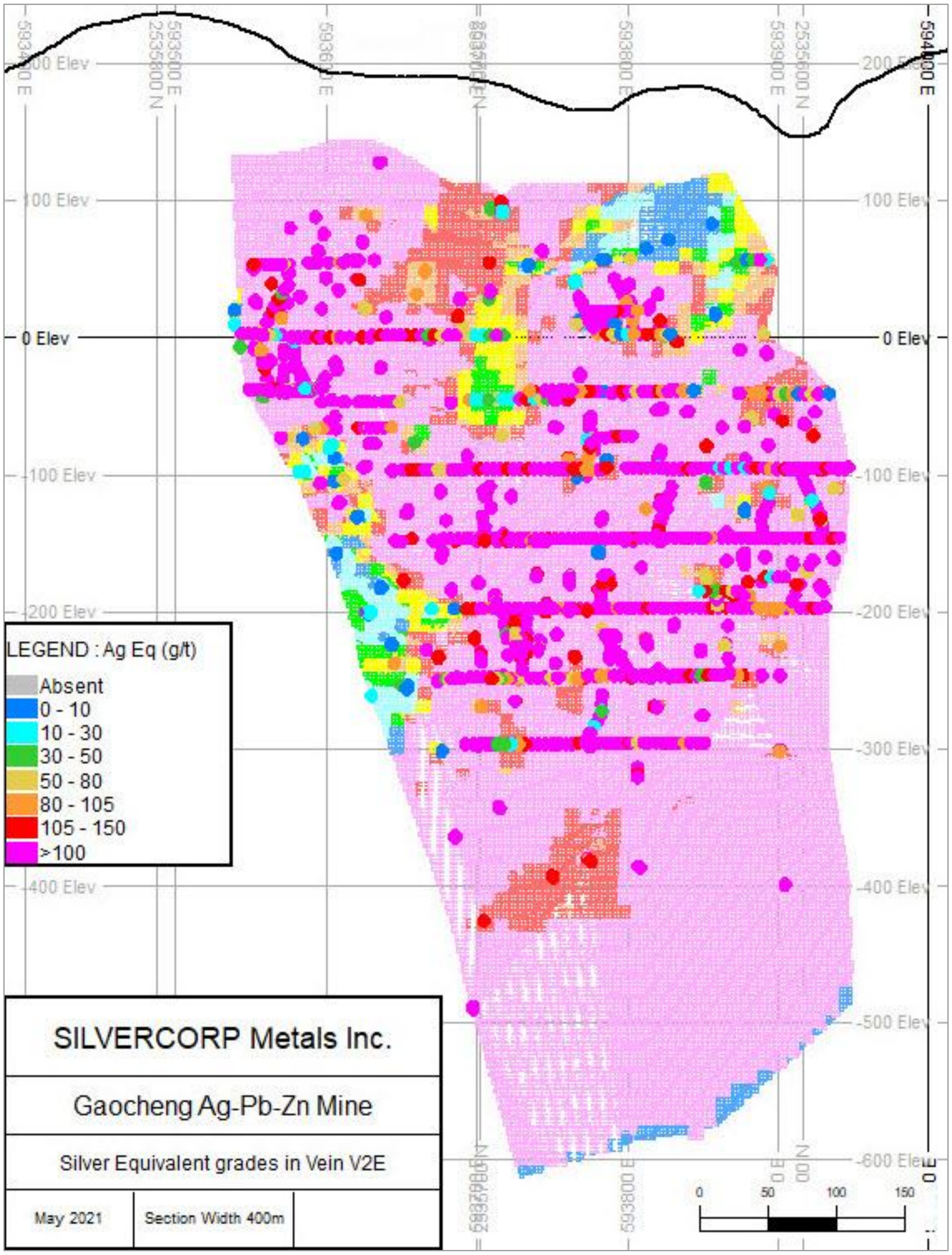
Note: Black dots are channel and composite samples. Vertical Projection of Vein 2E at azimuth 115°.
Source: AMC Mining Consultants (Canada) Ltd., based on data provided by Silvercorp Metals Inc.

14.5.5 Block model validation

The block models were validated by the QP in three ways. First, visual checks were carried out to ensure that the grades respected the raw assay data. Secondly, swath plots were reviewed. Thirdly, the estimate was statistically compared to the composited assay data, with satisfactory results.

Figure 14.8 shows an example of the composite silver equivalent grades compared to the block model estimated grades for vein V2E. V2E contains one of the largest Measured Resource tonnages and the metal grades are reasonably representative of the Mineral Resource grades as a whole. The figure shows good agreement between the composite grades and the estimated block model grades.

Figure 14.8 Silver equivalent grades vertical section: vein V2E



Note: Coloured dots are channel and composite samples. Vertical Projection of Vein 2E at azimuth 115°.
Source: AMC Mining Consultants (Canada) Ltd., based on data provided by Silvercorp Metals Inc.

Table 14.7 shows the statistical comparison of the composites versus the block model grades for silver, lead, and zinc for the 10 largest veins.

Table 14.7 Statistical comparison of composites and block model for the 10 largest veins

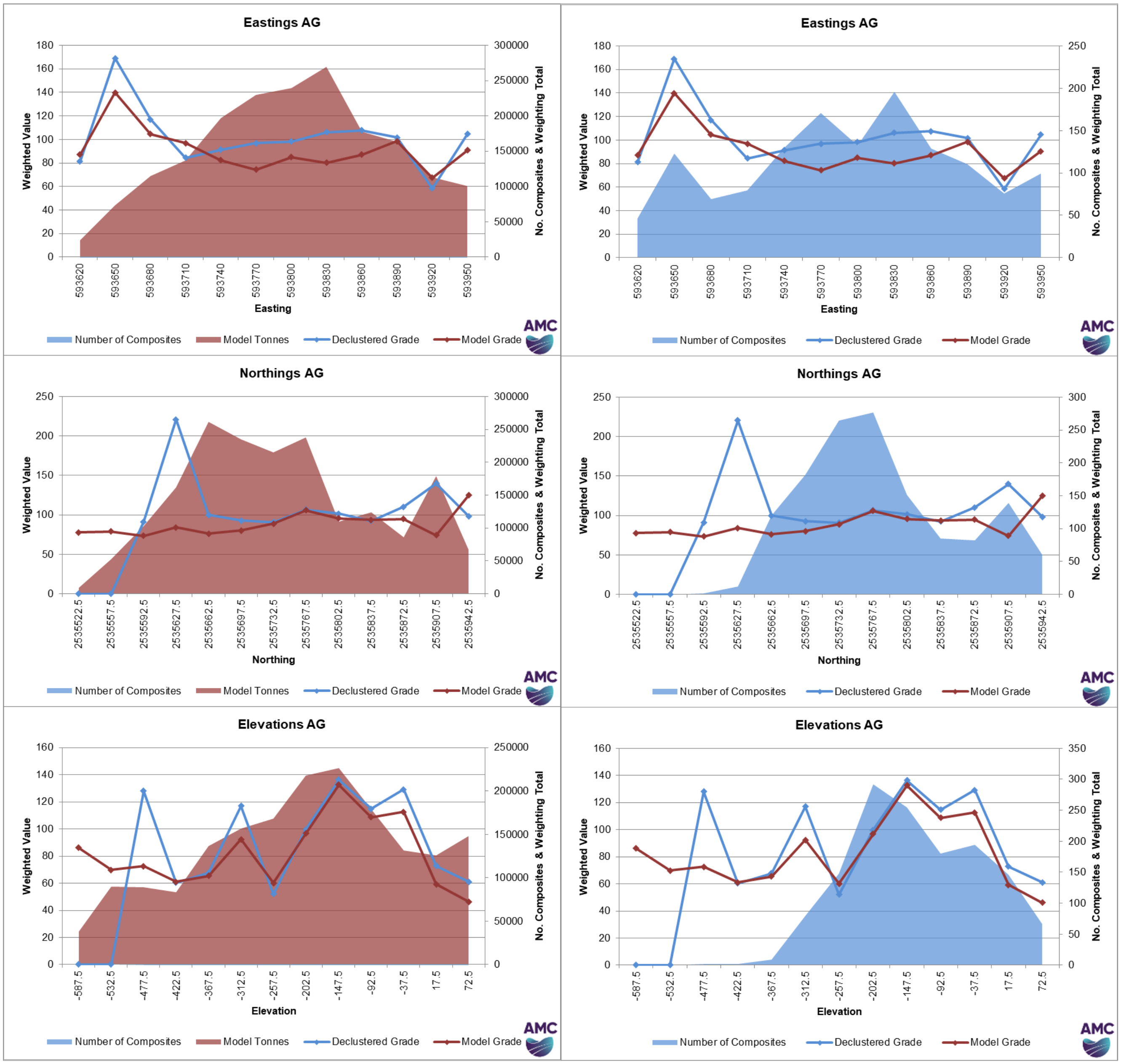
		Ag (g/t)		Pb (%)		Zn (%)	
Vein	**Data file**	**Composites**	**Model**	**Composites**	**Model**	**Composites**	**Model**
V2E	No Samples	3,528	124,151	3,528	124,151	3,528	124,151
	Minimum	0	0	0	0	0	0
	Maximum	1300	674.99	20	11.84	20.2	15.46
	Mean	**103.88**	**87.56**	**1.57**	**1.28**	**3.17**	**3.05**
	Standard Dev.	128.68	60.58	2.32	1.15	2.87	1.57
	Coef. Var.	1.24	0.69	1.48	0.90	0.90	0.51
V10	No Samples	2,026	119,728	2,026	119,728	2,026	119,728
	Minimum	0	0	0	0	0	0
	Maximum	846	464.15	20	12.25	31.18	13.94
	Mean	**65.11**	**55.55**	**1.75**	**1.48**	**3.60**	**3.48**
	Standard Dev.	83.58	37.40	2.60	0.99	3.22	1.52
	Coef. Var.	1.28	0.67	1.49	0.67	0.90	0.44
V19	No Samples	1,956	94,650	1,956	94,650	1,956	94,650
	Minimum	0	0	0	0	0	0
	Maximum	1199	721.09	20	13.76	38.25	31.20
	Mean	**86.46**	**69.15**	**1.57**	**1.13**	**4.13**	**3.30**
	Standard Dev.	114.12	54.11	2.73	1.10	4.76	2.21
	Coef. Var.	1.32	0.78	1.74	0.97	1.15	0.67
V2W	No Samples	4,996	96,497	4,996	96,497	4,996	96,497
	Minimum	0	0	0	0	0	0
	Maximum	1533	772.14	25	13.89	30	12.74
	Mean	**122.70**	**112.64**	**1.80**	**1.58**	**3.45**	**3.36**
	Standard Dev.	131.35	74.68	3.00	1.48	3.25	1.67
	Coef. Var.	1.07	0.66	1.67	0.94	0.94	0.50
V9-5	No Samples	2,155	92,041	2,155	92,041	2,155	92,041
	Minimum	0	0	0	0	0	0
	Maximum	1104	529.77	15	14.72	27.54	20.14
	Mean	**83.52**	**65.27**	**1.50**	**1.30**	**3.20**	**2.54**
	Standard Dev.	109.69	55.50	2.42	1.49	3.52	2.09
	Coef. Var.	1.31	0.85	1.61	1.15	1.10	0.82
V16	No Samples	1,605	89,011	1,605	89,011	1,605	89,011
	Minimum	0	0.023798	0	0.00004	0	0.000416
	Maximum	1200	889.74	8	7.84	27.43	13.38
	Mean	**120.38**	**80.04**	**0.81**	**0.56**	**2.38**	**1.82**
	Standard Dev.	190.49	84.50	1.22	0.57	3.10	1.71
	Coef. Var.	1.58	1.06	1.51	1.02	1.30	0.94
V9W-2	No Samples	1,565	70,275	1,565	70,275	1,565	70,275
	Minimum	0	0	0	0	0	0
	Maximum	1250	1,159.86	7	5.93	25.12	22.01
	Mean	**84.18**	**73.43**	**0.47**	**0.40**	**1.83**	**1.45**
	Standard Dev.	151.77	85.99	1.01	0.67	2.66	1.49
	Coef. Var.	1.80	1.17	2.16	1.68	1.45	1.03

		Ag (g/t)		Pb (%)		Zn (%)	
Vein	**Data file**	**Composites**	**Model**	**Composites**	**Model**	**Composites**	**Model**
V1	No Samples	830	51,960	830	51,960	830	51,960
	Minimum	0	0	0	0	0	0
	Maximum	656	425.93	28.49	12.36	18.8	13.28
	Mean	**48.38**	**59.43**	**2.33**	**1.77**	**3.32**	**2.64**
	Standard Dev.	64.12	50.39	3.12	1.47	3.27	1.63
	Coef. Var.	1.33	0.85	1.34	0.83	0.98	0.62
V10-1	No Samples	1,434	74,163	1,434	74,163	1,434	74,163
	Minimum	0	0	0	0	0	0
	Maximum	1763	822.89	9	5.61	46.97	30.97
	Mean	**112.15**	**95.02**	**0.75**	**0.69**	**5.46**	**3.93**
	Standard Dev.	161.47	78.64	1.29	0.58	6.79	3.67
	Coef. Var.	1.44	0.83	1.72	0.84	1.24	0.93
V17	No Samples	608	62,813	608	62,813	608	62,813
	Minimum	0	0	0	0	0	0
	Maximum	1000	878.20	5	3.60	33	22.57
	Mean	**106.27**	**76.17**	**0.58**	**0.59**	**2.28**	**1.38**
	Standard Dev.	196.79	91.99	0.84	0.48	4.97	1.98
	Coef. Var.	1.85	1.21	1.47	0.82	2.18	1.43

Note: For minimum, maximum, and mean values, silver values are in g/t and lead and zinc are in %. Largest veins are based on Measured and Indicated tonnes.
Source: Silvercorp Metals Inc., reproduced as a check by AMC Mining Consultants (Canada) Ltd.

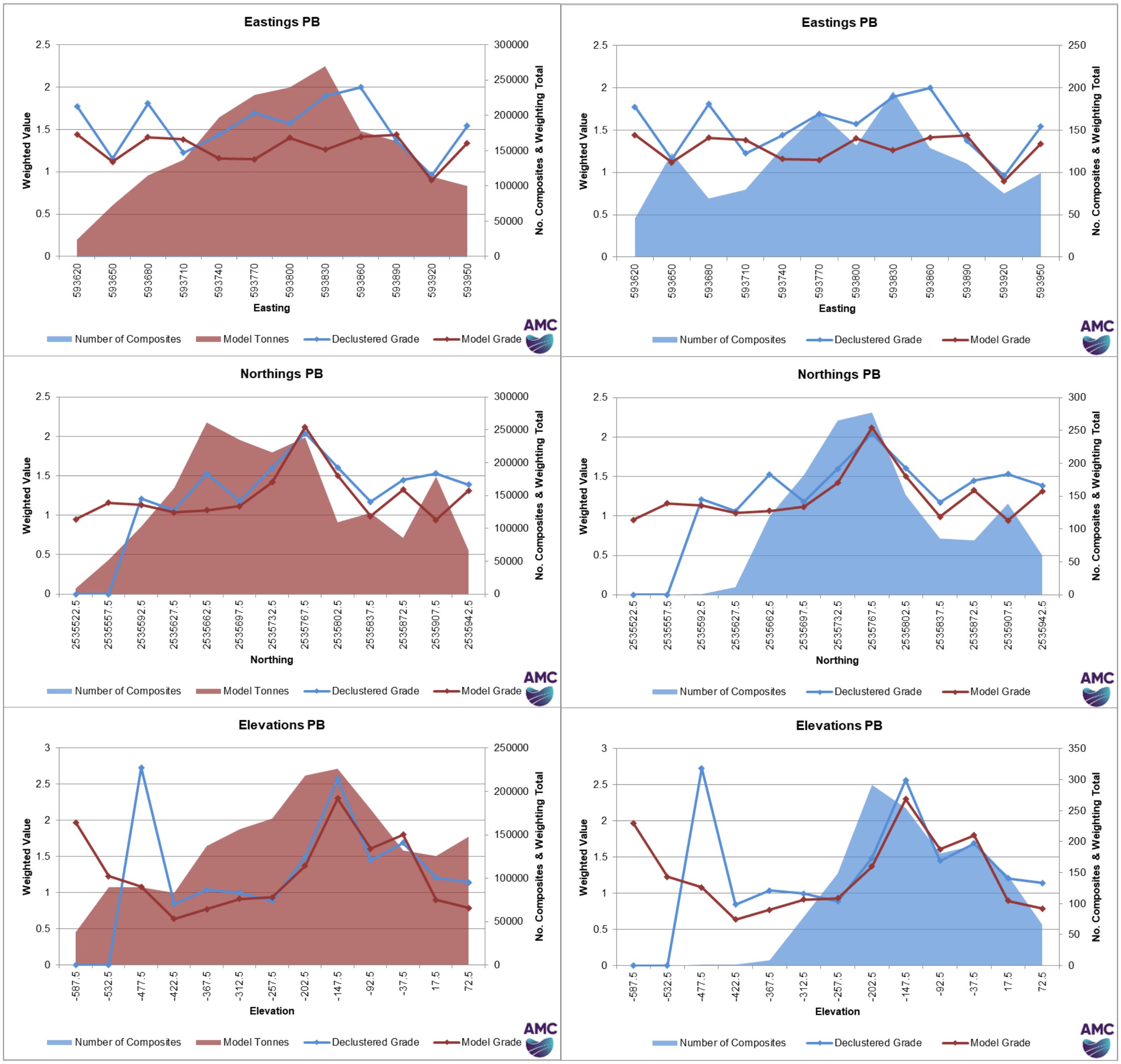
Figure 14.9, Figure 14.10, and Figure 14.11 show the swath plots for classified blocks for silver, lead, and zinc for vein V2E, respectively. The swath plots show acceptable agreement between composites and block model grades.

Figure 14.9 Swath-plot of silver grades in classified blocks of vein V2E



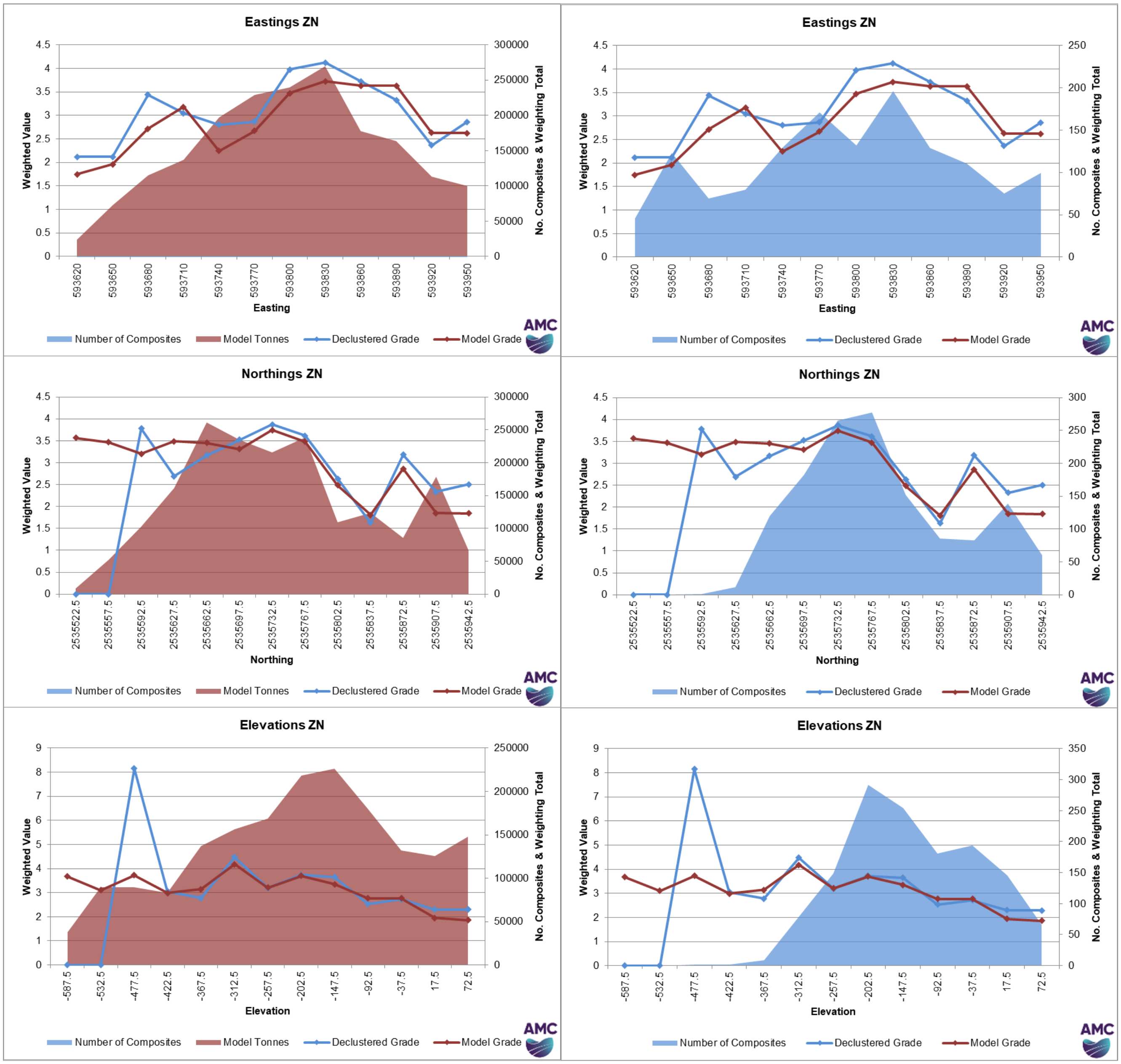
Source: AMC Mining Consultants (Canada) Ltd.

Figure 14.10 Swath-plot of lead grades in classified blocks of vein V2E



Source: AMC Mining Consultants (Canada) Ltd.

Figure 14.11 Swath-plot of zinc grades in classified blocks of vein V2E



Source: AMC Mining Consultants (Canada) Ltd.

14.5.6 Mineral Resource reporting

Mineral Resource estimates consist of material within the mineralized veins at a silver equivalent cut-off of 105 g/t. The cut-off value was based on estimated costs for mining, maintenance / admin., internal ore transport and processing. The cut-off value calculation was generated by AMC with input from Silvercorp. The equivalency formula is: AgEq = Ag g/t+50.46*Pb%+43.53*Zn%. The multiplication factors for Pb and Zn were derived from equations based on metal prices, recoveries, and payable factors. Input parameters are shown in Table 14.8.

Table 14.8 Input parameters in calculating Mineral Resource cut-off grade

Item	Value	Unit
Silver price	18.20	$/oz
Lead price	0.94	$/lb
Zinc price	1.08	$/lb
Silver recovery	82.6	%
Lead recovery	89.5	%
Zinc recovery	87.3	%
Silver payable	65.5	%
Lead payable	86.2	%
Zinc payable	66.3	%

Source: Silvercorp Metals Inc. and AMC Mining Consultants (Canada) Ltd.

The Mineral Resource estimates have been shown above in Table 14.1.

Table 14.9 shows the results of reporting out of the block models at a range of cut-offs with the preferred cut-off shown in bold text.

Table 14.9 Reporting at a range of cut-off values

Resource classification	AgEq COG (g/t)	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)	Contained metal		
						Ag (koz)	Pb (Mlbs)	Zn (Mlbs)
Measured	80	5.824	82	1.2	2.9	15,444	158	372
	105	**5.286**	**88**	**1.3**	**3.1**	**14,906**	**154**	**360**
	120	4.984	91	1.4	3.2	14,553	151	352
	140	4.580	95	1.4	3.4	14,018	146	340
	160	4.191	100	1.5	3.5	13,420	141	326
Indicated	80	5.615	68	1.0	2.2	12,290	118	278
	105	**4.747**	**75**	**1.1**	**2.5**	**11,457**	**111**	**259**
	120	4.260	80	1.1	2.6	10,898	107	245
	140	3.676	86	1.2	2.8	10,138	101	227
	160	3.153	92	1.4	3.0	9,369	94	208
Inferred	80	10.051	78	0.9	2.2	25,055	208	477
	105	**8.441**	**87**	**1.0**	**2.4**	**23,562**	**195**	**442**
	120	7.605	93	1.1	2.5	22,630	186	421
	140	6.716	99	1.2	2.7	21,454	176	395
	160	5.846	107	1.3	2.8	20,020	165	365

Note: Sample results up to 31 December 2020.
Source: Silvercorp Metals Inc.

14.6 Comparison with previous Mineral Resource estimate

The most recently published Mineral Resource estimate on the Property (2019 Mineral Resource estimate) is contained in the 2019 Technical Report. That estimate included drilling to 31 December 2018. A comparison between the 2019 and 2021 Mineral Resource estimates is shown in Table 14.10.

Changes since the 2019 Mineral Resource estimate include:

- 60,459 m additional underground drilling.
- 9,187 m additional sampling of underground development on mineralization.
- Ongoing depletion and sterilization due to mining.
- Updated AgEq inputs and COGs.
- Veins added - number of veins increased from 110 to 156.

Table 14.10 Comparison of Mineral Resources

Resource estimate	Classification	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)	Contained metal		
						Ag (koz)	Pb (Mlbs)	Zn (Mlbs)
2021 Report	Measured	5.286	88	1.3	3.1	14,906	154	360
	Indicated	4.747	75	1.1	2.5	11,457	111	259
	Measured and Indicated	10.033	82	1.2	2.8	26,363	265	619
	Inferred	8.441	87	1.0	2.4	23,562	195	442
2019 Report	Measured	3.366	96	1.4	3.3	10,350	107	246
	Indicated	5.686	77	1.0	2.5	14,155	126	318
	Measured and Indicated	9.052	84	1.2	2.8	24,505	233	564
	Inferred	7.245	91	1.0	2.4	21,167	166	391
Difference %	Measured	57%	-9%	-6%	-6%	44%	44%	47%
	Indicated	-17%	-3%	6%	-1%	-19%	-12%	-19%
	Measured and Indicated	11%	-3%	0%	0%	8%	14%	10%
	Inferred	17%	-5%	5%	-1%	11%	17%	13%

Notes for the 2021 Report Mineral Resource estimate: See footnotes under Table 14.1.
Notes for the 2019 Report Mineral Resource estimate:

- CIM Definition Standards (2014) were used for reporting the Mineral Resources.
- Mineral Resources are reported at a cut-off grade of 100 g/t AgEq.
- The silver equivalency formula is Ag g/t+46.1*Pb%+42.8*Zn% using prices of US$18/oz Ag, US$1.00/lb Pb, and US$1.25/lb Zn and estimated recoveries of 77% Ag, 88% Pb, and 84% Zn.
- Sample results up to 31 December 2018.
- Mineral Resources are inclusive of Mineral Reserves reported in Section 15.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- Numbers may not compute exactly due to rounding. Percentage differences are based on unrounded data.

The following observations have been made by the QP when comparing the 2019 Mineral Resource estimate with the 2021 Mineral Resource estimate:

- Measured and Indicated tonnes have increased by 11%. This is a result of the discovery of new veins and new vein interpretation.
- Measured tonnes have increased by 57%. This is a result of the discovery of new veins, new vein interpretation and conversion of Indicated tonnes (which have decreased by 17%) to Measured classification.
- In the Measured category silver grade has decreased by 9% and lead and zinc grades have both decreased by 6%.
- In the Indicated category silver grades have decreased by 3%, lead grades have increased by 6% and zinc grades have decreased by 1%.
- In the Inferred category silver grades have decreased by 5%, lead grades have increased by 5% and zinc grades have decreased by 1%.

- The net result in the Measured category has been a significant increase in contained metals, due to the increase in tonnes. Silver and lead metal have each increased by 44% and zinc contained metal has increased by approximately 47%.
- The net result in the Indicated category has been a decrease in the contained silver metal by 19%; lead and zinc contained metals have decreased by 12% and 19% respectively. This is a result of conversion of Indicated material to Measured material.
- The net result in the Inferred category has been an increase of 11% in the contained silver metal; contained lead metal has increased by 17% and contained zinc metal has increased by 13%.

Reasons for the differences in grade, tonnes, and contained metal include:

- Updated interpretation of the veins.
- Discovery of new veins.
- Conversion of Indicated resources to a Measured classification.
- Depletion through mining.

14.7 Recommendations

The QP recommends the following:

- Collect additional density measurements including host rock.
- Assay for iron for better calculation of density.
- Sample on a minimum sample length of 0.4 m.

15 Mineral Reserve estimates

15.1 Introduction and Mineral Resources base

The Mineral Resources upon which the Gaocheng Mineral Reserves are based have been discussed in detail in Section 14. The Mineral Resources are located in areas where Silvercorp has mining permits.

To convert Mineral Resources to Mineral Reserves, mining COGs have been applied, mining dilution has been added, and mining recovery factors assessed on an individual vein mining block basis. Only Measured and Indicated Resources have been used for Mineral Reserve estimation.

The Mineral Reserve estimates for the Property were prepared by Silvercorp under the guidance of independent QP, Mr H. Smith, P.Eng., of AMC, who validated the output and takes QP responsibility for those estimates.

15.2 Mineral Reserve estimation methodology

The Mineral Reserve estimation is based on the assumption that current stoping practices will continue at the Gaocheng mine, namely predominantly shrinkage stoping but also with some cut and fill resuing, using hand-held drills and hand-mucking within stopes, and loading to mine cars by rocker-shovel or by hand. Minimum mining widths of 1.0 m for shrinkage and 0.5 m for resuing are assumed. The QP has observed the shrinkage mining method at the Property and the application of both cut and fill resuing and shrinkage at the Silvercorp Ying property and considers the minimum extraction and mining width assumptions at Gaocheng to be reasonable. Minimum dilution assumptions are 0.2 m of total overbreak for a shrinkage stope and 0.10 m of total overbreak for a resuing cut and fill stope. Dilution is discussed further in Section 15.4.

For the total tonnage estimated as Gaocheng Mineral Reserves, 69% is associated with shrinkage and 31% with resuing.

15.3 Cut-off grades

Mineral Reserves have been estimated using AgEq COG values for shrinkage and resuing. The COG calculation basis (full breakeven, marginal material, and development ore) is summarized below and in Table 15.1.

In situ AgEq (g/t) = Ag g/t + 50.46 x Pb% + 43.53 x Zn%, where the respective factors for Pb and Zn are calculated as (value of 1% metal after application of metallurgical recovery and payable metal) divided by (value of 1 g silver after application of metallurgical recovery and payable metal).

Full breakeven cut-off grade, AgEq (g/t) = (mining cost + tunnelling cost + drilling cost + maintenance cost + milling cost + G&A + sustaining capital + government fee and Mineral Resources and sales taxes) / ($ value per in situ gram after application of mining recovery, metallurgical recovery, and payable).

Marginal material cut-off grade, AgEq (g/t) = (mining cost + maintenance cost + milling cost + G&A + sustaining capital + government fee and Mineral Resources and sales taxes) / ($ value per in situ gram after application of mining recovery, metallurgical recovery, and payable).

Development ore cut-off grade, AgEq (g/t) = (maintenance cost + milling cost + G&A + sustaining capital + government fee and Mineral Resources and sales taxes) / ($ value per in situ gram after application of mining recovery, metallurgical recovery, and payable).

In determining metal prices for use in the cut-off calculations (and Mineral Resource / Mineral Reserve estimation and assessment of economic viability), the QP has referenced three-year trailing averages, prices current as of Q1 2021, prices used in recent NI 43-101 reports, and available consensus forecast information. The exchange rate used was RMB6.8 = US$1.

Table 15.1 Mineral Reserve cut-off grades and key estimation parameters

Item	**Gaocheng Mine**	
Foreign exchange rate (RMB:US$)	**6.8**	
	Shrinkage	**Resuing**
Operating costs		
Mining cost (includes development & exploration) (US$/t)	25.94	45.05
Milling cost (US$/t)	13.58	13.58
G&A and product selling cost (US$/t)	9.84	9.84
Sustaining & non-sustaining capital (US$/t)	16.72	16.72
Mineral Resources tax, etc. (US$/t)	1.98	2.56
Total operating costs (US$/t)	**68.07**	**87.74**
Mining recovery (%)	92	95
Mill recoveries		
Ag (%)	82.6	82.6
Pb (%)	89.5	89.5
Zn (%)	87.3	87.3
Payables		
Ag (%)	65.5	65.5
Pb (%)	86.2	86.2
Zn (%)	66.3	66.3
Breakeven COG (AgEq g/t)	**215**	**275**

Note: Metal price assumptions: Ag US$18.20/oz; Pb US$0.94/lb; Zn US$1.08/lb.

Lower COG values of 185 g/t AgEq (shrinkage) and 250 g/t (resuing) have been generated for any small amount of marginal material considered for inclusion in the Mineral Reserves estimate. These cut-off values are considered for operational areas where, effectively, all tunnelling and associated drilling expenditures have already been accounted for. For development ore, the COG is 155 g/t AgEq.

15.3.1 QP comment on cut-off grades

The QP considers that the Mineral Reserve COGs and their supporting parameters are reasonable and appropriate.

15.4 Bulk density

A bulk density for mineralized material was assigned to all resource model blocks using the formula:

DENSITY = 3.094919 + (0.040827 X Pb%) + (0.034253 x Zn%) + (0.000482 x Ag (g/t))

The regression formula is based on 191 samples. This formula and recommendations for bulk density are discussed in Section 10.

The waste density assumed for dilution estimation purposes was 2.60 t/m^3.

15.5 Dilution and recovery factors

15.5.1 Dilution

As indicated above, minimum mining widths are assumed as 1.0 m and 0.5 m respectively for shrinkage and resuing. For shrinkage, a minimum dilution factor of 0.2 m is added to the minimum vein width of 0.8 m. For resuing, a dilution factor has been applied to each true vein width up to a minimum extraction width of 0.5 m or to (vein width plus 0.1 m) where the true width is greater than 0.4 m. The QP notes that, for Silvercorp narrow vein operations generally, a key strategy for minimizing floor dilution is the placement of rubber mats and / or conveyor belting over the waste fill floor in resuing stopes immediately before each resuing blast. This effectively serves as a barrier between ore and waste.

The dilution calculation process used for the Mineral Reserves assumes that the resulting figures represent the overall tonnes and grade delivered to surface. There is a small degree of waste hand sorting, and therefore upgrading, which occurs underground and may also occur on surface. The QP considers that the resulting impact of this hand-sorting on the delivered product is not significant enough to be material.

The QP notes that the projections for dilution in both shrinkage and resuing stopes assume a high degree of process control in terms of design, drilling, and blasting, and that such control on an ongoing basis will be critical to achieving dilution targets.

Table 15.2 summarizes average dilution from the Mineral Reserve calculations for each mining method. The QP again notes the dominance of shrinkage mining in the current Mineral Reserves (wider veins) but also cautions that, as with most narrow vein operations, a particular focus on minimizing dilution via mining process control will be important in realizing Mineral Reserve grades in the future.

Table 15.2 Average dilution by mining method

Gaocheng Mine	Dilution %
Shrinkage	19.8
Resuing	12.4
Total dilution Gaocheng	**17.5**

15.5.2 Mining recovery factors

Mining recovery estimates used in the Mineral Reserve calculations are based on experience at the Gaocheng site and Silvercorp operations as a whole. For shrinkage stopes, 92% total recovery is assumed; for resuing stopes, 95% total recovery is assumed. Minimal pillars are anticipated to remain between adjacent mining blocks in the same vein, and partial recovery in sill pillars is allowed for in the respective recovery factors.

15.6 Mineral Reserve estimate

To convert Mineral Resources to Mineral Reserves, Silvercorp uses the following procedures:

- Selection of Measured and Indicated Resource areas (potential stope blocks) for which the average AgEq grade is greater than the full breakeven cut-off AgEq grade.
- Application of minimum extraction and mining width criteria and calculation of dilution at zero grade.
- Estimation of Mineral Reserve potential by applying relevant mining loss factors.
- Reconfirmation that diluted AgEq grade is greater than full breakeven cut-off.

- Confirmation as Mineral Reserves by considering any other significant cost factors such as additional waste development required to gain access to the block in question.
- Inclusion of marginal material where, in an operations scenario, the material in question will at the very least recover costs directly associated with that material and will be transported to the mill for processing.

Table 15.3 summarizes the Mineral Reserve estimates for the Gaocheng mine. 63% of the Mineral Reserve tonnage is categorized as Proven and 37% is categorized as Probable.

Table 15.3 Gaocheng mine Mineral Reserve estimate at 31 December 2020

Classification	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)	Contained metal		
					Ag (koz)	Pb (Mlbs)	Zn (Mlbs)
Proven	2.587	93	1.5	3.3	7,743	84	189
Probable	1.544	95	1.5	3.0	4,740	51	103
Proven and Probable	4.131	94	1.5	3.2	12,483	135	293

Notes to Mineral Reserve Statement:
- Canadian Institute of Mining, Metallurgy and Petroleum Standards (2014) were used for reporting the Mineral Reserves.
- Full breakeven cut-off grades: Shrinkage = 215 g/t AgEq: Resuing = 275 g/t AgEq.
- Marginal material cut-off grade: Shrinkage = 185 g/t AgEq; Resuing = 250 g/t AgEq.
- Dilution (zero grade) assumed as a minimum of 0.1 m on each wall of a shrinkage stope and 0.05 m on each wall of a resuing stope.
- Mining recovery factors assumed as 92% for shrinkage and 95% for resuing.
- Metal prices: Silver US$18.20/troy oz, lead US$0.94/lb, zinc US$1.08/lb, with respective payables of 65.5%, 86.2%, and 66.3%.
- Processing recovery factors: Ag – 82.6%, Pb – 89.5%, Zn – 87.3%.
- Effective date 31 December 2020.
- Exchange rate assumed is RMB6.80: US$1.00.
- Rounding of some figures may lead to minor discrepancies in totals.

From the start of commercial operations at Gaocheng in 2014 through to the end of 2020, 1,853,662 tonnes have been mined at average head grades of 94 g/t silver, 1.6% lead, and 2.9% zinc. Compared to those average head grades, the current Mineral Reserve estimates show the same silver grade, a reduction in lead grade of 7%, and an increase in zinc grade of 9%.

15.7 Conversion of Mineral Resources to Reserves

Table 15.4 compares the respective values of Measured plus Indicated Resources and Proven plus Probable Reserves for Gaocheng.

Table 15.4 Resources and Reserves comparison

Gaocheng		Mineral Resources			Mineral Reserves			Conversion factor*		
		Measured	Indicated	M + I	Proven	Probable	P + P	Meas / Prov	Ind / Prob	M+I/P+P
Tonnes	Mt	5.286	4.747	10.033	2.587	1.544	4.131	49%	33%	41%
Silver	g/t	88	75	82	93	95	94	52%	41%	47%
Lead	%	1.3	1.1	1.2	1.5	1.5	1.5	55%	46%	51%
Zinc	%	3.1	2.5	2.8	3.3	3.0	3.2	53%	40%	47%

Note: *Tonnes and metal content. Numbers may not compute exactly due to rounding.

Total Mineral Reserve tonnes (Proven plus Probable) are approximately 41% of Mineral Resource (Measured plus Indicated) tonnes. The tonnage conversion from Measured to Proven is 49% and for Indicated to Probable is 33%. Total metal conversion percentages for silver, lead, and zinc are

47%, 51%, and 47% respectively, but with the conversion from Measured to Proven again significantly greater than that for Indicated to Probable. The overall much higher conversion rate from the Measured category may offer the possibility of a future increased conversion from the material currently classified as Indicated through the normal processes of increasing resource definition and more detailed stope design.

15.8 Comparison of 2021 and 2019 Mineral Reserve estimates

Relative to the Mineral Reserve estimates in the 2019 Technical Report, there is a 39% increase in Proven Mineral Reserve tonnes, a 21% decrease in Probable Mineral Reserve tonnes, and an increase in Mineral Reserve total tonnes of 8% (311,000 t). Overall zinc grade remains the same but with overall slight grade decreases (1%) for silver and lead. The respective Mineral Reserves estimates are shown in Table 15.5.

Table 15.5 Comparison of 2019 and 2021 Mineral Reserve estimates

Mineral Reserve estimate	Classification	Tonnes (Mt)	Ag (g/t)	Pb (%)	Zn (%)
2021 Report	Proven	2.587	93	1.5	3.3
	Probable	1.544	95	1.5	3.0
	Proven and Probable	4.131	94	1.5	3.2
2019 Report	Proven	1.865	94	1.6	3.5
	Probable	1.955	96	1.4	3.0
	Proven and Probable	3.820	95	1.5	3.2
Difference %	Proven	39	-1	-8	-5
	Probable	-21	-1	7	1
	Proven and Probable	8	-1	-1	0

Notes to Mineral Reserve Statements:

- See Table 15.3 for 2021 Mineral Reserve notes.

For 2019 Mineral Reserves:

- Metal prices used: silver US$18.00/troy oz, lead US$1.00/lb, zinc US$1.25/lb.
- Full breakeven cut-off grades: Shrinkage = 200 g/t AgEq: Resuing = 245 g/t AgEq.
- Mining recovery factors assumed as 95% for resuing and 92% for shrinkage.
- Processing recovery factors: Ag – 77%, Pb – 88%, Zn – 84%.
- Payable factors: Ag – 85%, Pb – 90%, Zn – 70%.
- Exchange rate assumed: RMB6.50 : US$1.00.
- Effective date 31 December 2018.
- Rounding may lead to minor discrepancies in some totals.

16 Mining methods

16.1 Conventions

All measurement units are metric SI units.

The GC project has a local mine section grid (Mine Section) orientated at 200° – 20° bearing whereby the section numbers increase with easting and the section spacing is at 50 m intervals between even numbered sections (e.g., Sections 10 to 12 is a 50 m interval).

16.2 Introduction

Mining to date has been conducted in two stages that are horizontally defined by mine sections and vertically by elevations, with a general description as follows:

1. Stage 1: +150 mRL to -50 mRL between local Mine Sections 10 to 36 for development and 12 to 32 for production - west side of Project.
2. Stage 2: +100 mRL to -50 mRL between Mine Sections 36 to 54 for development and 32 to 54 for production. From -50 mRL to -300 mRL between Mine Sections 12 to 50 for both development and production.

Stage 1 essentially targeted bringing the Project into production as soon as practicable using mobile rubber-tired diesel-powered equipment (development jumbo, loader, and truck) with surface declines access down to -50 mRL.

Stage 2 development from -50 mRL down to -300 mRL employs conventional tracked equipment (battery powered locomotives, rail cars, electric rocker shovels, and pneumatic handheld drills) via a surface shaft access.

Selective stoping methods - shrinkage and resuing - are employed with stope production drilling conducted with pneumatic jacklegs. In-stope rock movement is by gravity to draw points or hand-carting to steel-lined passes.

Stage 1 production mucking used load-haul-dump loaders (LHD) with trucks hauling ore to the surface ROM stockpile, and ore was re-handled from the ROM stockpile to the primary crusher feed bin using a ROM front-end-loader (FEL).

Stage 2 and ongoing production mucking uses electric-powered over-throw rail loaders with rail cars and battery-powered locomotives transporting ore to level ore passes at each level. Ore is hoisted using a double-story cage (holding four cars, i.e., two cars each story) to a surface stockpile where a loader conveys ore to the surface crusher feed bin.

16.3 Geotechnical conditions

16.3.1 Introduction

The initial AMC geotechnical review included the following:

- Review of existing available data including RQD and reports provided by Silvercorp.
- Preliminary characterization of rock mass conditions based on available geotechnical data.
- Preliminary assessment of ground support requirements for lateral mine development.
- Review of mine design parameters including stope spans and pillar dimensions.

Presented within this section is a summary of the methodology and results of the various geotechnical assessments undertaken, and recommendations for further work as appropriate.

It is noted that, due to the limited geotechnical data at the time of the assessment, which was prior to significant development at Gaocheng, the AMC review was considered high-level and not to the level of detail normally associated with a mining operation in Canada. As such, AMC's geotechnical review incorporated preliminary assessments aimed at assessing the "reasonableness" of the geotechnical aspects of the initial mine design.

No updated specific geotechnical or hydrogeological study data is available for the GC mine. In general, the geotechnical assessment undertaken projected the ground at current mining levels to be in good condition, which is in line with actual development and mining operations experience to date. The excavation of relatively small openings, both in development and stoping, facilitates ground stability. Support is only installed where deemed to be necessary, with rockbolts being used for hangingwall support on occasion, and shotcrete for decline or permanent excavations. Timber and steel I-beams are also used where unstable ground is encountered.

As shrinkage stope void volumes increase, associated ground instability could be anticipated but, to date, ground conditions at the operation continue to be reported as generally very stable with no evidence of hangingwall failure.

No geotechnical simulation software such as Map3D is used at GC. The mining sequence is usually planned in accordance with engineering and operational experience.

16.3.2 Available data

Initial geotechnical assessments were conducted in May 2011, based upon observations made during a site visit to the GC Project by Owen Watson (then AMC Senior Geotechnical Engineer), together with reports and data provided by Silvercorp.

As part of the site visit, geotechnical observations were made of the following:

- Rock mass exposures in portal areas of previously mined adits ML-5 and ML-8.
- Selections of core from drillholes ZK1401, ZK1001, ZK40204, and ZK101.

The following data was provided by Silvercorp:

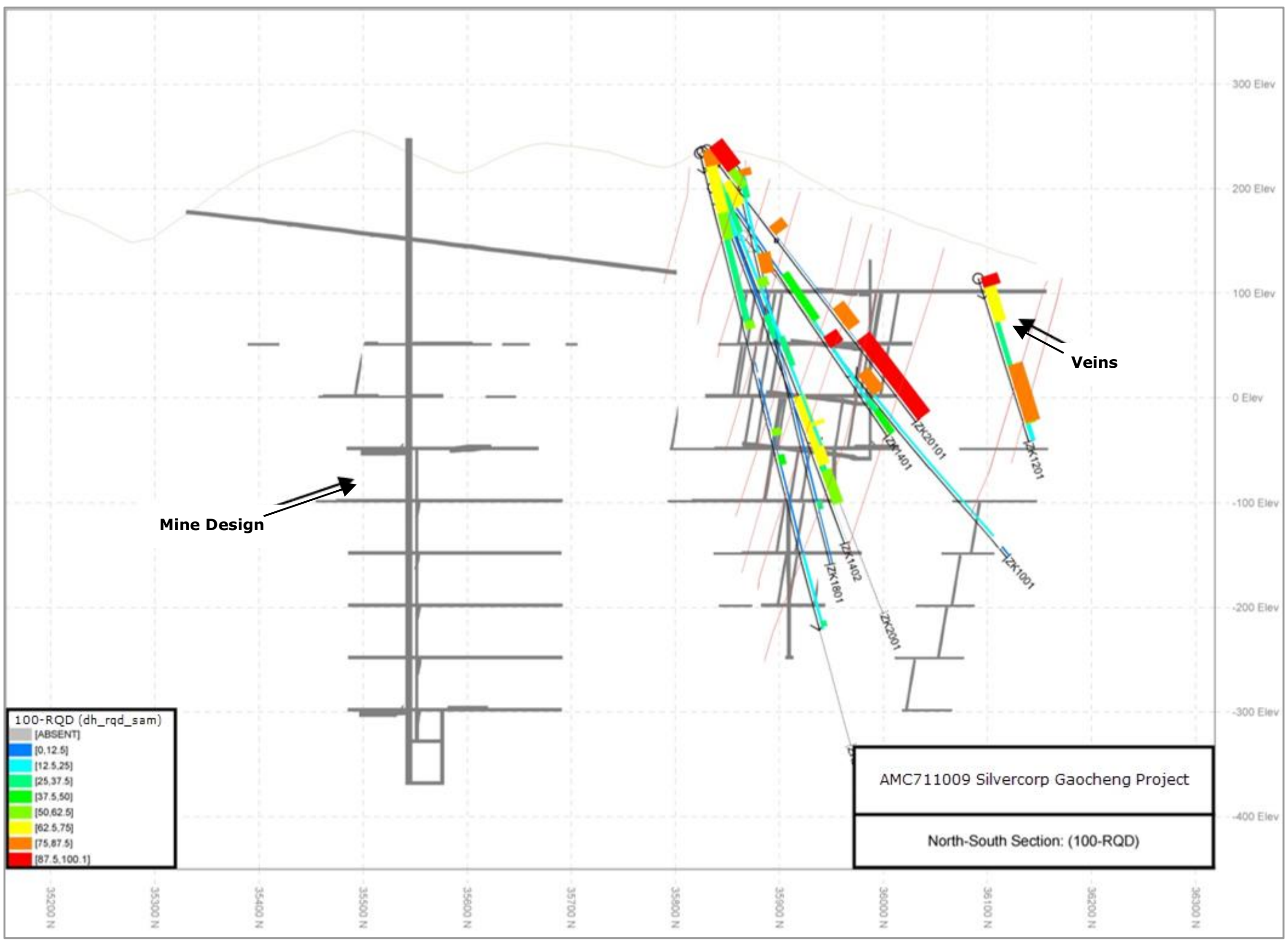
- GMADI Report: 'Mining and Dressing Project of Gaocheng Lead-Zinc Ore in Yun'an County, Guangdong Province - Preliminary Design (GD1371CS) Volume I', January 2011.
- Detailed geotechnical interval data of Q-System rock mass classification parameters (after Barton et al. 1974) from two drillholes (ZK2002 and ZK3604), collected by Silvercorp.
- RQD logging data from 35 drillholes collected by Silvercorp. RQD data had been recorded in long intervals based on lithological units, rather than shorter intervals based on drilling runs. As a result, the data provided an indication of the overall rock quality for the entire lithology unit, but detail on the variation of RQD within the logged lithology unit could not be determined.
- Additional geotechnical data including degree of weathering, compressive strength, and rock quality index data. The compressive strength data and rock quality index data were not directly used for the analysis as the QP was unable to establish the specific procedures used to obtain the data, and therefore could not determine its reliability.
- Wireframe interpretations of the mineralized veins.
- Wireframe of underground geological structures.
- Wireframe of surface topography.
- Drillhole database with partial geotechnical logging data.

16.3.3 Data analysis

The QP analysis of the geotechnical logging data involved the following:

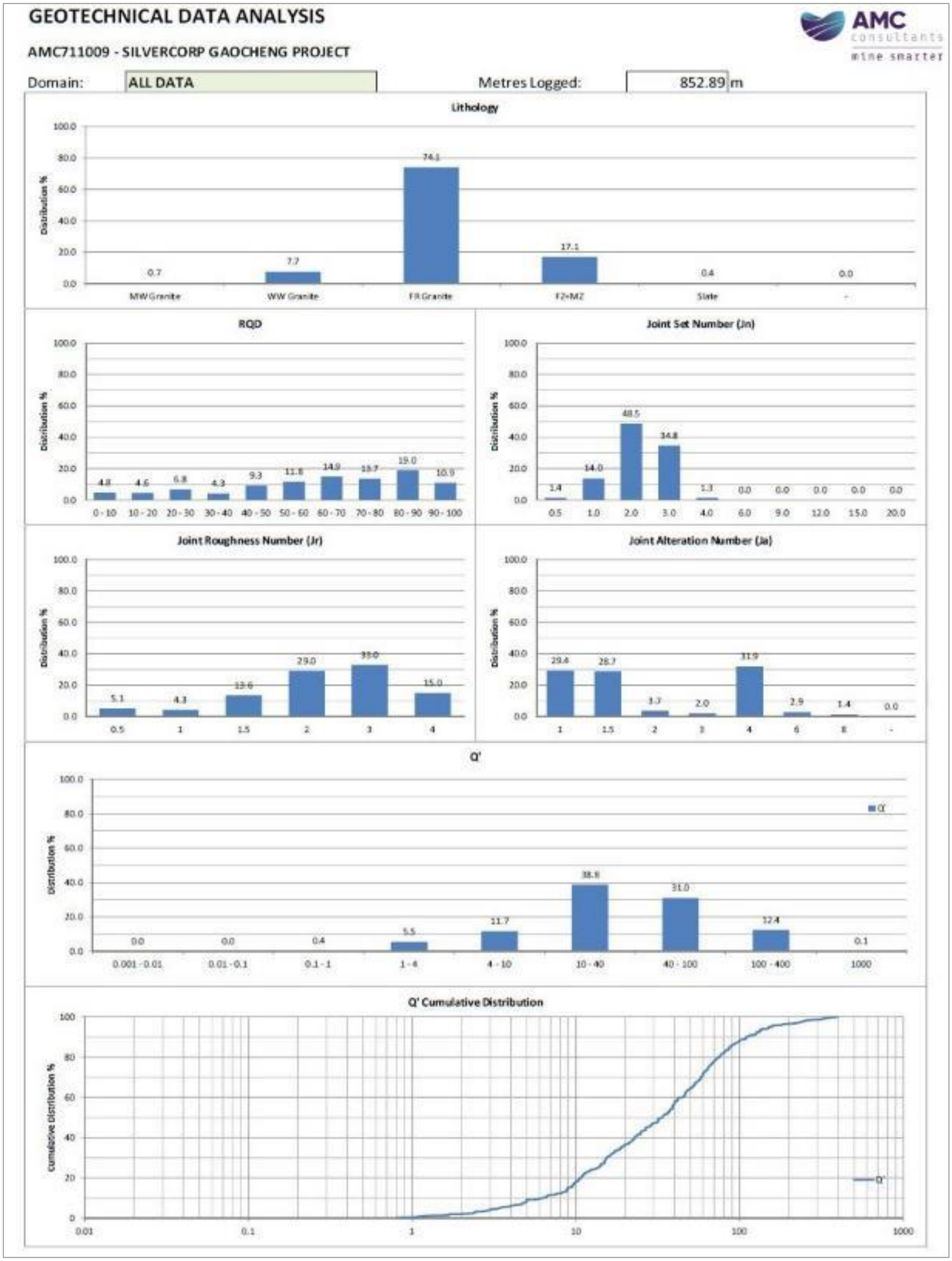
- Generation of sections (on 250 m spacing, looking west) showing RQD histograms plotted along drillhole traces, to investigate the spatial variation in RQD values relative to the mine design and interpreted veins. RQD was plotted as '100-RQD' in order that zones of lowest RQD values are displayed as the tallest histograms. Presented in Figure 16.1 is a north-south section located towards the western limit of the mine design showing RQD histograms. Low RQD values appear to be generally related to weathered material near surface and locally throughout the rock mass, possibly related to veins and / or vein contacts.
- Generation of distribution plots of the logged rock mass classification parameters to investigate the statistical distribution of the logged parameters for each of the main geotechnical domains. The distribution plots for 'all data' are shown in Figure 16.2.
- Generation of distribution plots of RQD logging data for each of the main geotechnical domains. These plots are presented in Figure 16.3.

Figure 16.1 Section looking west at 93500 mE showing '100-RQD' histograms plotted on drillhole traces



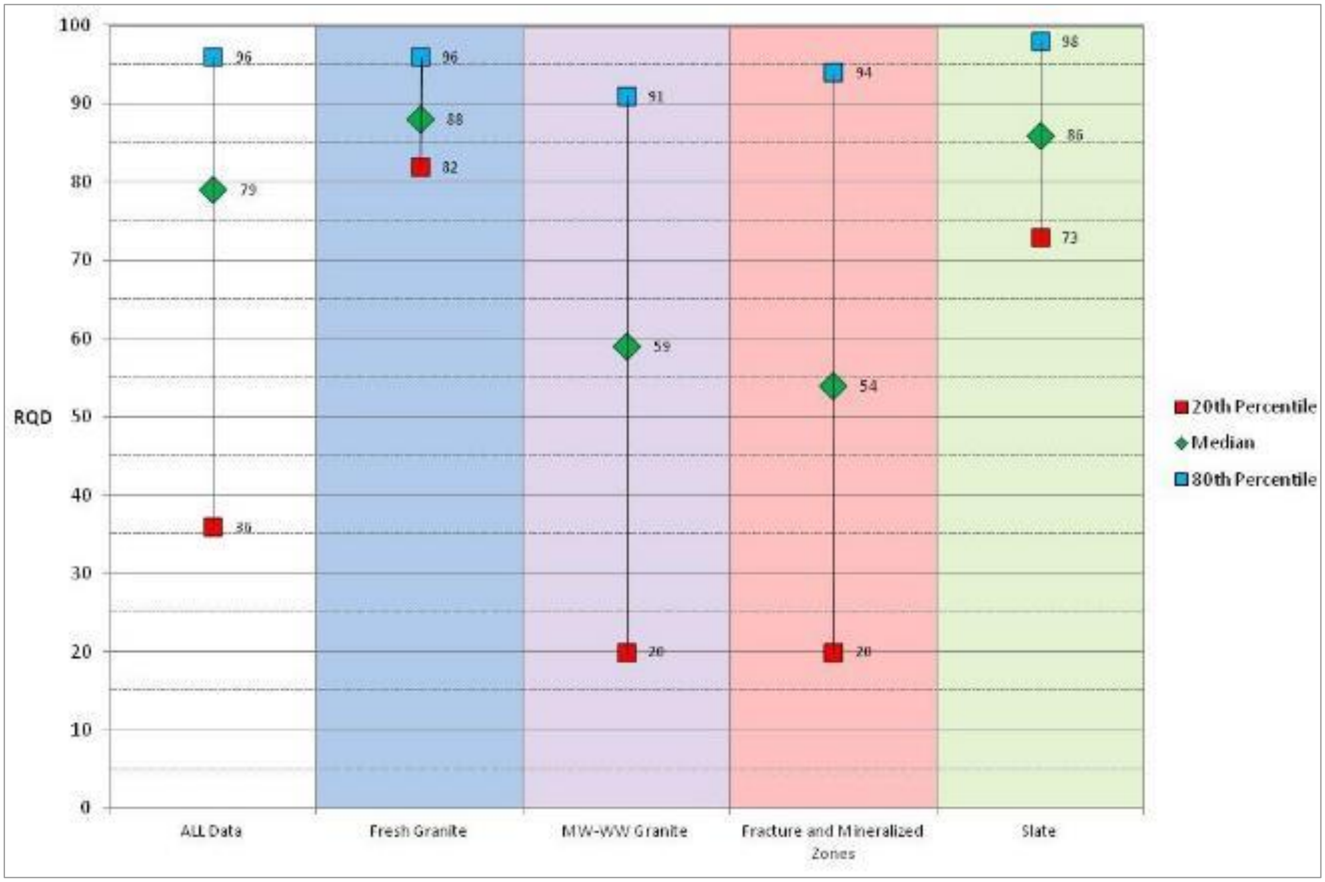
Source: Compiled by AMC Mining Consultants (Canada) Ltd. using information provided by Silvercorp Metals Inc.

Figure 16.2 Distribution analysis for all geotechnical logging data



Source: Compiled by AMC Mining Consultants (Canada) Ltd. using information provided by Silvercorp Metals Inc.

Figure 16.3 RQD data distribution



Source: Compiled by AMC Mining Consultants (Canada) Ltd. using information provided by Silvercorp Metals Inc.

16.3.4 Characterization of geotechnical conditions

Geotechnical domains were assigned according to lithology and degree of weathering as follows:

- Moderately- and weakly-weathered granite.
- Fresh granite.
- Fracture and mineralized zones.

These domains were considered 'preliminary' based on the limited available geotechnical data. Collection of additional data could result in definition of additional geotechnical domains, particularly in the immediate hangingwall of the veins, where there is insufficient detailed specific geotechnical information, and also beyond the footwall contact of the vein system in which there is limited drilling coverage. Geological logging of existing drill core indicates the presence of an argillaceous slate unit beyond the footwall of the veins, however there is insufficient geotechnical data to characterize rock mass conditions in the slate.

Depth of weathering is variable across the Project area. Completely- to highly-weathered material generally extends up to approximately 20 m below surface, with moderate- to weakly-weathered granite extending to depths of approximately 100 m.

The QP notes that Fresh granite forms the primary host rock of mineralization and is the domain in which the majority of waste development has occurred to date and is likely to occur in future.

Mineralized veins that comprise the orebody have been included in the domain 'Fracture and mineralized zones'.

The 'Q' rock mass classification parameters (after Barton et al. 1974) which characterize anticipated rock mass conditions within each domain are summarized in Table 16.1. These values are based on the geotechnical logging data provided by Silvercorp, and observations of drill core made by AMC during its 2011 site visit. It should be noted that AMC increased the logged values of Joint Set Number for all rock types by one joint set based on observations made during the 2011 site visit. It should also be noted that there was no specific geotechnical component to the 2018 site visit but that ground conditions were observed to be generally good.

Table 16.1 Rock mass classification parameters by geotechnical domain

Domain	Moderate- to weakly-weathered granite	Fresh granite	Fracture and mineralized zones
RQD	20% to 60%	80% to 90%	20% to 50%
Joint Set Number (Jn)	2 to 3 Joint Sets *(Jn = 4 to Jn =9)*	2 to 3 Joint Sets *(Jn = 4 to Jn =9)*	2 to 3 Joint Sets *(Jn = 4 to Jn =9)*
Joint Roughness (Jr)	Smooth to Rough, Undulating *(Jr = 2 to Jr = 3)*	Rough and Planar to Smooth and Undulating *(Jr =1.5 to Jr =2)*	Rough and Planar to Smooth and Undulating *(Jr = 1.5 to Jr = 2)*
Joint Alteration (Ja)	Hard, non-softening coating to soft, sheared coating *(Ja = 1.5 to Ja = 4)*	Hard, non-softening coating to soft, sheared coating *(Ja = 1.5 to Ja = 4)*	Non-softening coating to soft, sheared coating *(Ja = 2 to Ja = 4)*
Rock Mass Classification	*Poor* to *Good* rock mass quality	*Poor* to *Good* rock mass quality	*Poor* to *Fair* rock mass quality

16.3.5 In situ stress

No specific data was available for the study regarding in situ stresses at the Project. However, the GMADI report states that direction and magnitude of major principal stress is expected to be consistent with dead-weight loading of overburden. This assumption formed the basis for estimating mining induced stresses as part of stope stability and ground support assessments presented below.

16.3.6 Hydrogeology

Specific hydrogeological investigations were not conducted. The GMADI report presents discussion of hydrogeological conditions at the Project and states that hydrogeological exploration in the district is relatively inadequate. For AMC's preliminary geotechnical assessments, minor water inflows (less than five litres per minute locally) were assumed.

The QP notes that operating experience to date indicates that the assumption of minor water inflows is reasonable.

16.3.7 Mine design considerations

16.3.7.1 Rock mass conditions

The rock mass condition is categorized as Fair to Good and the AMC assessment anticipated that the vein and host rocks in the mine area would generally be competent and, local conditions permitting, require minimal ground support. This has largely been confirmed in operations, with most areas deemed to require little or no support. Where Poor ground conditions have been encountered, ground support is provided, with a range of strategies available depending on the local situation. This may be either rock bolts with or without mesh, shotcrete only, shotcrete with rock bolts, shotcrete with rock bolts and mesh, timber, or heavier steel support.

It is noted that the surface shaft collar traversed approximately 10 m of soil coverage and 20 m of oxidized ground.

16.3.7.2 Surface requirements

It is the understanding that surface subsidence is not permitted at the GC Project. The GMADI design incorporated a surface crown pillar. The local topography above the mine plan area varies between approximately 105 mRL (at river level) to 340 mRL (hilltop). The upper limit of Mineral Resources and Mineral Reserves is at 319.35 mRL.

The Hashui Creek traverses the north-eastern portion of the mine area inside the Stage 1 and Stage 2 potential subsidence zones between mine Sections 26 to 56. The river is diverted via a tunnel (579 m) to the north-east to fall outside of the Stage 2 potential subsidence zone. The river tunnel diversion was implemented prior to Stage 1 production commencing.

It is considered that the allowance for the surface crown pillar made in the design was generally appropriate. The QP recommends that a detailed investigation and assessment of crown pillar requirements be undertaken for input into detailed mine design with particular focus on surface pillar requirements in the vicinity of Hashui Creek valley, and any other streams (or drainage paths) that traverse the mine area. No detailed investigation and assessment of crown pillar requirements has been made since the start of operations, but based on operational experience and observation, Hashui Creek and other streams are indicated as not having an impact on the stability of the surface crown pillar.

16.3.7.3 Stability assessment for stoping

A preliminary stability assessment of the proposed shrinkage stoping configuration was undertaken using the Modified Stability Graph method as described by Hutchinson and Diederichs (1996). The input parameters used for the assessment were based on median rock mass conditions estimated from distribution plots of geotechnical logging data.

The proposed shrink stoping layout (which largely reflects what has been undertaken in operations) consisted of mining panels 50 m in length on strike, and 50 m in height, resulting in a hangingwall with hydraulic radius (HR) of 12.5. Each shrink stope remains filled with broken ore until excavation is completed to full height, at which time the broken ore is removed from the stope via cross-cut draw points established on the mucking horizon. During this stage, some secondary dilution is anticipated. On completion of production, stopes have remained open and, until recently, all unfilled.

Silvercorp completed the construction and commissioning of a cemented backfill system in 2020. In 2020, cemented backfill placed underground was 43,091 m^3, with guidance for 2021 at 70,626 m^3.

The AMC preliminary assessment indicated that an open stope hangingwall of HR=12.5 was at the upper limit to achieve stability without the requirement for cable bolt support. Because ground conditions were anticipated to be variable (locally better or worse than the median values used for the assessment), instances of local hangingwall instability were anticipated, with the possibility of unacceptable levels of dilution of broken ore stocks, or loss of ore within the stope. As indicated above, ground conditions in operations to date have generally been noted as very stable. Average mining dilution in 2020 was 21.9%, concurrent with a focus on mining and process control measures. No hangingwall instability issues have been noted.

Shrink stope end walls and back were forecast to be stable without requirement for cable bolt support for the majority of expected rock mass conditions.

It is noted that the AMC assessment was concerned with the 'rock mass' and did not consider possible destabilizing effects associated with major structures such as faults or shear zones. These should be considered on a case-by-case basis.

16.3.7.4 Stope pillars

Stope crown pillars for both shrinkage and resue stopes were envisaged to be approximately 3 – 5 m in height on-dip at the prevailing mining width and vein dip.

For the shrinkage stoping method, the travelway access pillars were anticipated to be approximately 3 m height on-dip by 2 m width on-strike for the prevailing mining width and vein dip.

For the resue stoping method a secondary sill pillar was projected to be employed (located above the vein drive, which is at the access level elevation), at approximately 3 m height on-dip at the prevailing mining width and vein dip.

Based on the QP's understanding of the rock mass conditions, and the generally narrow mining widths envisaged, the pillar allowances were considered reasonable, with operating experience to date generally confirming the same. As with all mining operations, however, variability of rock mass conditions may dictate that, locally, larger pillars are necessary where poor rock mass conditions are encountered. In addition, as mining progresses to greater depths, increases in in situ stress and mining induced stresses may also result in the requirement for larger pillars.

16.3.7.5 Main Shaft pillar

The Main Shaft radius is 3 m. A 30 m radius around the Main Shaft is categorized as a safety pillar, with no mining or development allowed in the pillar area, other than for actual shaft access.

16.3.7.6 Ground support requirements

Indicative ground support requirements were estimated for the lateral development using the Q-system (after Barton et al. 1974) and the Tunnelling Support Guidelines developed by Grimstad and Barton (1993).

Assessments were conducted for each geotechnical domain for median and lower 20th percentile rock mass conditions estimated from distribution plots of geotechnical logging data.

Based on the QP's experience, where drift development is by conventional drill and blast methods, installing a minimum standard of ground support on a round-by-round basis in all mine development is the most effective and reliable method of reducing the exposure of mine personnel to rock fall hazard, particularly at the working heading. This is the approach recommended for any new mine, regardless of the mine's location and local mining practices.

However, the QP understands and has observed that, in general, the mine development at the GC Project has been and will be left unsupported unless ground conditions are deemed to warrant otherwise – as is common mining industry practice in China. AMC's ground support assessment indicated that, for the relatively small-dimensioned drift development proposed, excavations were anticipated to be stable without installation of support for the majority of expected rock mass conditions; this has generally been borne out in operations to date. Where poor ground conditions are encountered, the assessment indicated that pattern bolting on a spacing of 1.5 m and shotcrete support (50 - 70 mm thickness) would be necessary.

In lieu of installing ground support in all underground development on a round-by-round basis, the QP made, and continues to make, the following recommendations:

- Assess ground conditions on a round-by-round basis in all development headings (ore and waste) to determine the requirement for ground support. Doing so helps prevent the occurrence of significant failures from backs and walls, which require timely rehabilitation and expose the workforce to rock fall hazard.
- Ensure scaling of the development headings on a round-by-round basis.
- Conduct routine check scaling of all unsupported development at the mine. This process can help identify areas of the mine in which rock mass deterioration is occurring and allow rehabilitation works to be planned.
- Where possible, avoid mining development intersections in fault zones, and design drifts to cross fault zones at right angles (to minimize the exposure length within the drift).

In addition to the above, the QP recommends that specific rock mass conditions be assessed for critical underground infrastructure, including shafts and chambers, to determine ground support requirements to ensure serviceability of the excavation for the LOM.

Silvercorp has indicated adoption of all the above recommendations.

16.3.7.7 Conclusions

Based on the review of the available geotechnical data and high-level assessments undertaken, the QP considered that the geotechnical aspects of the GMADI mine design were generally reasonable for mining study purposes. However, given the limited nature of the data, the geotechnical knowledge at the Project prior to commencement of operations was not considered to be at the level of detail normally associated with a mining operation or feasibility study in Canada. That geotechnical knowledge has, at the practical level, been significantly advanced since the commencement of operations.

Further geotechnical investigations were previously recommended to advance the mine design to an 'executable design'. In particular, the QP recommended that the following work be undertaken:

- Collection of additional detailed geotechnical logging data, from drill core and mapping of underground workings, to allow improved characterization of rock mass conditions within the immediate stope hangingwall zone, and the mineralized veins. This should incorporate collection of structural orientation data. Data collection should allow rock mass classification using an internationally recognized system, such as the Q-System (after Barton et al. 1974) or RMR (after Bieniawski 1989).
- Development of a three-dimensional geological model with interpretations of primary lithologies and structures (such as faults and shear zones).
- Geotechnical investigations of any proposed shaft locations below -300 mRL to determine site suitability and ground support requirements. This should incorporate more detailed assessment of shaft pillar requirements.
- Geotechnical investigations of the surface crown pillar, particularly in the vicinity of the Hashui Creek valley, and any other streams or drainage paths that traverse the mine area.
- Further hydrogeological assessments, particularly to assess hydraulic connectivity between the Hashui Creek valley (and any other streams or drainage paths that traverse the mine area) and the underground mine workings.
- Further investigation of in situ stresses to confirm assumptions made in the mine design and stability assessments.

The QP has recommended that, as part of ongoing operations at the mine, geotechnical and ground support aspects should be continuously reviewed in a formal and recordable manner, bearing in mind previous recommendations, local and mine-wide operating experience in all rock types encountered, any advisable data collection, and looking to future mining development. Silvercorp has indicated that the operation has adopted this advice.

16.4 Extraction sequence

For extraction, the mine is divided into two stages: Stage 1 mining focuses on the orebody west of Line 32 between +100 mRL and -50 mRL. Stage 2 mining focuses on the orebody east of Line 32 between +100 mRL and -50 mRL, and the whole ore body between -50 mRL and -300 mRL.

The macro stope extraction sequence is bottom-up for both stoping methods.

16.5 Production rate

Mine operations are conducted 365 days of the year but mine production is currently scheduled on the basis of 330 days per year at an average of approximately 950 tonnes per day (tpd) for approximately 312 ktpa. The remaining production life for current Mineral Reserves is estimated to be 13 years.

The average production is approximately 65 tonnes per day per stope for shrinkage stopes and 15 tonnes per day per stope for resue stopes with production per level capped at approximately 25% of the available stopes and up to 30 stopes concurrently working over all active levels.

The actual production rate from each stope is dependent on the vein width, and as such, the production rate and schedule assume a balance of wider and narrower vein stopes (generally shrinkage and resue respectively).

16.6 Mining methods

Shrinkage stoping and resue stoping are the methods employed.

To support understanding of the Silvercorp application of stoping methods and also their suitability for the GC Mine environment, the QP previously observed the application of these stoping methods at Silvercorp's Ying mine operation during May 2016. The QP visited the GC site in January 2018. The Ying mine is located in Luoning County, in Henan Province, about 10 km south-east of Xiayu and about 60 km south-east of Luoning. The methods employed are considered to be appropriate for the GC Mine environment.

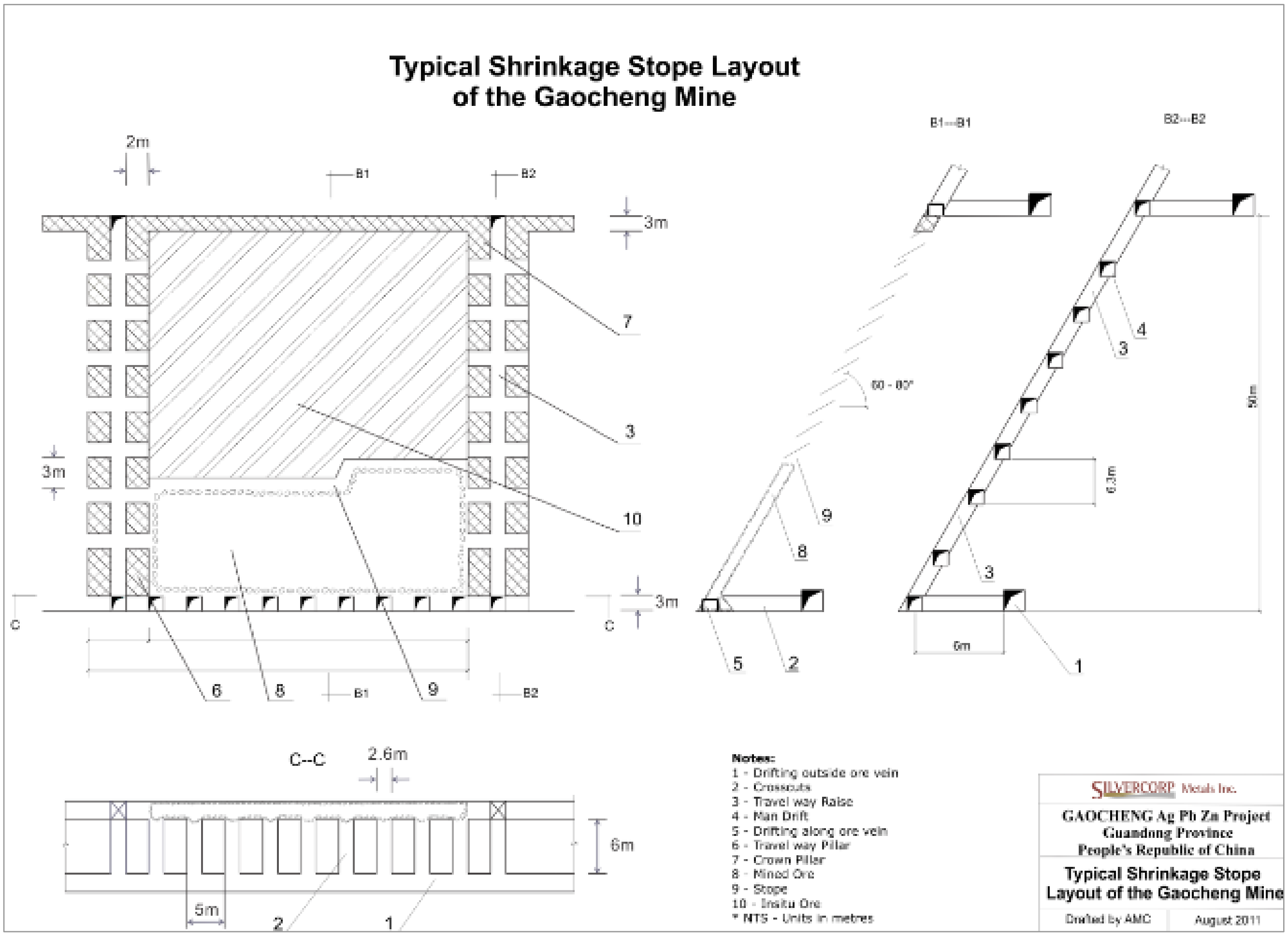
16.6.1 Shrinkage stoping

The method begins with establishing a sill drive along the vein to expose the vein at 2.4 m height. An access drive (conventionally a footwall drive) is also developed parallel to the vein at 2.4 m wide x 2.4 m high at a minimum stand-off distance of 6 m. Cross-cuts between the access and vein drives are developed at approximately 7.5 m strike spacing (actual spacing is dependent on the loader used, loader dimensions and the rib pillar thickness required for rib stability). The cross-cuts act as draw points for the mucking of the stope ore. Travelway raises that are also used for services are established between the levels at each end of the stope block. Waste packs are built on each void side of the raise as stoping proceeds upwards. Each stoping block is normally 50 m strike length by 50 m height.

Jackleg miners use pneumatic drills to drill a 1.8 – 2.0 m stope lift that is drilled and blasted as inclined up-holes with a forward inclination of 75 – 85° ("half-uppers"). The typical drill pattern uses a drill burden of 0.6 – 0.8 m and spacing of 0.8 – 1.2 m, depending on vein thickness. Holes are charged with cartridge explosives and ignited with tape fuse. The powder factor is generally 0.4 – 0.5 kg/t. Stope blasting fills the void below with ore as the mining proceeds upwards. While mining upwards, only 30 – 35% of the stope ore may be mucked until the entire stope is mined. At this point, all ore is mucked from the stope, leaving the stoping void effectively empty. A crown pillar is maintained for the stope to provide regional stability and to minimize dilution from up-dip stopes. Ventilation, compressed air, and water are carried up the travelway raises to the stoping level. Loading of the ore from the draw points is by rubber-tired LHD into trucks (Stage 1) or electric rail over-throw loaders into rail cars (Stage 2).

Figure 16.4 depicts the Shrinkage stoping method as used at GC Mine.

Figure 16.4 Typical shrinkage stope layout



16.6.2 Resue stoping

Vein and access development preparation is essentially the same as for shrinkage stoping except that an elevated sill drive (3 m on-dip height) is established along with draw points (generally limited to two or three) to provide access to the raise positions (raises equipped with steel liners as mill holes).

Resue stoping veins are typically higher-grade and generally between 0.20 m (minimum extraction width 0.3 m) and 0.80 m width. Resue stoping involves separately blasting and mucking the high-grade narrow vein and waste required to achieve a minimum stoping work width.

The mining crew consists of jackleg miners using pneumatic drills. Half-uppers lifts are drilled and blasted in essentially the same manner as for shrinkage stoping. After an ore lift is blasted and mucked, the footwall is blasted and used to fill the space mined out. This process is repeated until the crown pillar is reached. The entire stope is left filled with waste from the slashing of the footwall.

The blasted ore is transported by wheelbarrow and / or hand shovelling to the steel-lined mill-hole. The steel pass is constructed in lift segments as the stope is mined upwards. The base of the steel pass is held in place with a timber set. The footwall waste is then slashed (blasted) to maintain a minimum mining width (typically 0.8 m for GC) and to provide the working platform for the next stope lift. In contrast to shrinkage stoping, the mined-out stope is left filled with waste from the slashing of the footwall necessary to maintain a minimum mining thickness and to provide a working platform.

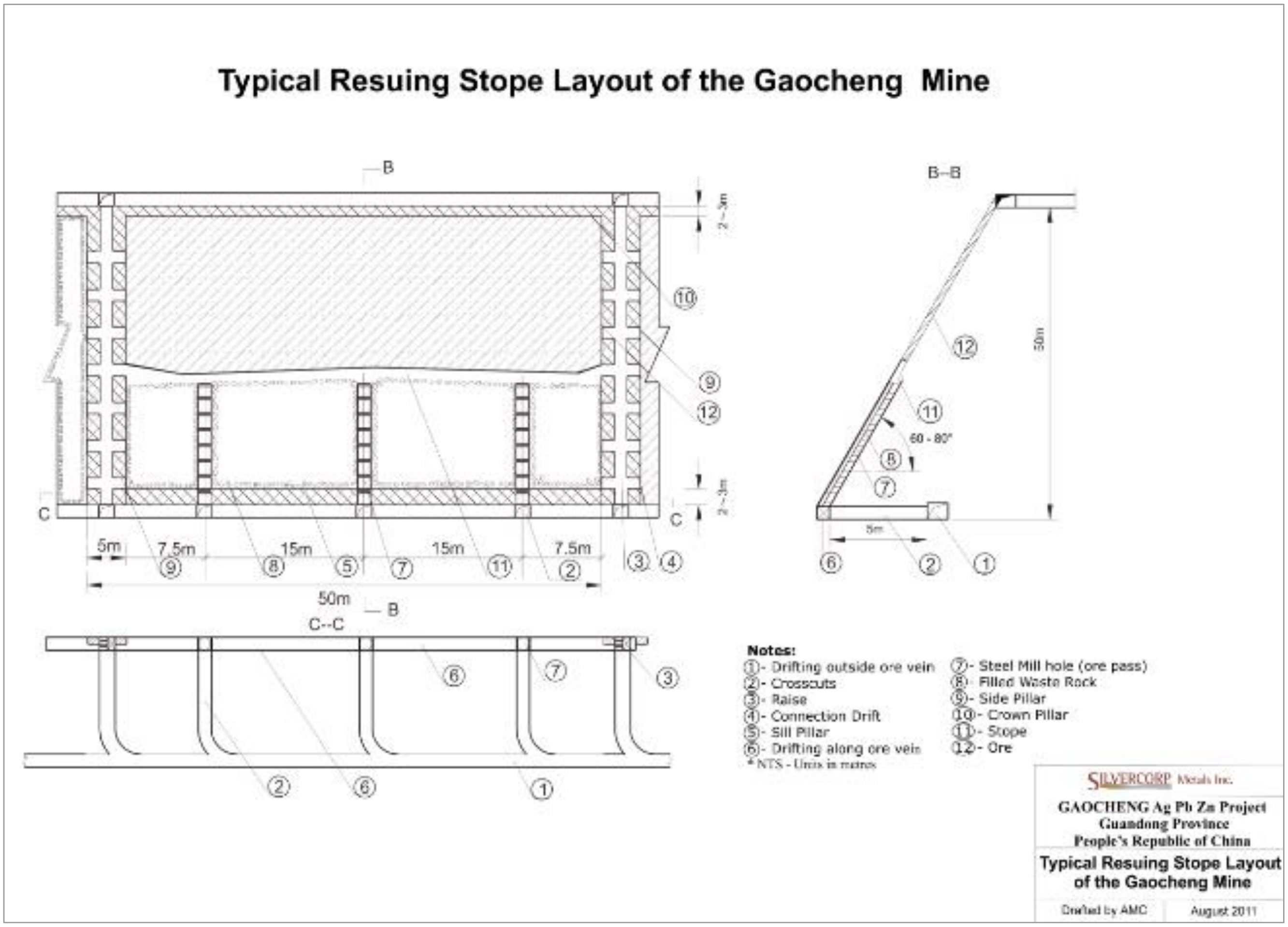
The order of vein extraction and footwall slashing is generally dependent on the condition of the vein hangingwall contact. Where the vein hangingwall contact is distinct and stable, the vein is extracted first; otherwise, the footwall waste is extracted first followed by vein slashing.

Rubber mats and / or belting are placed on top of the levelled waste after each waste lift to minimize ore intermingling with the waste (ore losses) and also to minimize over-mucking of the waste (dilution). Mucking of the ore consists of hand lashing (shovelling) and hand carting to the steel pass which connects to the mill hole crosscut. The rubber mats and / or belt are rolled up and removed for reuse prior to slashing the footwall and forming the next platform lift.

In-stope ore transporting may potentially be improved by using scraper winches with small hoes.

Figure 16.5 depicts the resue stoping method at GC Mine.

Figure 16.5 Typical resue stope layout



16.6.3 Stope management and grade control

Silvercorp has developed a stope management protocol and stope management manual at the GC and Ying operations. The purpose of stope management is to implement stope operation procedures for dilution reduction via the Mining Quality Control Department. The department has a total of four technical staff, including management, mine engineer, geologist, and technician. The mine engineer in the group is responsible for supervising the stope operation procedure, with stope inspection occurring at least once per day to check that mine contractors are following procedure guidelines. The geologist and geological technician are responsible for stope geological mapping and sampling, which occurs every 1.5 m of stope lift. The department also measures the mined area of a stope at the end of each month for mine contract payment and reconciliation purposes.

Key aspects of the stope inspection are as follows:

- Ensuring that the back and floor of the stope are flat prior to drilling blasting holes.
- Checking to ensure the boundary of the mineralization and drillhole locations are correctly marked with red paint before drilling.
- Ensuring drillholes are inclined not less than 60° to the horizontal, are not longer than 2 m, and are drilled optimally relative to vein and excavation width to minimize dilution.
- In a resuing stope, checking if the stope floor is covered with rubber mat / belt before blasting.

- In a resuing stope, checking to make sure that waste is sorted first and left in the stope before mucking ore to the mill holes after blasting; also ensuring that the floor and walls are cleaned with a broom to minimize ore losses before footwall slashing.
- After blasting, checking that the stope back is not more than 3.5 m high and the steel mill holes in a resue stope are properly covered with steel grid.

Regarding contract payments, a mine contractor is paid based on the quantity of ore mined. As it may be seen as an incentive for the contractor to maximize material removed from the stope, contractor payments are governed by a specific formula that calculates planned ore tonnes based on extraction to design and a planned dilution factor. During mine operations, each rail car or small tricycle load of ore is weighed at a weigh station outside the mine portals. If weighed ore tonnes are greater than planned ore tonnes from a given stoping area, the mine contractor is paid solely based on the planned tonnes. For shrinkage stopes, an adjustment for paid tonnes is required to be made, since a stope usually takes several months to complete and, generally, only blast swell is mucked until the stope nears completion.

16.7 Mine design

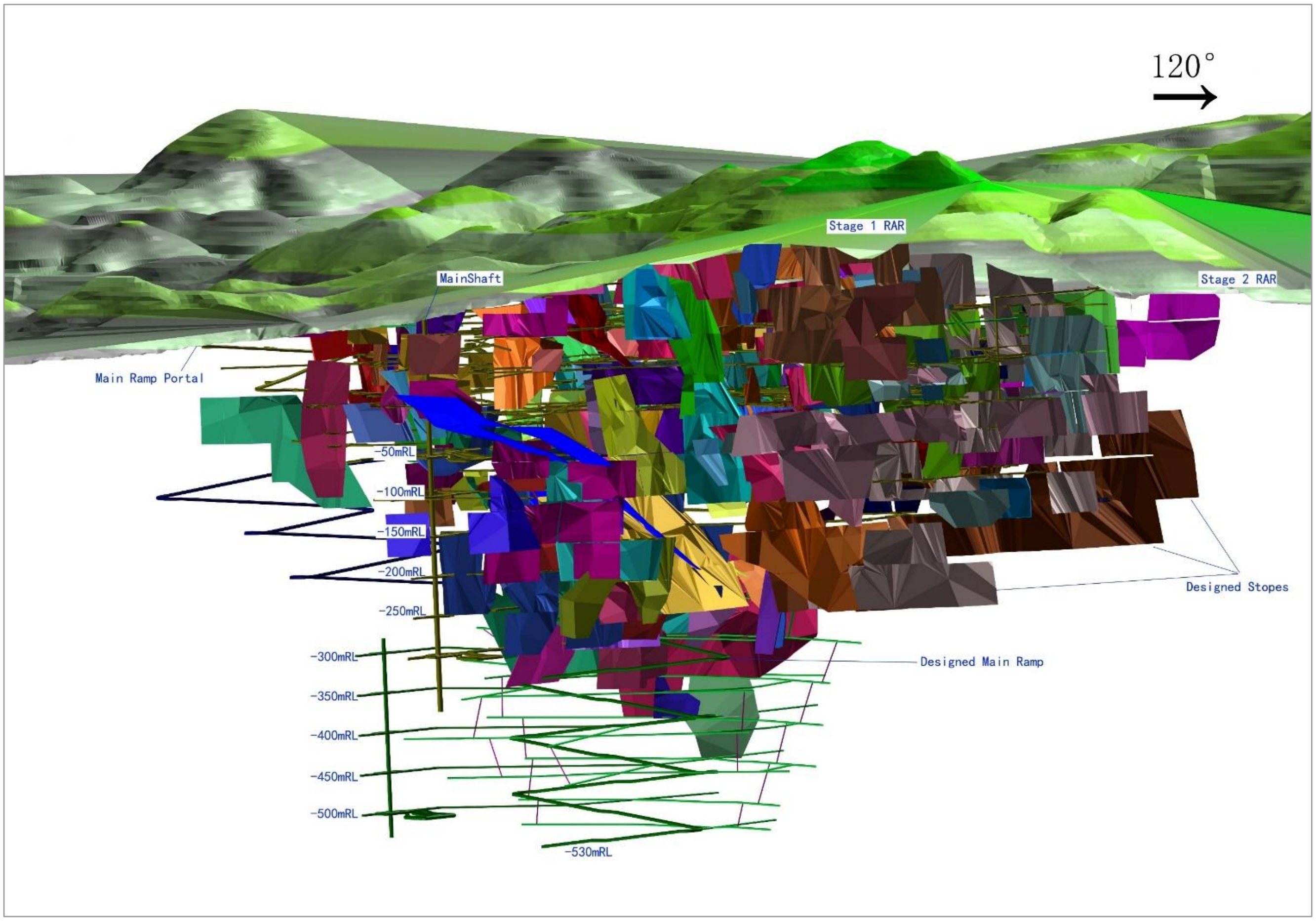
The mine design is based on the engineering work completed by the local official provincial design institute GMADI (April 2016). Refinements in areas such as profile dimensions, alignments, fleet sizing, etc. have been made by Silvercorp technical personnel on an as-needed basis during the Project construction and operations phases.

The initial mine design provided prior to the commencement of operations was considered by the QP to be below feasibility study standard (within +/- 10 – 15% on the inputs) with respect to knowledge of the vein location and vein peripheral extents and missing minor miscellaneous development items such as travelway refuges, stripping, and service holes. Design aspects have been progressively advanced and refined as operations have progressed but without any major change in development requirements.

In plan view, the mine development covers an area approximately 600 m by 1,200 m between Mine Sections 8 and 56. The mine design total combined lateral and vertical requirements are projected at 147,991 m from FY2022 to the end of mine life. A surface plan, showing key mine infrastructure locations is provided in Figure 18.1.

Figure 16.6 illustrates the mine design for stopes and development drives looking generally north-west. Planned development is shown predominantly in green.

Figure 16.6 GC Mine design



Source: Silvercorp Metals Inc. 2021.

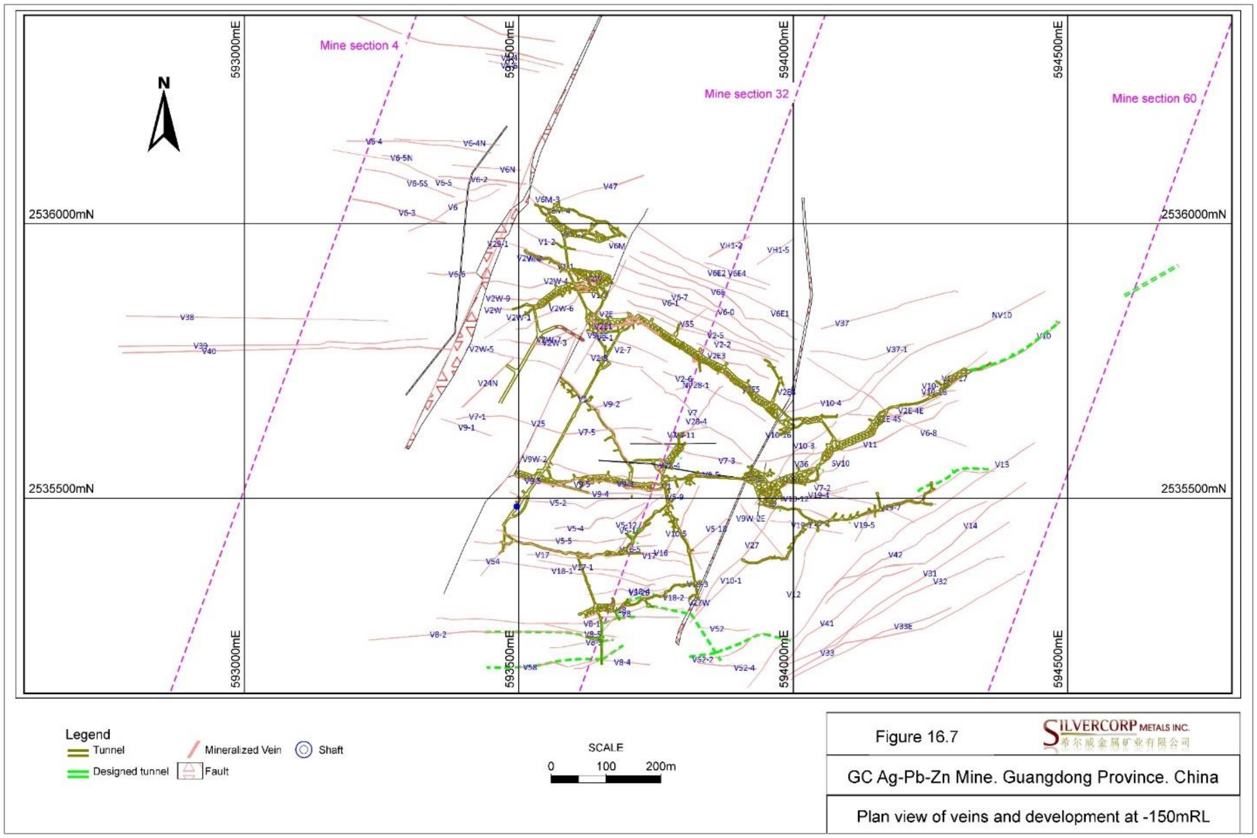
The mine design has been implemented in two stages, with Stage 1 being predominantly mechanized development to fast-track production while the longer-term Stage 2 at deeper levels reverted to Chinese conventional tracked development methods. Both stages have been approved by local government departments.

The Stage 1 Ramp is used for hauling ore, waste rock, materials, equipment, personnel, and providing access for key services like dewatering lines, feed water, power, communications, and ventilation.

The Stage 2 Main Shaft is used for cage hoisting ore and waste, hoisting materials, equipment, personnel and providing access for key services like dewatering lines, feed water, power, compressed air, communications, egress ladderways, and ventilation.

Figure 16.7 is indicative of relative vein positions and development design at -150 mRL.

Figure 16.7 GC veins and development plan at −150 mRL



16.7.1 Pre-existing development

There were nine sealed, development adits named ML1 to ML9 that pre-existed the Silvercorp operations. The development from the three adits of ML5, ML6, ML8 had a combined void volume of approximately 13,000 m^3 (as advised by the GMADI study). Table 16.2 summarizes the complete list of pre-existing development in the GC Project resource area, along with coordinates for the Exploration Ramp, Main Ramp, Main Shaft, and the Stages 1 and 2 RARs.

Table 16.2 Co-ordinates of pre-existing development, Main Shaft, and RARs

Access	Northing	Easting	Elevation
ML1	2,536,522	37,593,270	139
ML2	2,536,898	35,793,310	97
ML3	2,536,444	37,593,459	129
ML4	2,536,759	37,592,679	120
ML5	2,535,758	37,594,035	116
ML6	2,536,156	37,593,460	101
ML7	2,536,450	37,593,241	148
ML8	2,535,761	37,594,440	117
ML9	2,536,375	37,593,315	110
Exploration Ramp	2,535,987	37,593,379	112
Main Ramp	2,535,330	37,593,581	176
Main Shaft	2,535,544	37,593,562	248
Stage1 RAR	2,535,748	37,594,018	114
Stage2 RAR	2,535,579	37,594,415	122

16.7.2 Mine access

As indicated above, mine access for rock transport, materials supply, and personnel is provided by two declines (Exploration Ramp, Main Ramp) and a shaft (Main Shaft). Secondary mine access for personnel emergency egress is provided by the Stage 1 and Stage 2 return airway shafts.

The Main Ramp portal co-ordinates are approximately 37,593,581 m easting, 2,535,330 m northing, +176 mRL elevation. The Main Ramp provides access to the +100 mRL, +50 mRL, 0 mRL, -50 mRL, and -100 mRL levels. The Main Ramp development is continuing and reached -250 mRL at the end of 2020. The ramp profile is 4.2 m wide by 3.6 m high (approximately 13.9 m^2 profile area). The average gradient is 12% (1 in 8.3) with minimum radius of 20 m. The total ramp access length is 2,358 m (excluding stockpiles).

The ramp includes 10 m length remuck stockpiles at approximately 100 m intervals with travelway refuges excavated between the remuck stockpiles. The ramp spirals at the northern end to make connections to a blind sunk shaft (Ramp Shaft) at approximately +100 mRL, 0 mRL, -50 mRL, and -100 mRL. The Ramp Shaft at 3.5 m diameter (9.6 m^2) was designed to act as a return ventilation airway during ramp development and revert to an intake ventilation airway prior to Stage 1 production. The Ramp Shaft also provides secondary egress and is used for mine services (piping for air and water, electrical cables, and ladders).

The Main Shaft collar is located at +248 mRL elevation at approximately 37,593,562 m easting, 2,535,544 m northing. The shaft diameter is 6.0 m.

16.8 Mine development

The mine design is now based on Mineral Resources above 105 g/t AgEq, with the addition of vein exploration development (which, in some part, is also used for stope access). Vein exploration development is categorized as development that occurs outside of the Mineral Resource categorization. Vein exploration development is reported as development waste and, for planning purposes, is assigned zero grade irrespective of its actual resource grade.

The mine levels are located at 50 m vertical intervals. Levels are graded at 0.3% from either the Ramp or Main Shaft access, however the mine design provided by Silvercorp does not incorporate this feature. The QP does not consider this to be material with respect to estimates for development quantities.

Thus far, Phase 1 and Phase 2 development has all been completed. The production and ventilation systems consist of Main Shaft, Main Ramp, Exploration Ramp, and Phase 1 and 2 ventilation shafts.

The Main Shaft (from +248 mRL to -370 mRL) is used for hoisting of ore, waste rock, equipment and materials, personnel, and for intake airflow for -100 mRL and below levels.

The Main Ramp (portal elevation +176 mRL, bottom elevation reached -250 mRL) is used for transportation of ore, waste rock, equipment and materials, personnel, and for intake airflow for -500 mRL and above levels.

The Exploration Ramp is used for transportation of ore, waste rock, equipment and materials, personnel, and for intake airflow for +100 RL and +50 mRL levels.

There is a plan to extend the main ramp to -530 mRL for transportation of ore, waste rock, equipment and materials, personnel, and for intake airflow for -300 RL level and below.

16.8.1 Development requirement

Table 16.3 summarizes the projected LOM development requirement profile, and categories.

Table 16.3 LOM development profile and categories

Year	Capital lateral (m)	Capital vertical (m)	Operating lateral (m)	Operating vertical (m)	Total (m)
FY2022	2,860	-	12,905	4,857	20,622
FY2023	2,161	53	13,186	4,140	19,540
FY2024	1,565	-	7,589	2,305	11,459
FY2025	1,484	-	8,027	3,360	12,871
FY2026	1,185	150	8,067	2,980	12,382
FY2027	985	150	8,658	2,430	12,223
FY2028	1,655	550	8,744	3,030	13,979
FY2029	1,484	-	6,814	1,800	10,098
FY2030	200	-	7,966	2,880	11,046
FY2031	-	100	6,192	1,980	8,272
FY2032	-	200	5,772	2,085	8,057
FY2033	-	160	5,423	1,860	7,443
FY2033	-	-	-	-	-
Total	**13,579**	**1,363**	**99,343**	**33,707**	**147,991**

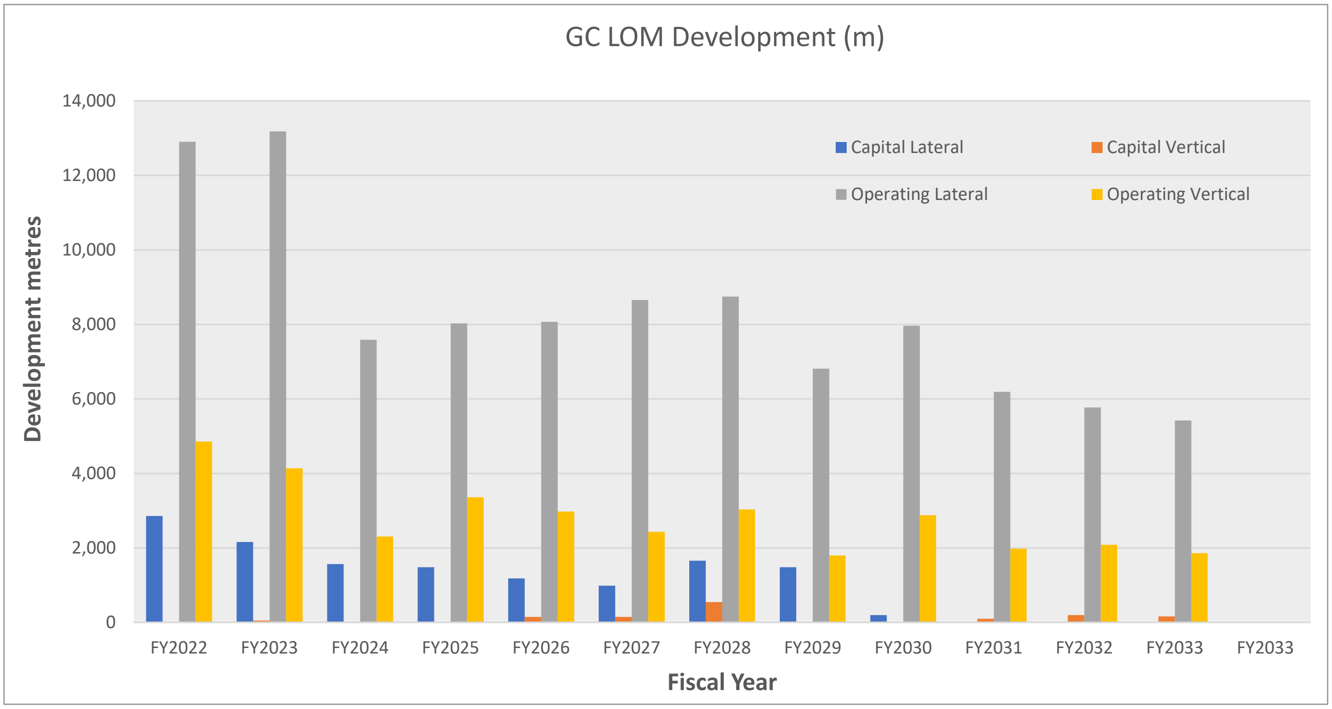
Table 16.4 summarizes the development waste volumes projected.

Table 16.4 Development waste volumes

Year	Waste (m^3)
FY2022	98,924
FY2023	94,058
FY2024	62,661
FY2025	64,639
FY2026	53,557
FY2027	54,563
FY2028	66,348
FY2029	49,033
FY2030	46,171
FY2031	34,390
FY2032	33,746
FY2033	30,784
Total LOM	**688,874**

Figure 16.8 shows projected development metres by type over the LOM.

Figure 16.8 Development profile by type



Source: Silvercorp Metals Inc.

16.8.2 Shafts

Several shafts have been planned for the LOM design. All shafts have been planned to be sunk by conventional underhand method.

Table 16.5 summarizes the general details for each shaft.

Table 16.5 Mine shafts

Shaft name	Diameter (m)	Collar elevation (mRL)	Bottom elevation (mRL)	Depth (m)	Profile	East collar co-ordinate	North collar co-ordinate	Collar access
Main Ramp extend	4.2 x 3.75	176	-530	706	Rectangular	37,593,581	2,535,330	Surface
Exploration Ramp	3.7 x 3.5	112	50	62	Rectangular	37,593,379	2,535,987	Surface
Stage 1 RAR	3.5	120	-50	170	Circular	37,593,954	2,535,692	Surface
Stage 2 RAR	3.5	122	-50	172	Circular	37,594,206	2,535,586	Adit
Main Shaft	6.0	248	-370	618	Circular	37,593,562	2,535,544	Surface
Blind Shaft	5.0	-300	-530	230	Circular	37,593,417	2,535,534	Internal

16.9 Mine production

16.9.1 Commercial production to end-2020

Table 16.6 shows reported GC production from start of commercial operations in FY2015 (Q2 2014) to the end of 2020 (Q3 FY2021).

Table 16.6 GC production FY2015 – FY2021 (Q1 to Q3)

Fiscal Year	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021 (Q1 to Q3)	Total
Ore mined (tonnes)	253,321	257,575	260,746	245,783	284,217	287,632	264,388	1,853,662
Head grades								
Silver (g/t)	107	94	94	98	86	97	84	94
Lead (%)	1.35	1.76	1.44	1.45	1.51	1.89	1.68	1.59
Zinc (%)	2.65	2.53	2.81	2.78	3.00	3.32	3.44	2.94
S (%)	9.29	9.19	10.55	9.88	9.82	10.29	9.89	9.85

16.9.2 LOM plan production

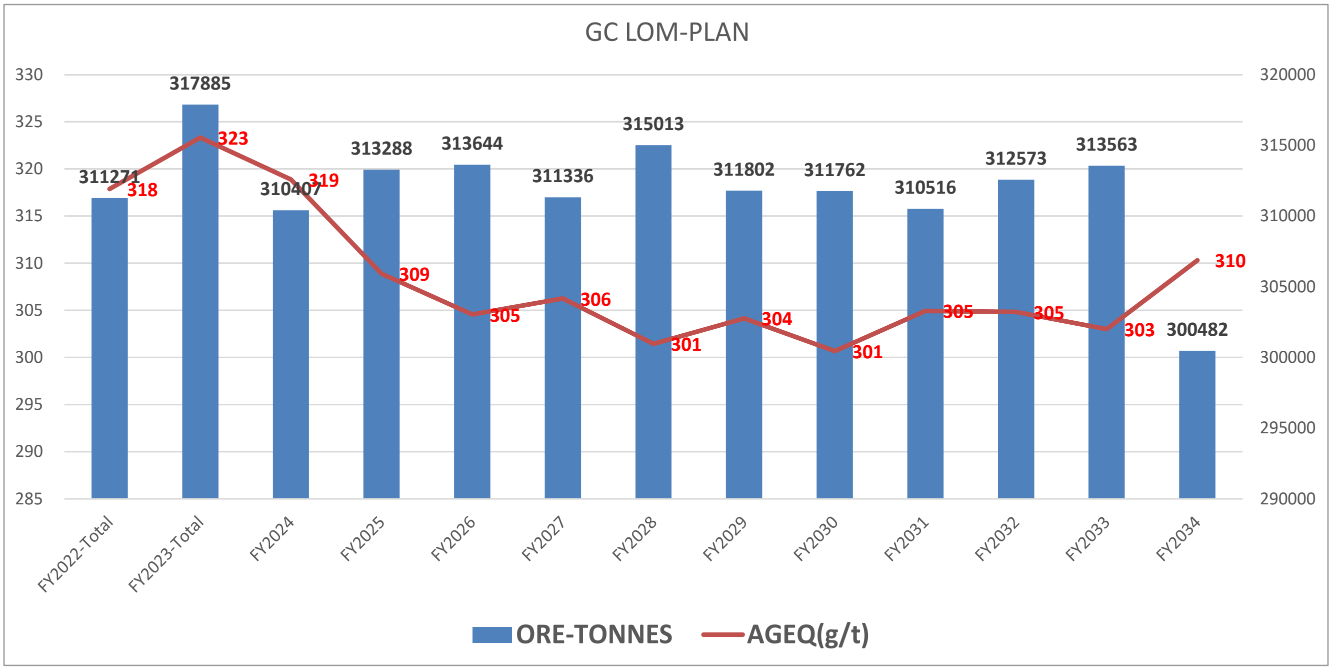
Projected LOM production is the combination of development ore and stope ore and is summarized in Table 16.7.

Table 16.7 LOM production summary

Quarter / financial year	Ore Tonnes	Mined ore grade				Planned metal		
		AgEq	Ag (g/t)	Pb (%)	Zn (%)	Ag (t)	Pb (t)	Zn (t)
FY2021Q4	77,496	326	88	1.51	3.72	7	1,173	2,883
FY2022Q1	77,341	316	85	1.45	3.62	7	1,124	2,800
FY2022Q2	80,459	322	87	1.49	3.68	7	1,196	2,957
FY2022Q3	81,479	312	84	1.39	3.64	7	1,130	2,963
FY2022Q4	71,991	322	88	1.52	3.61	6	1,094	2,597
FY2022-total	311,271	318	86	1.46	3.64	27	4,544	11,317
FY2023Q1	82,078	320	93	1.40	3.59	8	1,151	2,950
FY2023Q2	77,057	331	94	1.51	3.68	7	1,161	2,838
FY2023Q3	78,048	324	87	1.58	3.62	7	1,235	2,822
FY2023Q4	80,703	319	93	1.73	3.18	8	1,394	2,564
FY2023-total	317,885	323	92	1.55	3.52	29	4,940	11,175
FY2024	310,407	319	96	1.47	3.42	30	4,565	10,607
FY2025	313,288	309	96	1.47	3.20	30	4,592	10,011
FY2026	313,644	305	94	1.35	3.29	29	4,224	10,304
FY2027	311,336	306	96	1.51	3.08	30	4,706	9,591
FY2028	315,013	301	93	1.58	2.95	29	4,965	9,308
FY2029	311,802	304	95	1.49	3.08	30	4,651	9,604
FY2030	311,762	301	94	1.26	3.28	29	3,929	10,238
FY2031	310,516	305	94	1.40	3.21	29	4,354	9,974
FY2032	312,573	305	94	1.60	2.99	29	5,007	9,361
FY2033	313,563	303	98	1.43	3.06	31	4,492	9,581
FY2034	300,482	310	97	1.69	2.95	29	5,084	8,863
Total	**4,131,039**	**309**	**94**	**1.48**	**3.22**	**388**	**61,225**	**132,818**

The LOM production duration is planned for 13 years with currently defined Mineral Resources. The average production rate is projected to be 312 ktpa of ore through to the end of mine life. Figure 16.9 summarizes the LOM production profile tonnes and silver equivalent grade.

Figure 16.9 LOM production profile



Source: Silvercorp Metals Inc.

16.10 Rock handling

Total ore and waste quantities planned to be produced over the LOM are approximately 4.13 Mt and 1.79 Mt respectively.

All waste in the mine plan is currently disposed of at surface, either by Silvercorp for any mine construction needs or by the local contractors who use the supply for construction material.

Hand sorting of waste from ore at surface is conducted opportunistically.

16.10.1 Shaft hoisting

The Main Shaft has one tower-mounted multi-rope friction winder (600 kW), and is used for hoisting of waste, labour, materials, and mine equipment access for areas below the -50 mRL. The shaft is also used for intake air, services access (ladder, cables, and pipes) and labour emergency egress.

The shaft hoisting capacity is estimated at approximately 300 ktpa. The capacities are estimated based on 330 days per year, three shifts per day, and eight-hour shifts.

Waste that is cage hoisted in rail cars to surface is transferred to the rail waste dump tip head that is within 200 m of the Main Shaft. Figure 16.10 shows the Main Shaft headframe.

Figure 16.10 Main shaft headframe

Source: AMC Mining Consultants (Canada) Ltd.

16.10.2 Waste material

The total LOM waste produced is projected to be 1.79 Mt.

Other than use for construction purposes as indicated above, waste could opportunistically be disposed of into the shrinkage stope voids, but this is not in the current mine plan.

16.11 Mine services

Mine services are described in the following sub-sections.

16.11.1 Ventilation

Mine ventilation is practiced as set out by Chinese laws and regulations. Among key ventilation regulations are: minimum ventilation volume per person (4 m^3/min/person), minimum ventilation velocity (typically 0.25 – 0.50 m/sec dependent on location or activity) and minimum diluting volume for diesel emissions (4 m^3/min/kW).

The primary ventilation generally flows from west to east using the main levels interconnected by dedicated level vent raises (plus active stope accesses). The upper level(s) where stoping has been completed are used as return airways to separate the fresh and exhaust air. A series of air doors and sealed walls is utilized in the ventilation system. Inactive development headings and draw points are sealed to enhance the ventilation circuit by minimizing leakage.

16.11.1.1 Primary ventilation

The ventilation volume is predominantly influenced by the minimum air velocity for the various development and production activities. No diesel equipment is required for Stage 2 stoping. The peak ventilation volume is estimated to be 140 m^3/sec inclusive of 30% air leakage. The total air quantity is 105 m^3/sec, with 25 m^3/sec from the decline and 80 m^3/sec from the shaft. The primary fan (FBCDZ-NO30) is powered by YF-400-12 electrical motors (200 kW x 2, one for standby).

The fresh air intake airways are:

- Main Shaft (6.0 m diameter located approximately at Mine Section 22) with air flow of 80 m^3/sec at the collar. The friction factor acknowledges hoisting equipment and fittings in the shaft. For hoisting intake airways, there is a regulatory requirement for air purification prior to a level receiving fresh air from the Main Shaft.
- Ramp (4.2 m x 3.6 m located approximately at Mine Section 26) with 25 m^3/sec at the portal.
- Ramp Shaft (3.5 m diameter located at Mine Section 10) with 33 m^3/sec at the collar.

The return air exhaust airways are:

- Stage 2 Ventilation Shaft (3.5 m diameter located approximately at Mine Section 52). The fan duty point is 140 m^3/sec at 2070 Pa (total pressure). The friction factor assumes the shaft is furnished with a ladderway. The exhaust fan configuration is axial (200 kW – 380 V) mounted horizontally with a fan diffuser for silencing. The development on the inlet side is configured to enable emergency egress. The Stage 2 Ventilation Shaft is developed internally from within a short drift with the fan installation also established within the drift development.

The key airway regulation requirements are:

- Vehicle access doors (airlock system) placed in the Ramp level accesses for the +100 mRL, +50 mRL and 0 mRL levels.
- Two regulators on the -100 mRL level and one on the -50 mRL level to force air to the lower level working areas.

- The Stage 1 Vent Shaft is sealed at the collar and is used as an internal exhaust.
- All rock passes are assumed to be filled with rock for leakage purposes.
- All stope and inter-level ventilation raises include ladderway resistances.

16.11.1.2 Secondary ventilation

The secondary ventilation consists of auxiliary fans for ventilating development faces, infrastructure chambers, loading and tipping areas and stope faces.

Development faces are ventilated using domestically manufactured fans (5.5 kW – 380 V). A combination of forced and exhaust ventilation is applied for long blind-heading distances as required.

Stopes are force-ventilated using domestically manufactured fans (4 kW – 380 V) via the access timber cribbed travelway. The stope air returns to the upper level via a second access travelway at 50 m strike spacing.

16.11.2 Water supply

The source of water for the mine is from local creeks and gullies that flow into the Hashui Creek. The flows typically vary from about 11,000 m^3/day (dry season) to 69,000 m^3/day (wet season), with the wet season being from April to September inclusive. The annual average rainfall varies in the range of 1,400 – 1,734 mm. The water quality and quantity from the local creeks is sufficient to meet the Project requirements, which are of the order of 2,000 m^3/day.

Water is drawn from the Bai Mai reservoir (at approximately Mine Section 56 and elevation 105 mRL) and pumped to an elevated hilltop water tank (at approximately 343 mRL) for water treatment-filtration and surge capacity storage. The treated water is then gravity fed to the mine site and treatment plant (at approximately 248 mRL).

The key specifications of the water supply system are:

- Bai Mai reservoir water tank with 100 m^3 of settling capacity and 200 m^3 clean water capacity.
- Hilltop water tank with 300 m^3 storage, and water filtration capability via two filtration units.

Water consumption underground is primarily for drilling and suppressing dust.

Potable water is provided underground adjacent to the Main Shaft with water quality conforming to regulatory requirements. Personnel carry drinking water as required to remote workplaces in water containers.

16.11.3 Dewatering

Underground water is discharged to surface using conventional centrifugal pumps via pipelines installed in the Ramp, Ramp Shaft, and Main Shaft. Underground water pumped to surface is collected in ponds at the Ramp portal or Main Shaft for sediment settling prior to being pumped to the process plant water treatment station. The underground water is discharged to surface in two stages in relay.

At the Stage 1 pump station (-300 mRL), three pumps (Model MD155-67×5, capacity 155 m^3/h) are installed. Water from -300 mRL pump station is discharged through two steel pipelines installed in the shaft to the Stage 2 station. The effective water storage volume of the inner and outer sumps totals 2,000 m^3 at -300 mRL.

At the Stage 2 pump station (-50 mRL), three pumps (Model MD280-43×8, capacity 280 m^3/h) are installed. Water from -50 mRL pump station is discharged through two steel pipelines installed in the Ramp to the surface. The effective water storage volume of the inner and outer sumps totals 2,450 m^3 at -50 mRL.

As indicated, three pumps are installed in each pump chamber. Under normal water inflow conditions one unit is running, one unit is under maintenance, and the other is on standby. Under maximum water inflow conditions, two pumps will be running. Underground pumps are specified for clean water discharge, so each pump station has its own twin compartment sediment settling arrangement. The capacity of these is equivalent to six to eight hours of normal water inflow condition (Safety Regulations on Metal and Nonmetal Mining Operation – National Standard GB16423-2006).

Quality monitoring of the mine water and the surrounding receiving surface water is conducted on a regular basis.

In 2020, a total volume of 497,659 m^3 of underground water was treated, including 290,577 m^3 discharged and 207,082 m^3 recycled. The water treatment cost for year 2020 was US$0.0371/$m^3$. Table 16.8 shows underground water pumped, discharged, and recycled by month for year 2020.

Table 16.8 Underground water pumped, discharged, and recycled for year 2020

Date	U/G water pumped m^3	Discharged m^3	Recycled m^3	Recycle rate %
Jan 2020	37,429	25,944	11,485	30.68
Feb 2020	37,835	30,050	7,785	20.58
Mar 2020	39,373	26,737	12,636	32.09
Apr 2020	36,122	18,789	17,333	47.98
May 2020	40,328	20,633	19,695	48.84
Jun 2020	38,827	18,760	20,067	51.68
Jul 2020	39,994	20,946	19,048	47.63
Aug 2020	45,043	24,548	20,495	45.50
Sep 2020	41,113	24,082	17,031	41.42
Oct 2020	45,235	25,653	19,582	43.29
Nov 2020	48,704	27,876	20,828	42.76
Dec 2020	47,656	26,559	21,097	44.27
Total	**497,659**	**290,577**	**207,082**	**41.39**

Pumping demand under normal conditions is approximately 5.5 hours per day and, under maximum conditions, would be approximately 10 hours per day. Pump station sumps provide six hours of water inflow capacity.

For secondary dewatering, conventional compressed air diaphragm and / or electric submersible pumps are used for face dewatering on an as-needed basis. Water is stage-discharged via a pump line to the surface settling pond or the -50 mRL pump station.

Levels are self-draining (0.3% gradient) to either the Ramp access or Main Shaft access drainage holes. Drains are constructed from 245 mm diameter half pipes.

16.11.4 Power supply

Power is provided from a 110 kV substation near Gaocun town, about 6 km from the mine site, which is fed from the Guangdong Province electrical grid system.

High voltage supply is 10 kV to the surface sub-stations. The mine has standby diesel generator power for essential mine facilities (pump stations, shaft operations, primary ventilation fans).

Underground sub-stations are located on each level. Level development utilizing jumbo drills has incorporated additional sub-stations along the level to manage voltage drop from the sub-station.

Low voltage supply from the underground sub-stations is 415 V (jumbo), 380 V (pumps and fans), and 220 – 250 V (lighting and rail operation).

There are two 1,500 kW diesel power generators on standby.

16.11.5 Fuel storage and dispensing

No fuel is stored underground. Trucks and loaders are refueled at the surface fuel farm and dispensing facility.

16.11.6 Compressed air

Compressed air is primarily used for drilling blastholes. Jackleg drilling is used in the stopes and conventional development faces. There is some minor use for shotcreting, blasthole cleaning, and ANFO charging of blastholes, as necessary.

Compressed air is reticulated to all levels and to the emergency refuge stations.

Compressors (electrically powered two-stage piston compressors) are located adjacent to the Ramp portal (2 x 20 m^3/min, 0.8 Mpa, 110 kW) and Main Shaft headframe (2 x 40 m^3/min, 0.8 Mpa, 250 kW). Compressed air is reticulated using steel and plastic piping for air distribution via the Main Shaft (via the Ramp and Ramp Shaft for earlier Stage 1 operations).

16.11.7 Communications

Mine surface communications are available by landline and mobile phone services.

Telephones are the base means of communicating with underground. Phones are located adjacent to the Ramp level accesses (Stage 1 set-up) and adjacent to the Main Shaft level accesses.

16.11.8 Explosives storage

The surface explosives magazine is permitted to hold 10 t of bulk explosives and 15,000 detonators. Security services are used, and detonators are scanned on release from the magazine for security audit purposes.

Underground working party magazines are located adjacent to each level return air shaft and are limited to one day of requirement for bulk explosives and three days of requirements for blasting ancillaries.

16.11.9 Mine equipment maintenance

The mining contractor has its own mobile equipment workshop for repairs and servicing located adjacent to the Ramp portal. There are also underground drill service bays established in redundant stockpile areas to minimize tramming delays.

Mobile equipment repairs (trucks, loaders, etc.), other equipment breakdowns and equipment major services are conducted in the mining contractor's surface workshop with minor services conducted in redundant stockpile areas.

Minor equipment (such as jacklegs, secondary fans, development pumps, etc.) are also serviced in the mining contractor's surface workshop.

The electric locomotive and rail cars are serviced and repaired in a service rail siding located adjacent to the Main Shaft.

Other fixed and mobile equipment (primary pumps, surface electric locomotive, rail cars, vehicles, etc.) are serviced in Silvercorp's surface workshop located adjacent to the Main Shaft. This is fully equipped with overhead crane, welding, electrical, hydraulic, lathe services, etc.

16.12 Mine equipment details

All mobile equipment and some minor fixed equipment are provided by the mining contractor.

Silvercorp's fixed equipment is predominantly domestically manufactured and locally sourced (Guangdong Province). The equipment manufacturers are well known, and their equipment is commonly used for China mine operations.

Table 16.9 summarizes the characteristics of the contractor's equipment.

Table 16.9 Mining contractor typical key equipment summary

Contractor equipment	Units	Manufacturer	Model	Capacity
Single boom jumbo	1	Atlas Copco	Boomer 281	3,660 mm rod
LHD small	20	Shandong Derui Mining Machinery Co. Ltd	WJ-1	1 m^3
LHD large	5	Guangxi Liugong Machinery Co., Ltd.	CLG833	3 m^3
Haul truck	10	Fujian Longyan Shifeng Construction Machinery Co. Ltd	LHF30	13 t
Personnel carrier	2	Anhui Tongguan Machinery Co. Ltd.	JY-5YR-16	16 persons
Shotcreter	2	Hunan Changde Shotcrete Machinery Factory	HPZ-6	6 m^3/hr
Electric locomotive	18	Shandong Nadian Electromechanical Equipment Co. Ltd	CTY2.5/6B	70 m^3/h
Electric loader	10	Nanchang Hengye Mining and Metallurgical Machinery Factory	Z-30	0.3 m^3
Rail cars	116	Henan Hebi Mishi Machinery Co. Ltd.	YCC0.85-6	0.85 m^3
Auxiliary stoping & development fan	55	Zib Ventilation Machine Plant Ltd.	JK56-No4	0.1~3.4 m^3/hr

Table 16.10 summarizes the characteristics of the owner's equipment.

Table 16.10 Owner's fixed equipment summary

Equipment	Stage	Units	Manufacturer	Model	Capacity
Multi-rope friction hoister	2	1	Citic Heavy Machinery Manufacturing Company Ltd	JKMD-2.8 x 4	1,200 t/day – ore+waste
Primary fan	1 & 2	2	Shandong Befeng Ventilation Machine Ltd	DK-40-8-No25/ 2x200	62.9-150.4 m^3/sec
Waste and service cage	2	1	Xuzou Coal Mine Safety Equipment Limited	4# lengthen cage	
Multiple stage centrifugal pump -50 mRL	2	3	Changsha Canon General Pumps Company Ltd	200D65B	Q=200 m^3/hr, 344 m head
Multiple stage centrifugal pump -300 mRL	2	3	Changsha Canon General Pumps Company Ltd	D155-30x8	Q=155 m^3/hr, 140 m head
Air compressor – ramp	1 & 2	2	Kaishan Boreas Compressor	BK132-8T	22 m^3/min at 0.8 Mpa
	1 & 2	1	Kangluopu Compressor	KLP-350A	40.5 m^3/min at 0.8 Mpa
Air compressor – main shaft	1 & 2	1	Atlas Kunxi Compressor Company	QGD250AC	42 m^3/min at 0.8 Mpa
	1 & 2	1	Kangluopu Compressor	KLP-350A	40.5 m^3/min at 0.8 Mpa
	1 & 2	2	Hang Jian Compressor	HJ-350A	42 m^3/min at 0.8 Mpa

16.12.1 Equipment productivities

Table 16.11 summarizes the productivities assumed for the development and production activities.

Table 16.11 Development and production activity productivities

Development or production activity	Unit	Schedule rate	Machine type
Jumbo - Single Heading (Ramp)	m/mth	100	Single Boom Electric-Hydraulic
Jumbo - Single Heading (Levels)	m/mth	80	Single Boom Electric-Hydraulic
Jumbo - Multi Heading (Levels)	m/mth	240	Single Boom Electric-Hydraulic
Jackleg - Single Heading (Levels)	m/mth	60	Jackleg (YT-24)
Jackleg - Multi Heading (Levels)	m/mth	180	Jackleg (YT-24)
Jackleg - Stope Raises	m/mth	50	Jackleg (YT-24)
LHD - Stope Mucking	t/mth	30,000	TCY-3 (3 m^3)
LHD - Development Mucking	t/mth	16,000	TCY-2A (2 m^3)
Truck - Production (to ROM Stockpile)	t/mth	14,000	JZC-20 (20 t)
Truck - Development (to Waste Dump)	t/mth	13,000	JZC-20 (20 t)
Rail Loader - Development & Stope Mucking	t/mth/level	13,000	Z-30 (0.3 m^3)
Rail Trucks - Production & Waste (to Main Shaft)	t/mth/level	24,000	ZK3-6/250 Loco & 10xYCC0.7 m^3 cars

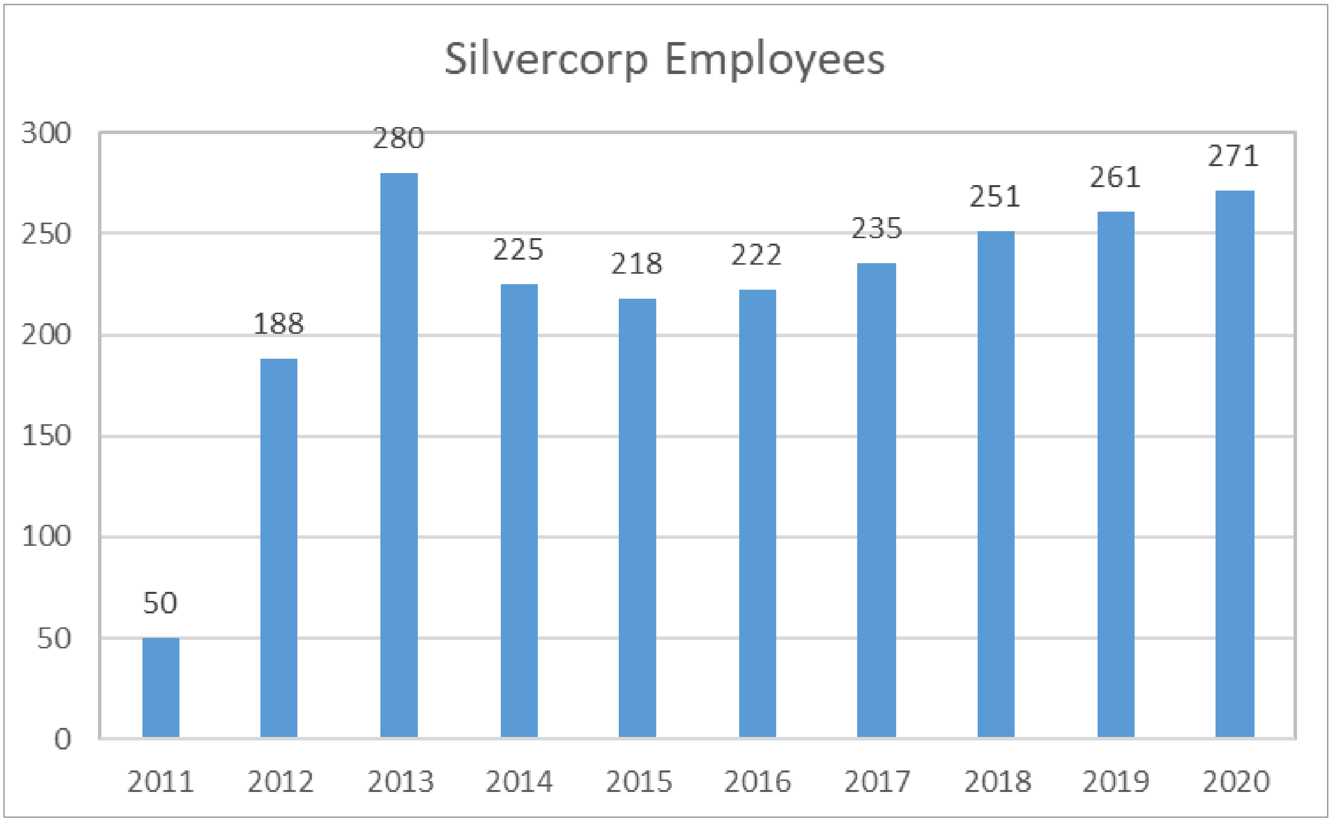
16.13 Mine personnel

Silvercorp operates the mine using contractors for development, production and the operation and maintenance of Silvercorp's fixed equipment, with Silvercorp providing its own management, technical services, and supervision staff to manage the GC Mine.

The mine is operated on a continuous roster for 365 days per year working three eight-hour shifts per day.

Figure 16.11 summarizes the Silvercorp employee numbers from year 2011 to 2020 These numbers exclude General and Administration (G&A) personnel, geological drilling, external consultants, and process plant operation. The numbers depict people on-site at any point in time and do not account for the off-site labour panels, sick leave, absenteeism, annual leave, turn-over, etc. The contractor average yearly employee numbers are approximately 265 for all years.

Figure 16.11 GC Mine operations labour



Source: Silvercorp Metals Inc.

16.14 Mine safety

Mine safety is practiced as set out by Chinese health and safety laws and regulations.

There is an OHS department for the GC Mine, staffed with three mine safety trainer officers and seven technicians.

The mine and mining contractors are tasked with providing appropriate Personal Protective Equipment (PPE) to their own staff or miners. The PPE available includes protective cloths, hard hats, safety boots, work gloves, face masks, and ear plugs.

The OHS department provides safety training, enforces the OHS policies and procedures, makes recommendations on mine safety issues, and carries out daily inspections of the underground workings and explosives usages.

Safety committees are headed by the General Manager and made up of the Deputy General Manager, Mine Superintendent, Safety Department Supervisor, and representatives of the mining contractor. The committees are coordinated by the GC Safety Department. The mine management and the safety officers are required to have valid mine safety training certificates issued by the Provincial Bureau of Safe Production and Inspection.

With respect to safety in general, the QP recommends that Silvercorp continue with a focus on safety improvement, including implementation of a policy whereby the more stringent of either Chinese or Canadian safety standards is employed.

16.14.1 Fire prevention

Water for fire protection is provided via the Main Shaft with 200 t surge capacity. Primary reticulation and secondary reticulation are by 108 mm and 89 mm nominal bore pipes respectively, which are installed and maintained in accordance with national safety standards (Safety Regulations on Metal and Non-metal Mining Operation – National Standard GB16423-2006).

Fire extinguishers are provided and maintained in accordance with regulations and good practice at the electrical installations, pump stations, service workshops, and locomotive garage, and wherever a fire hazard is identified to exist.

Visible fire signs and fire safety notices are posted in appropriate areas.

A suitable number of fire extinguishers are provided and maintained at each stationary diesel motor and transformer substation.

Every light duty vehicle carries at least one fire extinguisher of adequate size and proper type.

All heavy-duty mobile mine equipment - loaders, trucks, drills, charge-up machines, etc. - are equipped with on-board fire suppression systems.

A mine-wide warning system is installed at the main mine intake airway entries to alert underground workers to the event of an emergency. This consists of audible alarms, ventilation status lights, and stench gas.

16.14.2 Mine rescue

Fully trained and equipped mine rescue teams are site-based with team members provided by the mining contractor and maintained on-site at all times. The mine rescue teams are trained for surface and underground emergencies.

A mine rescue Emergency Response Plan has been developed and is kept up to date.

A mine rescue room is provided in the surface mine offices adjacent to the Main Shaft.

An emergency clinic is maintained on-site and manned by a physician 24 hrs per day. Silvercorp also has a contract established with the Yunfu General Hospital to provide emergency services and ambulance extraction to the hospital.

16.14.3 Dust

All broken rock is wetted down using hoses and sprays after blasting, prior to mucking, and during mucking.

Decline roadway dust suppression uses a water cart with sprays on an as-needed basis.

Regular dust monitoring is conducted as per regulatory requirements.

Personnel working in dust generating work areas are provided with personal dust respirators.

16.14.4 Emergency egress

Egress to surface is available via all ventilation shafts, Exploration Ramp, Main Ramp, and Main Shaft.

The Main Shaft and ventilation shafts are equipped with staged ladderways incorporating general mine services and partitioned from other shaft activities; they are provided with appropriate ventilation profile clearance and established in accordance with good practices.

Lateral egresses are appropriately signposted and maintained for walking access.

16.14.5 Mine refuge stations

A permanent refuge station is located at -300 mRL in the bottom of the Main Shaft.

Static and / or mobile refuge stations are established on each mine level with the exception of the +100 mRL, which is not a production level.

The static refuge stations or mobile refuge chambers are established in accordance with good practices with independent air supply (compressed air or oxygen), communications, first aid, etc., and are of appropriate capacity to cater for the personnel numbers in the active mine areas.

For the +50 mRL, 0 mRL, and -50 mRL levels, mobile mine refuge chambers are located in close proximity to the active development and production stopes in redundant stockpile areas.

For the remaining levels from -100 mRL to -300 mRL, static mine refuge stations are located adjacent to the Main Shaft.

16.14.6 Ablutions

Facilities are provided on each working level in the middle section (approximately Mine Section 32) adjacent to a return airway and are cleaned and disinfected on a regular basis.

17 Recovery methods

17.1 Introduction

The key outcomes from the metallurgical testwork are presented in Section 13.6, and recent operating performance is summarized in Section 13.7.

Prior to the start of operations, items of direct pertinence to discussion on recovery methods were seen to be the following:

- The silver mineralogy indicated an optimization opportunity in increasing silver recovery from all species, including sphalerite and pyrite, to the lead concentrate, within the constraints of the minimum % Pb specifications. This had implications for lead cleaner circuit and filtration capacity.
- There was no comminution testwork to serve as a basis for the crushing and grinding circuit design.
- The flotation testwork culminating in the closed-circuit test provided an adequate basis for the flotation process design.
- Some circuit options had been investigated, specifically copper-lead separation and tin recovery, and although these had been included in the GMADI Design Instructions, neither had been included in financial modelling.
- The QP considered the copper-lead separation not to be viable, but in any case, to be of such a small scale and, therefore, of such limited materiality that it was of little consequence to projected operations. Moreover, there was only limited Cu resource data to support any copper recovery process.
- On the other hand, the QP believed that a tin recovery circuit did have potential merit and, although the base case for operations did not include such, it was considered as an opportunity and a material circuit option.

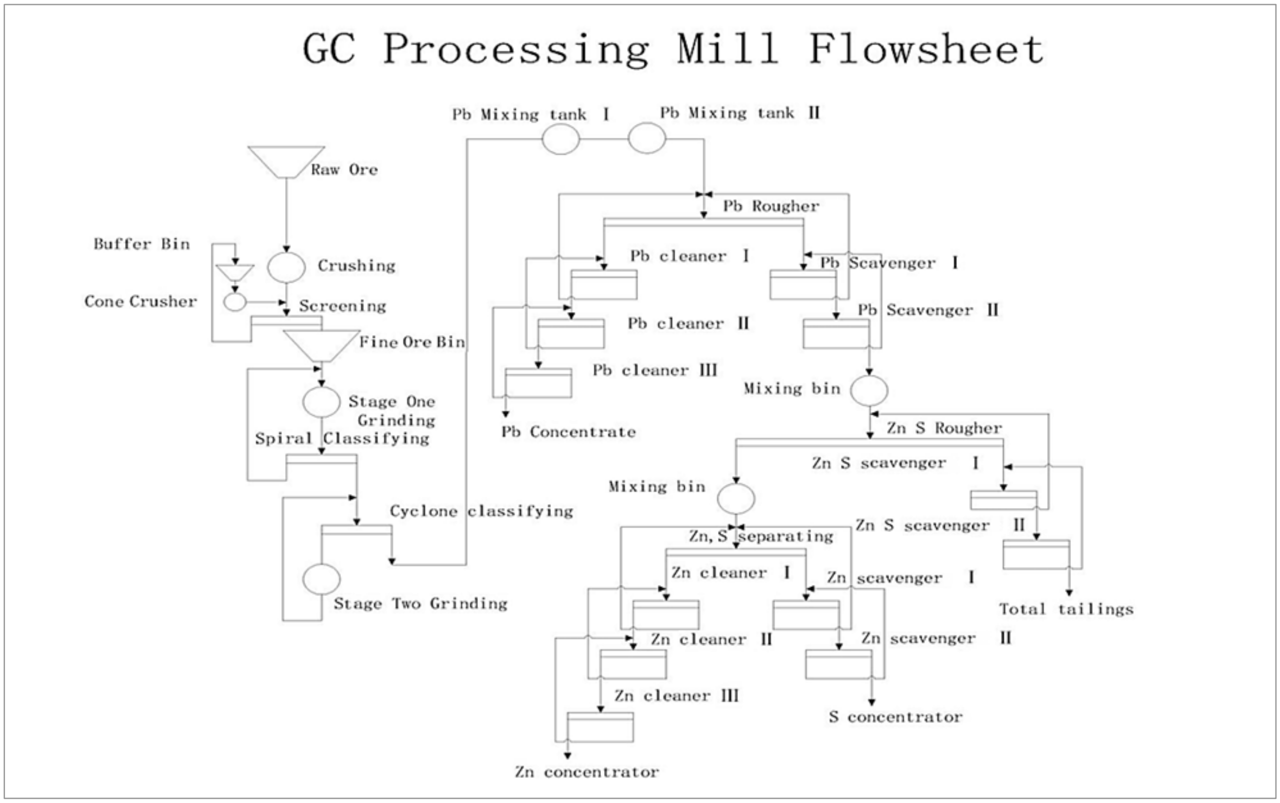
Since the start of trial operations in 2013 and commercial production in 2015, lead and zinc concentrates have been produced in commercial quantities at the Gaocheng mill (see Table 13.4). The process flowsheet and other key aspects of the processing operation are discussed below. Of further note is that some small amounts of tin concentrate and sulphur have also been produced but that these quantities have not been significant enough to be material to mine economics.

17.2 Process flowsheet

The process flowsheet is shown schematically in Figure 17.1, being very similar to the process adopted in the closed-circuit flotation tests described in Section 13.4.3; the tin recovery circuit is also shown in Figure 17.1.

In 2019, the lead-zinc-sulphur priority flotation process was optimized by changing from zinc-sulphur process priority flotation to zinc-sulphur mixed flotation and then zinc-sulphur separation flotation process. The quantity of ore processed has increased to around 300 ktpa.

Figure 17.1 Process flowsheet



Source: Silvercorp Metals Inc.

17.3 Process description

17.3.1 Summary

The overall process consists of crushing, grinding, sequential flotation of lead, zinc, and pyrite concentrates, and concentrate dewatering by disc filtration. An experimental tin recovery gravity separation circuit is installed on pyrite flotation tails.

Two-stage crushing is carried out, with the second stage in closed circuit. Run of mine ore at -350 mm is reduced to crusher product at -10 mm. This is followed by two-stage grinding in ball mills to a product size of 80% passing 75 µm (P_{80} of 75 µm).

The flotation process consists of a standard flotation of lead, with three-stage cleaning of the lead concentrate, then flotation of zinc concentrate with three-stage cleaning, leaving pyrite tailings as sulphur concentrate. Concentrates are dewatered by conventional thickening and filtration.

The experimental tin recovery circuit treats Zn scavenger flotation tailings. It comprises spiral classification, followed by coarse and fine gravity concentration using shaking tables, with a final stage of flotation to remove residual sulphides.

The process design was based on the following overall throughput assumptions:

- 1,000 tpd feed base case (potential expansion to 1,600 tpd if required)
- 330 days per year
- Crushing 18 hrs/day
- Grinding-flotation, etc. 24 hrs/day

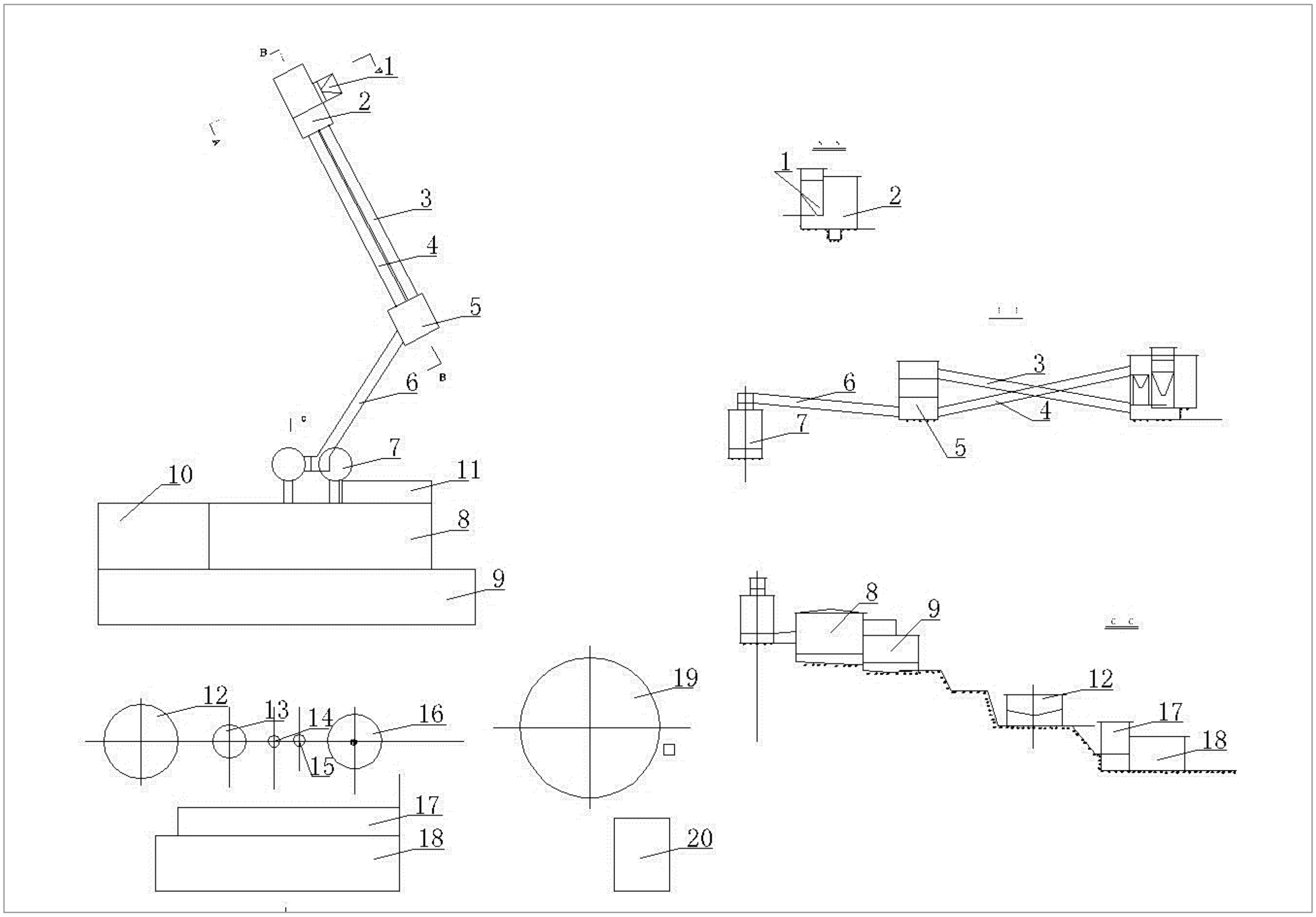
Daily throughput to date has generally been between 900 and 950 tpd. The following are typical assumptions for a throughput around 310,000 tpa:

- Feed rate: 44 tph
- Daily utilization of time: 90%
- Annual days worked: 330 days

The required steps to increase daily throughput to 1,600 tpd have been identified. The QP considers necessary availability and utilization factors for 1,600 tpd to be reasonable and in line with normal mining industry practice. In all sections of the plant, space / capacity has been allocated for an expansion to 1,600 tpd (mine feed to the mill at around 500,000 tpa). The implications of this are discussed in the section descriptions following.

A general site plan layout is shown in Figure 17.2.

Figure 17.2 Processing plant site plan



Note: Numbers in Figure 17.2 explained in Table 17.1.
Source: Silvercorp Metals Inc.

Table 17.1 List of equipment in Figure 17.2

Number	Item	Number	Item
1	Ground ore bin	8	Slurry mixing bucket
2	Conveyor belt	9	Flotation cell 1
3	Ball mill	10	Flotation cell 2
4	Overflow ball mill	11	Flotation cell 3
5	Belt scale	12	Reagent mixing bin 1
6	Spiral classifier	13	Reagent mixing bin 2
7	Hydrocyclone	14	Slurry pump

Source: Silvercorp Metals Inc.

17.3.2 Crushing

The crushing circuit consists of a run-of-mine ore bin from which the ore is drawn by a vibratory feeder into the primary jaw crusher. The jaw crusher product is screened on a vibrating screen, with the -10 mm fines being conveyed forwards to the fine ore bin while the +10 mm material feeds the secondary cone crusher via a buffer storage bin to maintain choke feeding of the crusher. The fine ore bin has a capacity of 1,600 t.

Figure 17.3 Surface grizzly feed to ROM ore bin

Source: AMC Mining Consultants (Canada) Ltd.

17.3.3 Grinding

In similar fashion to the crushing section, the two-stage grinding circuit is sized for 1,600 tpd.

Given that 1,600 tpd could be the ultimate throughput, four mills with 400 kW motors have been installed.

Typical of Chinese practice and conforming to the design successfully used at Silvercorp's Ying mine, the grinding circuit consists of a grate-discharge ball mill in closed circuit with screw classifier, followed by an overflow ball mill in closed circuit with hydrocyclones, to achieve the desired flotation feed size of 80% passing 75 µm (P_{80} of 75 µm) in the cyclone overflow. The primary mills have weightometers fitted to the feed conveyors linked to a variable speed belt motor for mill feed control.

The circuit is configured in two parallel trains, each of 800 tpd capacity, for reasons of flexibility and ease of maintenance.

Figure 17.4 Grinding mills and spiral classifier

Source: Silvercorp Metals Inc.

17.3.4 Flotation

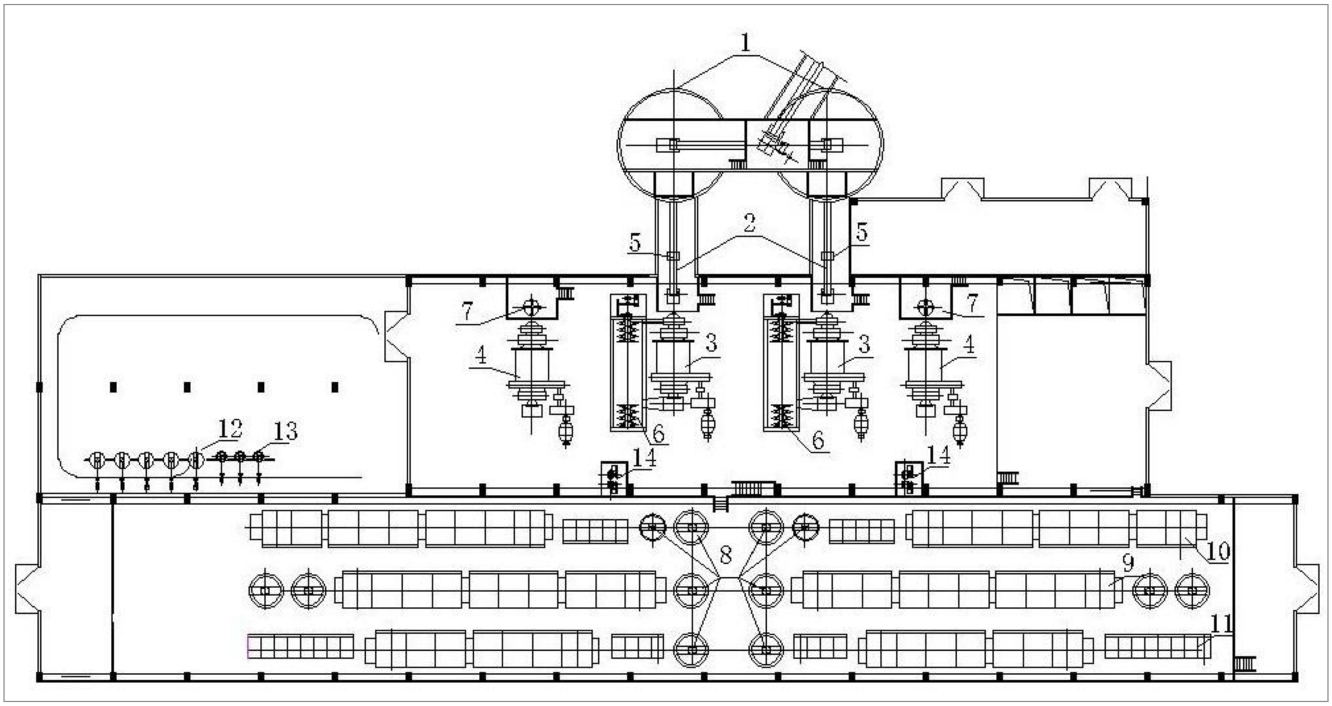
Following on from the grinding circuit, the flotation circuit is similarly configured in two parallel trains.

The flotation cell sizing is adequate for 1,600 tpd, with rougher residence time designed to be a minimum of 15 minutes plus scavenger time, also of 15 minutes. Conditioning times of the order of five minutes apply.

The general layout is compact and efficient, making use of gravity and the sloping site terrain as the banks follow successive parallel contour lines.

Figure 17.5 shows a general arrangement plan of the grinding and flotation section. Figure 17.6 shows flotation cells on a flotation deck.

Figure 17.5 Grinding / flotation plant general arrangement



Note: Numbers in Figure 17.5 explained in Table 17.2.
Source: Silvercorp Metals Inc.

Table 17.2 List of equipment in Figure 17.5

Number	Item	Number	Item
1	Ore storage bin	12	Hydrocyclone room
2	Crushing workshop	13	Central drive thickener (φ 3.6 m)
3	Conveyor belt corridor 1	14	Central drive thickener (φ 3.6 m)
4	Conveyor belt corridor 2	15	Central drive thickener (φ 3.6 m)
5	Screening Station	16	Central drive thickener (φ 3.6 m)
6	Conveyor belt corridor 3	17	Central drive thickener (φ 3.6 m)
7	Ground ore storage	18	Peripheral drive thickener (φ 38 m)
8	Ground ore size classification	19	Vacuum press filter
9	Flotation workshop	20	Concentrate storage
10	Reagent storage	21	Tailing pumping station
11	Lime preparation room		

Figure 17.6 Flotation cells

Source: Silvercorp Metals Inc.

17.3.5 Concentrate handling

The respective concentrates are thickened and then filtered on ceramic disk filters sized at 9 m^2, 15 m^2, and 30 m^2 for the lead, zinc, and pyrite concentrates, respectively.

The filters are positioned above the concentrate storage shed for direct discharge and, from which, the concentrates are loaded by front-end loader into trucks for transport to the smelter customers. Figure 17.7 shows a ceramic disc filter and stockpiles of filtered zinc concentrate in the Zn concentrate storage shed.

Figure 17.7 Disc filters and zinc concentrate shed

Source: AMC Mining Consultants (Canada) Ltd.

17.3.6 Tin recovery circuit

The experimental tin recovery circuit is set up to treat the pyrite flotation tailings.

After an initial pre-concentration stage on eight sets of four-start spiral concentrators, the stream is cycloned to split at 75 µm, and then the +75 µm size fraction is fed over 25 coarse (sand) shaking tables and the -75 µm material is fed over 51 fine shaking tables. The final step is a batch flotation stage to remove any residual sulphides also concentrated by the gravity separation processes. This takes place in a small unit in the main flotation building.

As indicated earlier, tin quantities produced to date are such as to not be material to overall mine economics.

17.4 Process control and automation

The level of process control and automation is appropriate and consists of the following key components:

- A central control room in the grinding-flotation building from which TV imaging of key operating points in the production flow can be monitored (Figure 17.8).
- Centralized monitoring of equipment run status.
- On / off interlocking of the main crushing and grinding system flows.
- Measurement and control of key parameters, including:
  - Ball mill feed tonnage.
  - Critical bin and tank levels.
  - Critical densities, e.g., screw classifier, thickener underflow densities.
  - Flotation cell pulp levels and reagent dosage.
- Automatic sampling of key metallurgical accounting streams, e.g., flotation feed, concentrates, and tailings.

Figure 17.8 Control room screens

Source: AMC Mining Consultants (Canada) Ltd.

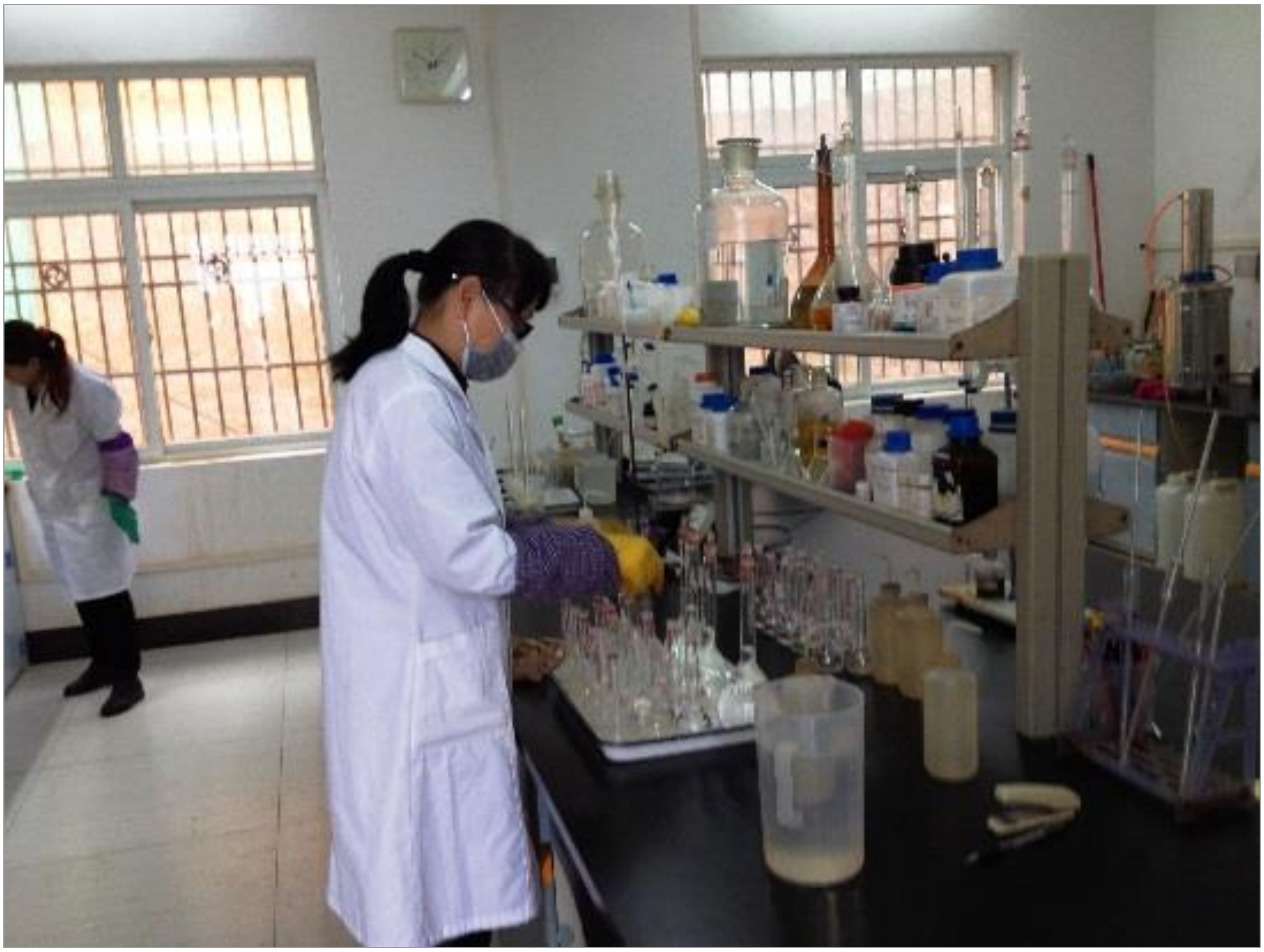
17.5 Ancillary facilities

17.5.1 Laboratory

The laboratory is equipped with the customary sample preparation, wet chemistry, and basic photometric analytical equipment; as well as crushing, grinding, flotation, and gravity-separation metallurgical testing equipment (Figure 17.9).

Routine analyses of ores and concentrates are conducted, as well as water quality and other environmental testing. The laboratory also provides a technical service to the processing plant by monitoring plant conditions, helping solve production problems and investigating new technology and new processes to assist with improvement efforts.

Figure 17.9 Laboratory



Source: AMC Mining Consultants (Canada) Ltd.

17.5.2 Maintenance workshops

Daily maintenance requirements are serviced through workshop facilities equipped with craneage, welding, and basic machine-shop capabilities.

More extensive maintenance and major overhaul needs can be met through use of appropriate contractors or equipment suppliers.

17.6 Key inputs

17.6.1 Power

Total installed power amounts to 5,043 kW (includes standby equipment). Actual power drawn is of the order of 3,657 kW, which corresponds to 28,963,000 kWh per annum. Note that this includes tailings return water pumping.

17.6.2 Water

With the use of dry stacking of tailings there is minimal lock-up of water in tailings and close to 90% recycle of water from the recycled water pond; however, there is a requirement for some fresh water, of the order of 0.4 m^3 per tonne of plant feed, for items such as pump seals, cooling units and reagent mixing.

Total water demand (including recycle) is approximately 3,200,000 L/day (4 m^3 per tonne of ore processed). 6,000,000 L/day of water is projected for a potential 1,600 tpd production.

17.6.3 Reagents

Reagent storage and mixing is located adjacent to the grinding / flotation plant and comprises a storage area with hoisting equipment to lift bags and drums through into the mixing area.

The reagents in this area are:

- Depressant / modifiers:
  - Sodium sulphide
  - Zinc sulphate
  - Sodium sulphite
  - Copper sulphate
- Collectors:
  - Di-ethyl dithiocarbamate
  - Ammonium dibutyl dithiophosphate
  - Butyl xanthate
- Frother – no. 2 oil (added directly)

From the mixing area the reagents are pumped up to the dosing station located above the flotation section for dosing and gravity feeding to the various addition points.

Since the usage of lime is large (8 kg/t) the lime storage and milk-of-lime mixing area is separate, but also adjacent to the grinding / flotation plant. Milk-of-lime storage tanks have grit removal submersible pumps.

The sulphuric acid tank and dosing pumps are also located separately, for reasons of safety.

17.7 Mill feed schedule

Table 17.3 shows the projected LOM mill feed schedule and metal production.

Table 17.3 Gaocheng LOM mill feed and metal production

Item	Unit	2021 Q4	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Total
Mill Feed - Ore tonnes	t	77,496	311,271	317,885	310,407	313,288	313,644	311,336	315,013	311,802	311,762	310,516	312,573	313,563	300,482	4,131,039
Head grade, Ag	g/t	88	86	92	96	96	94	96	93	95	94	94	94	98	97	94
Head grade, Pb	%	1.51	1.46	1.55	1.47	1.47	1.35	1.51	1.58	1.49	1.26	1.40	1.60	1.43	1.69	1.48
Head grade, Zn	%	3.72	3.64	3.52	3.42	3.20	3.29	3.08	2.95	3.08	3.28	3.21	2.99	3.06	2.95	3.22
Planned metal - Ag mined	t	6.79	26.75	29.21	29.78	30.02	29.36	29.85	29.39	29.56	29.35	29.30	29.26	30.64	29.01	388.27
Planned metal - Pb mined	t	1,173	4,544	4,940	4,565	4,592	4,224	4,706	4,965	4,651	3,929	4,354	5,007	4,492	5,084	61,225
Planned metal - Zn mined	t	2,883	11,317	11,175	10,607	10,011	10,304	9,591	9,308	9,604	10,238	9,974	9,361	9,581	8,863	132,818
Planned metal - Ag recovered	t	5.61	22.10	24.13	24.60	24.79	24.25	24.65	24.28	24.42	24.24	24.20	24.17	25.31	23.96	320.71
Planned metal - Pb recovered	t	1,050	4,067	4,422	4,086	4,109	3,780	4,212	4,444	4,162	3,516	3,897	4,482	4,020	4,550	54,797
Planned metal - Zn recovered	t	2,517	9,880	9,756	9,260	8,740	8,995	8,373	8,125	8,384	8,938	8,708	8,173	8,364	7,738	115,950

17.8 Summary

The recovery methods used for the GC deposit are appropriate for the ore characteristics. The following specific comments apply:

- The flowsheet is fit for purpose and has demonstrated that it can achieve targeted recoveries and concentrate grades.
- The comminution circuit, especially grinding, performs well for the current 900 to 950 tpd operation, and is also adequate for a 1,600 tpd throughput level.
- Drawing on the design data provided and on-site visit information, the QP concludes that appropriate equipment is in place and that the plant layout is practical and functional.
- Ancillary facilities are adequate.
- The experimental tin recovery circuit yields quantities that are not material to the commercial viability of the operation.

18 Project infrastructure

18.1 Tailings Management Facility (TMF)

18.1.1 Overview

The tailings deposition method is dry stacking and filling (from bottom to top and stacking by bench to form the embankment) with concurrent rolling and compaction.

In the 2012 Gaocheng Technical Report, the QP noted the following items with respect to the proposed TMF:

- *"Tailings properties determination is critical for dry stacking as the tailings are effectively their own containment and so requires additional testwork including:*
  - *Proctor compaction tests to derive target moisture levels for the required compacted density.*
  - *Shear tests to assess the internal strength of the tailings as an input to stability analysis.*
  - *More comprehensive size analysis, to include potential clay component size range.*
  - *Geochemical characterization, e.g., metal leaching tests.*
  - *Filtration tests to assist in the pressure filter sizing to meet target moisture levels.*
- *Site investigations are required including:*
  - *Geotechnical evaluation of underlying bedrock, etc.*
  - *An assessment of the implications of the Gaocheng River Class II water resource classification for the TMF location and design.*
- *Although the TMF design meets storage capacity requirements, the following work is still required:*
  - *A site-specific risk assessment as opposed to the generic Grade III design criteria within the Chinese volume-height categories.*
  - *A re-assessment of factor of safety calculations using standard industry practice finite element numerical modelling.*
- *A more detailed water balance on a month-by-month basis is required since the Project is situated in the monsoon belt with 70% of annual precipitation falling in the summer months."*

As noted in the 2018 and 2019 Technical Reports, an AMC QP observed the actual TMF during the 2018 AMC site visit. The TMF has been functioning since the start of mining and processing operations in 2014. The TMF operation and dry-stacking process appear to be taking place as planned, and with drainage installed as described below and as shown in Figure 18.3 and Figure 18.4. The QP notes that the most recent TMF risk assessment (report dated 30 July 2020) was done by Guangdong Huasheng Safety Occupation Evaluation Co., Ltd. After the issuing of the report, a new TMF Safety Production Certificate was granted on 3 September 2020, following a satisfactory on-site assessment organized by the local government. The certificate is valid until 3 September 2023.

Silvercorp has also entrusted Sinochem Mingda (Fujian) Geological Survey Co., Ltd., a survey company with China Grade A qualification, to conduct an engineering survey of the dry tailings area. Silvercorp has further entrusted the designer of the dry tailings area, Guangdong Metallurgical Architectural Design and Research Institute Co. Ltd., to assess the current flood control safety and dam stability of the dry tailings facility. This Project is expected to be completed by the end of 2021.

18.1.2 Site selection

Two possible sites for the TMF were considered initially, one immediately to the south of the mine and concentrator in the Daken valley, and the second 5 km to the south-east in the Heliken valley.

The Daken valley site was selected on the basis of:

- Proximity to the concentrator.
- No residential or industrial developments, although there was some small-scale farming within the proposed site.
- Small catchment area and adequate storage capacity.

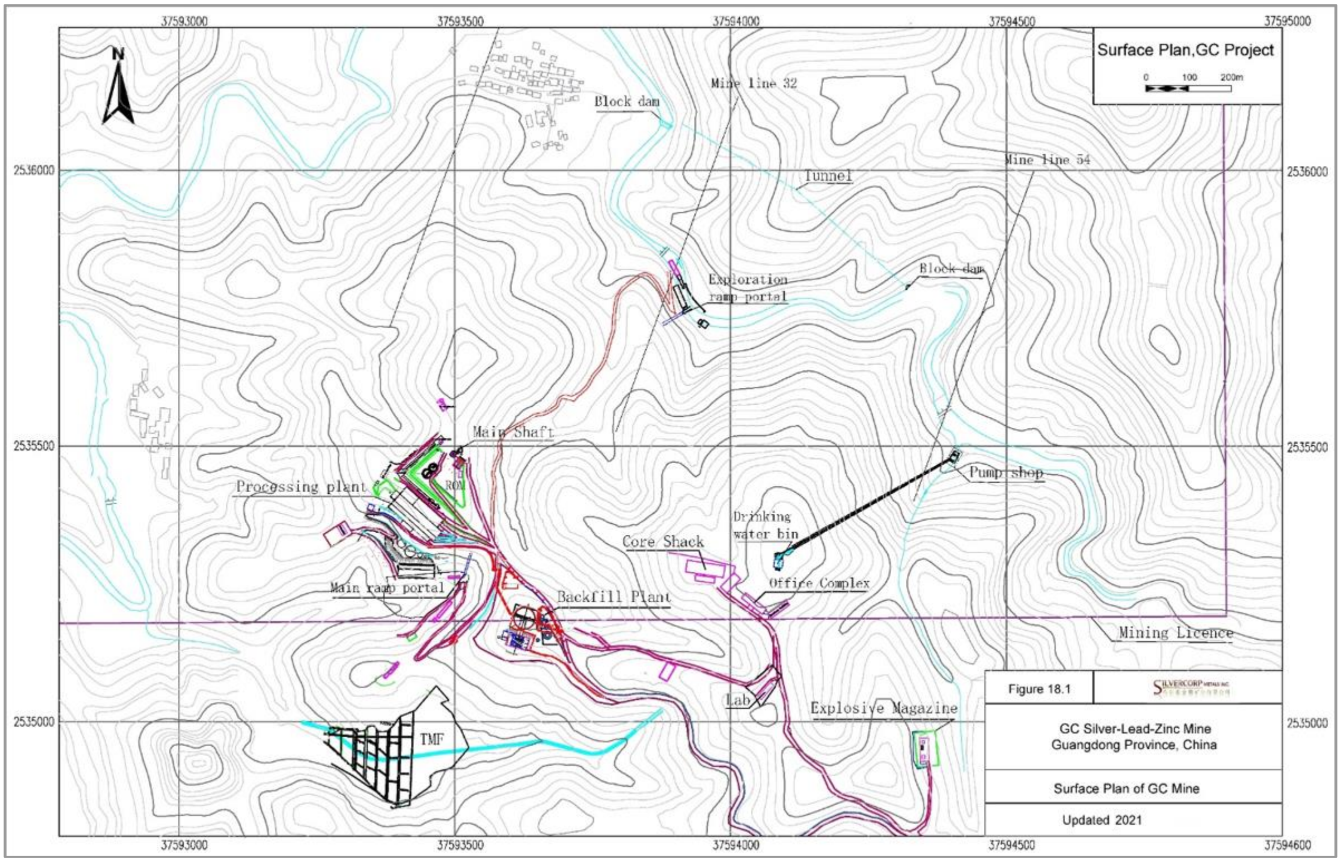
Data on site conditions consisted of:

- Rainfall data (annual average 1,493 mm, with 70% of that occurring in the April to August period).
- Surficial geology: Quaternary residual overlying shales and schists, no known structures.
- Seismic intensity rating according to the Earthquake Intensity Zoning Map of China (2002) of VI (the intensity scale is similar to the Modified Mercali, i.e., in this case "slightly damaging").

The QP understands that no site-specific geotechnical field investigations have been carried out with respect to geotechnical drilling to bedrock beneath the main containment structures.

The TMF location, along with other surface infrastructure, is shown in Figure 18.1 and Figure 18.2.

Figure 18.1 Plan of surface facilities, GC Project



Source: Silvercorp Metals Inc.

Figure 18.2 Satellite aerial view of surface facilities, GC Project

Source: Silvercorp Metals Inc.

18.1.3 TMF design and assessment

Storage capacity calculations for the Daken valley site under the bottom to top dry stacking by bench method indicated a total storage volume of 3.57 Mm^3. At a dry density that is now understood to be close to 2.0 t/m^3, the equivalent tailings tonnage is of the order of 7.0 Mt. This is more than adequate for the tonnage of tailings in the LOM production schedule.

The design criteria under the Chinese system are based solely on the TMF height and volume, which places it within a Grade III facility (i.e., mid-range in the I-V system). A site-specific risk assessment is one of the pre-conditions to renew the TMF Safety Production Certificate. The first such certificate was granted in 2014. On 4 September 2017, the TMF Safety Production Certificate was renewed and was valid until 3 September 2020. As noted above in Section 18.1.1, the most recent TMF risk assessment (report dated 30 July 2020) was done by Guangdong Huasheng Safety Occupation

Evaluation Co., Ltd. After the report, a new TMF Safety Production Certificate was granted on 3 September 2020, following a satisfactory on-site assessment organized by the local government. The certificate is valid until 3 September 2023.

The TMF was designed as Class III under Chinese TMF classification criteria but was assessed as Class IV under the same criteria. Table 18.1 shows key metrics of the design and latest working volume assessment.

Table 18.1 Key metrics of design and latest assessment

	Unit	GC TMF	Remarks
Year built		2013	Completed on 15 July 2013
Start operation		2014	
Total volume	Mm^3	2.98	Designed volume
Remaining working volume	Mm^3	2.05	Assessed December 2020
Service life	yr, design	18	Assessed 15 years
Remaining life	yr	12	At December 2020
Tailing production rate	tailing, tpd	783.6	
Stacked volume	Mm^3	0.93	Assessed December 2020

The TMF consists of an initial earth retaining dam, behind which the tailings are delivered by a system of conveyors and then spread by bulldozer on a bench-by-bench basis, with concurrent rolling and compaction to the desired dry density standards. The resulting construction is a tiered tailings embankment gradually rising up the valley. Figure 18.3 shows the dam and water pond. Figure 18.4 shows the dam water catchment set-up.

Figure 18.3 GC TMF dam and water pond

Source: AMC Mining Consultants (Canada) Ltd.

Figure 18.4 TMF dam water catchment

Source: AMC Mining Consultants (Canada) Ltd.

Seepage control is affected by geomembrane and geotextile impervious layers together with an intercepting drain and collector system discharging into a downstream water storage dam for pumping to the concentrator.

Aspects of the TMF design and assessment have included:

- Water drainability analysis: Based on area precipitation records, rainwater collection area and slope of the topography, and resulting requirements for discharge ditches and water discharge pipes under extreme circumstances.
- Tailings dam seepage analysis: Based on the elevation of underground water during extreme rainfall and the permeability coefficient of the rocks, to determine the location of the seepage line and the slope of the underground water. This analysis suggested that the seepage line is not exposed and there would be no seepage, even in case of heavy rain.
- Tailings dam stability analysis: Based on information such as material used for dam construction and geotechnical characteristics of the dam foundation. The anti-slip stability factor was calculated to be 1.427, which is significantly higher than the value of 1.1 in the case of extreme heavy rain that the QP understands is required in China.
- TMF monitoring system: Online monitoring equipment installed includes the following:
  - Online seepage line monitoring system.
  - Dam displacement GPS monitoring system.
  - CCTV monitor system.
  - Precipitation alarming system.

The QP also understands that a safety and reliability analysis for the TMF was previously carried out in accordance with the Safety Technical Regulations for Tailings Ponds (AQ2006-2005) and under the Grade III requirements. It was referenced in previous Technical Reports that the methodology used was now considered outdated and industry practice would be to conduct finite element numerical modelling.

The QP notes that flood calculations have been indicated as being performed appropriate to the Grade III classification of the TMF, under a dry stacking scenario, which requires the flood control measures to meet a 1 in 100-year recurrence interval for design purposes with a 1 in 500-year probable maximum flood criterion also.

As referenced above, the most recent TMF Safety Production Certificate was renewed on 3 September 2020. The QP also acknowledges the independent dam engineering surveys and the flood control safety and stability analysis of the dam expected to be completed in 2021. That notwithstanding, the QP recommends that Silvercorp continues to satisfy itself, as per best industry practice, that all fundamental aspects of the TMF design, construction and operation have been and continue to be satisfactorily addressed. This may include geotechnical drilling of the dam foundation area, as it is the QP's understanding that such activity has not specifically been undertaken.

18.1.4 Tailings delivery

The concentrator tailings are thickened in a conventional rake thickener and then filtered in plate and frame pressure filters of Chinese manufacture at the filtration plant situated immediately adjacent to the TMF.

The two XA90 / 920 filters selected were sized for 1,000 tpd ore feed and have proved to be of adequate capacity for the tonnages processed to date.

The filtered tailings are conveyed to the TMF delivery point via conveyor belts, with subsequent spreading and stacking as previously described.

18.2 Waste rock dump

The + 215 mRL waste rock dump is located a short distance to the east of the mine portal. It is understood to have an immediate capacity of the order of 275,000 m^3 (~558 kt). Previous site observations and review of surface plans referenced that there appeared to be room for a downstream extension of the waste dump location and / or ability to increase the waste dump height to approximately +300 mRL to accommodate all waste produced over the LOM.

As noted earlier, however, waste rock produced to date has largely been used for construction purposes by Silvercorp or transported off-site by local companies, free of charge, again to be used for construction activities. Waste dump areas on site are thus empty. The removal of waste rock from site is anticipated to continue for the foreseeable future.

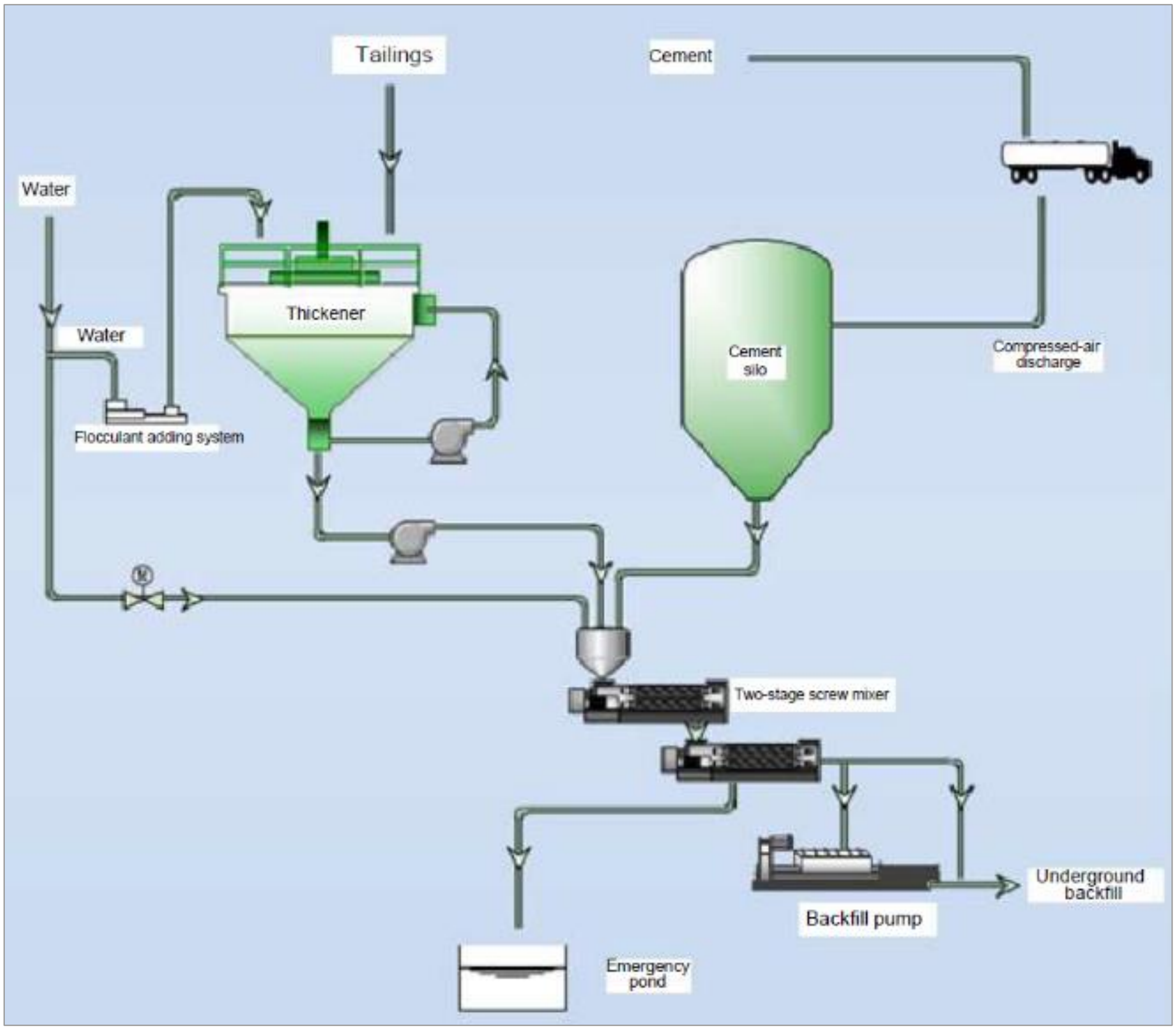
Also, as noted earlier, waste rock could opportunistically be disposed of into shrinkage stope voids, but this is not in the current mine plan.

Based on the GC environmental assessment report, the QP understands that waste rock at the GC mine has no significant acid-generating potential.

18.3 Backfill plant

The backfill plant is designed for cemented full tailings, with a system capacity of 60 – 80 m^3/hr, or around 450 m^3/day assuming seven hours operation. The envisaged concentration of the backfill is around 69 - 72% solids, at a density of approximately 1.9 t/m^3. The capacity of the plant at the projected utilization is more than sufficient to supply underground backfill requirements at LOM mining rates. Figure 18.5 illustrates the backfill plant process.

Figure 18.5 Backfill plant process



Source: Silvercorp Metals Inc.

The backfilling system is mainly composed of the sub-systems of tailings delivery, tailings thickening, tailings mixing, water addition, backfill control, cement supply, pipeline conveying, water supply, and power supply.

The full tailings with a mass concentration of 10 - 12% produced by the process plant are pumped into the deep cone thickener in order to thicken them to the range of 66 - 68% solids. The concentrated tailings are conveyed to the mixing system by gravity from the bottom of the thickener.

The bulk cement is stored in a steel silo from where it is delivered to the mixer. The concentrated tailings are mixed with water and cement in the mixer to prepare backfilling slurry, which is then pumped underground via a backfill raise or raises and pipelines, to be delivered to various underground shrinkage stope voids as required.

Tailings feed to the backfill plant can come directly from the mill or from the dry stack tailings area.

Silvercorp notes that underground tailings backfill has obvious advantages, including reduction of the surface storage footprint and thus being more environmentally friendly, facilitation of in situ ore pillar removal and thus maximizing ore production, enhancing mine support with associated safety benefits, and improvement of the ventilation circuit through elimination of potential short-circuiting.

The construction of the backfill plant was completed and linkage tested on 24 December 2019. After surface and underground full-process backfilling tests and adjustment, the system began operating on 15 July 2020. In 2020, the total backfill volume delivered was 43,091 m^3, and the backfill guidance for 2021 is 70,626 m^3.

18.4 Power supply

There is a 110 kV substation near Gaocun, about 6 km from the mining area. This is fed from the Guangdong Province electrical grid system. Silvercorp uses this substation as the main source of power for the mine. Currently there are two overhead power lines for the 6 km route. Two 15.0 MW diesel generators are designated for emergency backup to the man-hoist, underground ventilation system, water pumping and essential services in the plant.

A new 10 kV substation was built in the mining area to provide power service for the operations area as a whole. The power supply and distribution in the process plant, mining area, administrative and living areas are configured based on needs. Figure 18.6 is a view inside the substation compound.

Figure 18.6 GC mine substation

Source: AMC Mining Consultants (Canada) Ltd.

According to Chinese standards the electrical loads are sub-divided into three classes. Underground dewatering and the man-cage belong to first class. At peak dewatering, the working capacity of first-class load is estimated at 1.7 MW. The total installed capacity above the second-class load is 12.3 MW, working capacity is 10.1 MW, calculated load is 6.7 MW, apparent power is 7,612 kVA, and annual electricity consumption is of the order of 39,000,000 kWh.

18.5 Roads

Access to the GC Project from Guangzhou is via 178 km of four-lane express highway to Yunfu, then 48 km of paved road to the Project site. A railway connection including high speed rail from Guangzhou to Yunfu is also available.

There are 15 roads assigned to this Project, some are site and others general access roads. There are no issues of large equipment and / or ore concentrates transportation.

18.6 Transportation

Trucks under escort by security personnel are used to transport lead and zinc concentrates from the mine site to smelters / refineries. A front-end loader is used to load the concentrate from storage sheds near filters at the mill site to the concentrate shipping trucks.

18.7 Water supply

See Section 16.11.2.

18.8 Sewage treatment

A sewage treatment station is located at the mine site for processing of mine camp sewage.

18.9 Mine dewatering

See Section 16.11.3.

18.10 Water treatment facility

Figure 18.7 is a view of part of the water treatment facility at Gaocheng. As indicated earlier, any water that is not recycled and is released to the environment is treated to comply with standing regulations.

Figure 18.7 GC water treatment facility

Source: AMC Mining Consultants (Canada) Ltd.

18.11 Site communications

A level-1 dispatching system is used for production dispatching at the mine. A 200-gate digital programmed control dispatching exchange is deployed at the dispatching room of the office building under production management personnel. To facilitate external communication, 10 pairs of trunk lines are used.

The underground communication line is in the form of a communication cable laid out along the sidewall of the drift. Two communication cables are fed to underground by two different shaft / tunnel routes. If any communication cable fails, the other has adequate capacity to assume communication with all underground communication terminals.

18.12 Camp

Silvercorp operates the mine using contractors for development, production and the operation and maintenance of Silvercorp's fixed plant, with Silvercorp providing its own management, technical services, and supervision staff to manage the GC mine operation.

Administrative, Living, and Welfare Facilities are composed of administrative office building, hostel, canteen, washroom, and residential building, as well as dining and entertainment facilities.

18.13 Dams and tunnels

Silvercorp has built an approximately 1 km long diversion tunnel with two dams on the Hashui Creek to relocate the course of this river beyond the projected subsidence zone of influence (see Figure 18.1).

18.14 Surface maintenance workshop

The surface maintenance facilities include a workshop building area of 756.5 m^2, in which the following auxiliary services are provided:

- Tyre processing, maintenance, and servicing
- Welding
- Electrical
- Hydraulic
- Tools, parts, and material warehouse

The workshop is mainly responsible for maintenance of large-scale production equipment, vehicle repair, processing and repair of components, and the processing of emergency parts. One LD 10 t electric single-beam crane, one BC6063B shaping machine, one CD6240A saddle bed lathe, one Z3040 × 16/I radial drilling machine, and one bench drilling machine are located in the workshop, as well as alternating current arc welding, rectification arc welding, snag grinding machine, cut-off machine, electric drying oven, mobile air compressor, etc. Maintenance facilities such as tool rack, working platform, gas cutting device, etc. are also provided, along with a dynamic balancing machine, tire picking machine, tire mending machine, battery charger, and vehicle repair pit.

Mechanical maintenance facilities also include equipment and spare parts store, dump oil depot, reserve electric locomotives, and tramcars maintenance workshop and stockpile yard.

The mining contractor has its own mobile equipment workshop for repairs and servicing located adjacent to the Ramp portal. There are underground drill service bays established in redundant stockpile areas to minimize tramming delays for the slower moving drills.

Mobile equipment repairs (trucks, loaders, etc.), other equipment breakdowns and equipment major services are conducted in the mining contractor's surface workshop, with minor services conducted in the redundant stockpile areas. Minor equipment (such as jacklegs, secondary fans, development pumps, etc.) are also serviced in the mining contractor's surface workshop.

Electric locomotives and rail cars are serviced and repaired in a service rail siding located adjacent to the Main Shaft.

Other fixed and mobile equipment (primary pumps, surface electric locomotive, rail cars, vehicles, etc.) are serviced in Silvercorp's surface workshop located adjacent to the Main Shaft.

18.15 Explosives magazines

The explosives magazine is located in the valley to the south-east of the GC Mining Area. It is permitted to hold 10 t of bulk explosives and 15,000 detonators, representing approximately 15 days and 30 days of supply, respectively. Security services are used, and detonators are scanned on release from the magazine for security audit purposes.

A safety evaluation of the explosives magazine is currently underway. The existing facilities will be converted into two 5 t explosives magazines, and a new detonator magazine is being built. Completion has been planned for June 2021.

Underground working party magazines are located adjacent to each level's return air shaft and are limited to one day of requirement for bulk explosives and three days of requirement for blasting ancillaries.

18.16 Fuel farm

Diesel fuel is required for the mobile mine equipment, some small trucks, and surface vehicles. The surface fuel tank and pumping station set-up allows for refueling of both light vehicles and heavy-duty mining equipment.

A properly constructed containment for storage of fuel is located in the vicinity of the diesel generators and fuel dispensing facilities. The storage facility is located down-wind from the mine air intake fans and a reasonable distance from buildings, camp, and mine portal (referencing local occupational health and safety regulations and fire-fighting requirement). The lined containment area is constructed such that spills are confined and can readily be cleaned, and so that the need for extensive and costly remediation work can be avoided during site closure.

The UTM coordinates of the fuel farm are 2,535,168.1 m (easting) and 37,593,487.9 m (northing). No fuel is allowed to be stored underground. Trucks and loaders are refueled at the surface fuel farm and dispensing facility.

18.17 Mine dry

Facilities accommodating lockers, change room, showers, and washrooms for the miners are located near the portal. Provisions for personal protective equipment such as gloves, safety glasses, self-rescuers, hard hats, and cap lamps and batteries are the responsibility of both Silvercorp and its contractor for their respective workers.

18.18 Administration building

The mine office complex to the east of the warehouse comprises the administration and engineering buildings, which provide working space for management, supervision, geology, engineering, and other operations support staff.

18.19 Assay laboratory

An assay laboratory is located in a separate modular building at the south-east side of the mill building. The laboratory is a single-story structure equipped to perform daily analyses of mine and process samples.

18.20 Security / gatehouse

A security / gatehouse is located on the site access road at the plant site. The access road off a local village road has a manual gate with signage indicating that vehicles and persons are now entering the private Silvercorp Property.

19 Market studies and contracts

19.1 Concentrate marketing

It is understood that the Gaocheng concentrates are marketed to existing smelter customers in Henan province in China and appropriate terms have been negotiated for 2021 as detailed in Section 19.2 below.

The QP understands that an acceptable arsenic level in base metal concentrates, without penalty, for Chinese smelters is of the order of 1.0% and notes that the GC lead and zinc concentrates are acceptable to those smelters. The QP also notes the Silvercorp concentrate selling arrangements whereby:

- Should the As level ever be higher than 1.0% in zinc concentrates, the payable Zn content would be discounted by 0.5% Zn for every 1% As above the 1.0% As level.
- For instances where the pyrite concentrate has an As content above 1.0%, a penalty is paid on a case-by-case basis.

19.2 Smelter contracts

Sales contracts are in place for the lead concentrates with Shandong Humon Smelting Co. Ltd., and for the zinc concentrates with Chenzhou Qiantai Industrial Co. Ltd. and Chenzhou Jieyin Minerals Co. Ltd.

All contracts have an effective period of one year, with key elements of the contracts subject to change based on market conditions when monthly supplemental agreements to the annual contracts are negotiated. The QP had previously indicated that a preferable arrangement would have been to see contracts as part of a LOM frame agreement; however, the QP also understands that these contracts should be viewed in the context of the existing operations and concentrate sales to these smelters and therefore does not view the apparently short term of the contracts as a material issue.

All contracts have freight and related expenses to be paid by the customers.

The key elements of the contracts are summarized in Table 19.1.

Table 19.1 Key elements of 2021 smelter contracts

	Pb concentrate				Zn concentrate				
	% Pb	Deduction RMB/t Pb	Ag (g/t)	% Payable	% Zn	Deduction RMB/t Zn price < RMB 15,000/t:	Deduction RMB/t Zn price > RMB 15,001/t:	Ag (g/t)	Payable RMB/g Ag
Minimum quality	35		500		35			150	
Payment scales	> 50	2,050	>3,000	92	>=45	4,850	4,850 + (price – 15,000)*20%	>=300	RMB0.7
	45-50	2,150	2,500-3,000	91	40-45	4,850+50 per % lower than 45%	4,850 + (price – 15,000)*20% +50 per % lower than 45%	150-300	RMB0.6
	40-45	2,250	2,000-2,500	90	35-40	5,100+100 per % lower than 40%	5,100+ (price – 15,000)*20% +100 per % lower than 40%		
	35-45	2,500	1,500-2,000	89					
			1,000-1,500	88					

With respect to lead and zinc terms, the above deductibles calculate out to 85 - 92% payable for the lead concentrate and approximately 70 - 78% for the zinc concentrate, at projected long-term prices. The QP considers these to be favourable terms relative to global smelter industry norms. Silver payables of approximately 90% are similarly in accord with industry norms.

19.3 Commodity prices

Prior to the start of mining operations, silver was seen as the likely major contributor to ore value at Gaocheng. Improved zinc prices in recent years have elevated the importance of that metal to the Gaocheng operation. Silver prices have remained at reasonable levels and, since mid-2020, have been significantly above $20/oz. At long-term metal prices and payables assumed for the COG calculation (see Section 15 - zinc $1.08/lb and 66.3% payable, silver $18.20/oz and 65.5% payable, lead $0.94/lb and 86.2% payable), approximately 45% of estimated total LOM revenue would be attributed to zinc, 30% to silver, and 24% to lead.

20 Environmental studies, permitting and social or community impact

20.1 Introduction

Silvercorp has all the required permits for its operations on the Property. The mining permit is described in Section 4.2 of this report.

The existing mining permit covers all the active mining areas and, in conjunction with safety and environmental certificates, gives Silvercorp the right to carry out full mining and mineral processing operations. The safety certificates have been issued by the Department of Safety Production and Inspection of Guangdong Province, covering the GC underground mine, the mill, and the TMF. Two environmental certificates have been issued by the Department of Environmental Protection of Guangdong Province, covering the GC Project (GC Mine and 1,600 tpd mill plant). For each of these certificates there are related mine development / utilization and soil / water conservation programs, and rehabilitation plan reports. Silvercorp has also obtained approvals and certificates for wastewater discharge locations at the GC Mine and the TMF. All certificates must be renewed periodically.

An Environmental Impact Assessment (EIA) report on the GC Project was prepared by the Guangdong Environmental Technology Centre (GETC) initially, and then reassessment is done periodically as required by regulations. The Yunfu EPB (Environment Protection Bureau) states that the mining area does not cover any natural conservation zones, ecological forests, and strict land control zones. Based on the assessment of the EIA report and the recommendations of the provincial environmental technology centre regarding site remediation, that no overflow of wastewater occurs, and that environmental protection is maintained, the Yunfu EPB gave consent to operate the GC Project with the stipulation that the scope, site, processing technique, and environmental protection measures are followed as written in the report. An Environmental Permit was subsequently issued by the Department of Environmental Protection of Guangdong Province in June 2010.

There are no cultural minority groups within the area surrounding the general project. The culture of the broader Yunan County is predominantly Han Chinese. No records of cultural heritage sites exist within or near the GC Project areas. The surrounding land near the GC Mining Area is used predominantly for agriculture. The mining area does not cover any natural conservation, ecological forests, or strict land control zones. The current vegetation within the Project area is mainly secondary, including farm plantings. Larger wild mammals have not been found in the region. Small birds nesting and moving in the woodland are observed occasionally. The surrounding villagers raise domestic animals, such as chickens, ducks, pigs, sheep, goats, dogs, etc.

Silvercorp has made a range of cash donations and contributions to local capital projects and community support programs, sponsoring university students, and undertaking projects such as village road construction, and school upgrading and construction. Silvercorp has also made economic contributions in the form of direct hiring and retention of local contractors, suppliers, and service providers to support the local economy.

20.2 Laws and regulations

The GC Mine operates under the following laws, regulations, and guidelines:

- Law of Environmental Protection of the People's Republic of China (1989.12)
- Law of Minerals Resources of PRC (1996)
- Production Safety Law of the PRC (2002)
- Law of Occupational Disease Prevention (2001, amended 2011)
- Law on Prevention & Control of Atmospheric Pollution (2000)
- Law on Prevention & Control of Noise Pollution (1996)

- Law on Prevention & Control of Water Pollution (1996, amended in 2008)
- Law on Prevention & Control Environmental Pollution by Solid Waste (2002)
- Forestry Law (1998)
- Water Law (1988)
- Water & Soil Conservancy Law (1991)
- Land Administration Law (1999)
- Protection of Wildlife Law (1989)
- Energy Conservation Law (1998)
- Management Regulations for the Prevention & Cure of Tailings Pollution (1992)
- Management Regulations for Dangerous Chemical Materials (1987)
- Law of the People's Republic of China on Environmental Impact Assessment (2003.9)
- Law of the People's Republic of China on Environmental Noise Pollution Prevention (1997.3)
- Solid Waste Pollution Prevention and Control Act of Guangdong Province (2004)
- Regulations on the Administration of Construction Project Environmental Protection of Guangdong Province (Tenth Standing Committee of the National People's Congress of Guangdong Province in 2004)
- Notice to Strengthen Water Pollution Control of Guangdong Province (People's Government of Guangdong Province, office of Guangdong Government [1999.11.26])
- Environmental Protection Regulations of Guangdong Province (2005.1)
- Law of the People's Republic of China on Soil Pollution Prevention and Control (31 August 2018)
- Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste (revised in April 2020)
- Regulations of Guangdong Province on the Prevention and Control of Water Pollution (27 November 2020)
- Regulations on the Administration of Pollution Discharge Permits (24 January 2021)

20.2.1 Regulation guidelines

- Environmental Quality Standard for Surface Water (GB3838-2002)
- Groundwater Environmental Quality Standards (GB/T14848-93)
- Ambient Air Quality Standard (GB3095-1996, Amendment Sheet in 2000)
- Environmental Quality Standard for Noise (GB3096-2008)
- Emission Standard for Industrial Enterprises Noise at Boundary (GB12348-2008)
- Noise limits for Construction Site (GB12523-90)
- Standard for Pollution Control on the Storage and Disposal Site for General Industrial Solid Wastes (GB18599-2001)
- Air Pollutant Emission Limit (DB44/27-2001)
- Hygienic Standards for the Design of Industrial Enterprises (GBZ2-2002)
- Prevention and Control on Tailings Environmental Pollution Prevention and Control (State Environmental Protection Administration in Oct. 1992)
- Evaluating Indicator System for Lead and Zinc Industry Cleaner Production (Trial) (2007).
- Air Pollutant Emission Limit of Guangdong Province (DB44/27-2001)
- Environment Protection Design Regulations of Construction Project (No.002) by Environment Protection Committee of State Council of PRC (1987)
- Regulations on the Administration of Construction Project Environmental Protection (1998)

- Regulations for Environmental Monitoring (1983)
- Regulations on Nature Reserves (1994)
- Regulations on Administration of Chemicals Subject to Supervision & Control (1995)
- Regulations on Management of Chemicals Subject to Supervision & Control (1995)
- Environment Protection Design Regulations of Metallurgical Industry (YB9066-55)
- Comprehensive Emission Standard of Wastewater (GB8978-1996)
- Ambient Air Quality Standard (GB3095-1996)
- Comprehensive Emission Standard of Atmospheric Pollutants (GB16297-1996)
- Environmental Quality Standard for Soils (GB15618-1995)
- Standard of Boundary Noise of Industrial Enterprise (GB12348-90)
- Emissions Standard for Pollution from Heavy Industry; Non-Ferrous Metals (GB4913-1985)
- Control Standard on Cyanide for Waste Slugs (GB12502-1990)
- Standard for Pollution Control on Hazardous Waste Storage (GB18597-2001)
- Identification Standard for Hazardous Wastes-Identification for Extraction Procedure-Toxicity (GB5085.3-1996)
- Standard of Landfill and Pollution Control of Hazardous Waste (GB 18598-2001)

20.3 Waste and tailings disposal management

Main sources of waste for the GC mine are waste rocks produced during mining and development, and the mine tailings produced during processing. There is also minor sanitation waste produced.

Waste rock produced during mining is mainly composed of silicon dioxide and calcium oxide. Currently all the waste rock from underground mining development is taken away by local companies to use as construction material or is used for construction by Silvercorp on an as-needed basis. There has been no waste rock left in the waste dump since 2012. In the case of local companies no longer wishing to take excess waste rock in the future, it will be dumped, then covered by soil and vegetated after the dump is full; this is also noted as a closure commitment. Retaining wall spats will be built downstream of the waste rock site for stabilization. An interception ditch will be constructed upstream to prevent the slope surface from washing away as well as to avoid water and soil loss.

Processing tailings are dewatered and stacked into a purpose-built tailings management facility that has an effective design capacity of 3.57 Mm^3. Mine tailings are discussed in Section 18.1. After the completion of the TMF, the facility will be soil covered and a vegetation program will be conducted progressively; this is to ensure that all water flowing into the TMF does not directly contact the tailings and can be discharged to the downstream water system through the drainage ditch at the dam abutment.

20.4 Site monitoring

20.4.1 Monitoring plan

A monitoring plan was negotiated between the company and the local environmental protection department to meet the environmental management requirements of the project. A key component of the monitoring plan is water pollution monitoring; further components are environmental air and noise monitoring. The monitoring work is carried out by qualified persons and / or a third-party contractor and is undertaken on a regular basis.

An environmental protection department is responsible for the project. The full-time environment management personnel are mainly responsible for the environment management and rehabilitation management work in the mining area. They also visit various GC workplaces regularly to check the equipment for environmental protection and coordinate the environmental protection work.

The monitoring plans include air quality, dust emissions, noise, and wastewater monitoring. The monitoring work is contracted to a licensed organization: Guangzhou Najia Testing Lab Co. Ltd. (GNTL). For water environment monitoring, an intensive program has been developed and implemented, including twice-a-year testing of sanitary wastewater and surface water by GNTL. Detailed monitoring plans are shown in Table 20.1.

The QP understands that monitoring results from 2013 to 2021 indicated that the surface water results are in compliance with Class II and III limits of Surface Water Environmental Quality Standards (GB3838-2002), sanitary and process plant wastewater results are in compliance with Class I limits of Integrated Wastewater Discharge Standard (GB8978-1996), and mining water results are in compliance with Class I limits of Integrated Wastewater Discharge Standard (GB8978-1996). These standards match the requirements in the EIA approvals. In addition, the QP understands that the project-stage completion inspection results were all compliant for wastewater discharge, air emission, noise, and solid waste disposal.

Table 20.1 Water environmental monitoring plan for the Gaocheng mining area

Items	Monitoring points (section)	Monitoring parameters	Frequency	Monitored by
Surface water	Hashui Creek	pH, Cr6+, NH3-N, Cd Pb, Ag, CODcr, and Cu	Twice / year	Guangzhou Najia Testing Lab Co. Ltd.
Process wastewater	Discharge point after sedimentation treatment of dry stacking recycling water tank	pH	Twice / year	Guangzhou Najia Testing Lab Co. Ltd
		Pb, CODcr, NH3-N and SS	Twice / year	
		Cd, As, Zn, Hg, Cr, Mn, Fe, F, Cu, and CN	Twice / year	
Mining water	Discharge point after sedimentation tank	pH, SS, CODcr, NH3-N, Cr, As, Cu, Zn, Pb, Cd, Hg, Mn, and TPH	Four times / year	Guangzhou Najia Testing Lab Co. Ltd

20.4.2 Water management

The Hashui Creek is shallow and is affected by the mining process, which has a minor impact on the local village area. A water retaining dam was built on the creek and irrigation wastewater from the farmland is discharged into the creek. During site investigation by the GETC, large-size fish were not observed in the Hashui Creek; fish fry were found moving among the submerged plants. As part of mine site preparations, the Hashui Creek was closed and diverted through a water diversion tunnel approximately 510 m in length.

Drainage construction in the Project water catchment area has been completed. Overflow water from the mill process wastewater that is segregated by the thickener, and water generated from the tailings by the pressure filter, is returned to the milling process to ensure that wastewater (including tailings water) is not discharged. Water from underground mining is reused for mining operations and the remaining water is treated according to the Surface Water Quality Standards (GB3838-2002) to meet the requirement of Class III water quality. The treated water is then stored in nearby reservoirs to be used as irrigation water for nearby woodland and farmland. The water needing to be discharged is directed to the Hashui Creek and treated to remove heavy metals such as mercury, cadmium, chromium, etc. Sewage effluent treated by the GC sewage treatment facility is reused in mine forestation and irrigation prior to excess being discharged into the environment. Any construction is best conducted during the dry season to reduce soil erosion.

20.4.3 Groundwater

Groundwater guidelines are contained in the Groundwater Environmental Quality Standards (GB/T14848-93). The groundwater quality meets the Class III standard with the exceptions of iron and manganese. The iron and manganese values are related to high background levels at the site.

Table 20.2 and Table 20.3 show examples of groundwater testing results at Gaocheng village.

Table 20.2 Groundwater testing results at Gaocheng village (1) [1]

Sample location	**Test item**		
	PH	**COD (mg/L)**	**Ammonia nitrogen (mg/L)**
Underground Monitor Well 1	6.7	8	0.176
Underground Monitor Well 2	7.4	10	0.432
Upper limit set [2]	**6.5 ≤ pH ≤ 8.5**	**/**	**≤ 0.5**

Notes:
[1] Analyzed by Guangdong Yueqiu Testing Technology Co., Ltd. Report date: 6 August 2020.
[2] Upper limits set by groundwater guideline Groundwater Environmental Quality Standards (GB/T14848-93).

Table 20.3 Groundwater testing results at Gaocheng village (2)

Sample location	**Test item**								
	Pb (mg/L)	**Cd (mg/L)**	**Cu (mg/L)**	**As (mg/L)**	**Hg (mg/L)**	**Fe (mg/L)**	**Zn (mg/L)**	**Cr (mg/L)**	**Mn (mg/L)**
Underground Monitor Well 1	0.004	0.0012	<0.05	0.0009	<0.00004	0.07	0.31	<0.001	0.44
Underground Monitor Well 2	<0.0025	0.001	<0.05	0.0006	0.00006	0.76	<0.05	<0.001	<0.01
Upper limit set	**≤ 0.01**	**≤ 0.005**	**≤ 1.0**	**≤ 0.01**	**≤ 0.001**	**≤ 0.3**	**≤ 1.0**	**/**	**≤ 0.1**

20.4.4 Wastewater

There are three sources of wastewater identified at the GC Mine: mining activities, mineral processing, and domestic sewage. Mine water is pumped from the underground sumps to the wastewater treatment station. Treatment is primarily de-sedimentation and lime addition. Once the water reaches the required standard it is used for forestry and agriculture irrigation or discharged into Hashui Creek. Process water is maintained in a closed circuit and is not discharged into the environment. After the treatment of the sewage water at the sewage treatment station and testing indicates it has reached the required standard, it is released into the environment.

Table 20.4 shows an example of the monthly underground monitoring results.

Table 20.4 Wastewater monitoring results – Guangzhou Najia Testing Lab Co. Ltd. Report No. GZNJ20200827

Sample type	Wastewater	**Date analyzed**	9 December 2020
Sampled date	3 December 2020	**Sample collectors**	Wang Wenlin, Li Jiapeng, Huang Ruixian, Yang Xu
Sample status	Colorless, odorless, no floating oil		
Sample location	Underground water discharge		
Monitoring item	**Value**	**Unit**	**Remarks**
As	0.0004	mg/L	
Pb	0.001	mg/L	
Zn	<0.05	mg/L	
Hg	<4x10^{-5}	mg/L	
Ag			Not analyzed
Cd	<1x10^{-4}	mg/L	
Cr	<0.03	mg/L	
Cu	<0.05	mg/L	
pH	8.91		
Floating particles	5	mg/L	
Ammonia nitrogen	0.17	mg/L	
COD	10	mg/L	

The GC TMF under-drainage and return water collection system comprises a pond from which water is directly pumped back to the mill for recycling or to the water treatment system. This TMF decant and filtration system provides a mechanism for reusing recycled water. The collection pond is designed to overflow into a second containment / seepage dam. The collected tailings water from the TMF in this dam is pumped back through a pipe to the processing plant for reuse. No tailings water is discharged to the public water body.

Table 20.5 shows an example of tailings water monitoring results.

Table 20.5 Tailings water monitoring results – Guangzhou Najia Testing Lab Co. Ltd. Report No. GZNJ20200828

Sample type	Tailings water		**Date analyzed**	3 – 9 December 2020
Sampled date	3 December 2020		**Sample collectors**	Ma Zicong, Zhong Guangyue, Zhou Kanxiong, Liang Jiahao
Sample status	Colorless, with obvious odor and smell			
Sample location	Tailings water reuse pond			
Monitoring item	**Value**	**Unit**	**Remarks**	
As	5.1×10^{-3}	mg/L		
Pb	3×10^{-3}	mg/L		
Zn	<0.05	mg/L		
Hg	$<4 \times 10^{-5}$	μg/L		
Cd	1×10^{-4}	mg/L		
Cr	<0.03	mg/L		
Cu	0.05	mg/L		
Cyanide	0.006	mg/L		
Floating particles	17	mg/L		
PH	6.46			
COD	318	mg/L		

20.4.5 Gas emission monitoring

Gas and floating air particles are monitored regularly by the contractor, Guangzhou Najia Testing Lab Co. Ltd. Table 20.6 and Table 20.7 show examples of exhaust gas monitoring results at the Mill Screening Workshop and Crushing Workshop, respectively.

Table 20.6 Exhaust gas monitoring results – Screening Workshop – Guangzhou Najia Testing Lab Co. Ltd. Report No. 20200827

Sample type	Exhaust gas		**Sample collectors**		Wang Wenlin, Li Jiapeng, Huang Ruixian, Yang Xu	
Sampling date	3 December 2020		**Analyzed date**		8 December 2020	
Facility	Dedust Bag		**Monitoring environment**		Fine. Temperature 20.6°C. Barometer: 101.0 kPa	
Sample point	FQ – fed01. Screening workshop exhaust gas discharge.					
Monitoring item	**Content (mg/m³)**				**Average**	**Discharge rate (kg/h)**
	1	**2**	**3**	**4**		
Particle	9.4	10	8.7	-	9.4	0.282
Parameter	**Chimney height (m)**	**Diameter (m)**	**Gas temperature (°C)**	**Gas velocity (m/s)**	**Gas quantity, Qsnd (m³/h)**	
	15	0.7	22	24.3	29,947	

Table 20.7 Exhaust gas monitoring results – Crushing Workshop – Guangzhou Najia Testing Lab Co. Ltd. Report No. GZNJ20200827

Sample type	Exhaust gas		**Sample collectors**		Wang Wenlin, Li Jiapeng, Huang Ruixian, Yang Xu	
Sampling date	3 December 2020		**Analyzed date**		8 December 2020	
Facility	Dedust Bag		**Monitoring environment**		Fine. Temperature 20.1°C. Barometer: 101.7 kPa	
Sample point	FQ – fed02. Crashing workshop exhaust gas discharge.					
Monitoring item	**Content (mg/m³)**				**Average**	**Discharge rate (kg/h)**
	1	**2**	**3**	**4**		
Particle	1.7	1.4	1.5	-	1.5	0.029
Parameter	**Chimney height (m)**	**Diameter (m)**	**Gas temperature (°C)**	**Gas velocity (m/s)**	**Gas quantity, Qsnd (m³/h)**	
	15	0.7	25	12.7	15,442	

The above results show gas emissions measured comply with the Comprehensive Emission Standard of Atmospheric Pollutants (GB16297-1996).

20.4.6 Noise monitoring

Noise is regularly measured at the east, south, west, and north boundaries. Table 20.8 shows example noise monitoring results. All the noise levels are below the Standard limits.

Table 20.8 Noise monitoring results – Guangzhou Najia Testing Lab Co. Ltd. Report No. GZNJ20200827

Monitoring condition: Fine. Wind velocity: 2.1 m/s (no rain, no storm, wind velocity <5 m/s)					
Point No	**Monitoring point**	**Period**	**Result [unit: LeqdB(A)]**		**Standard limit, LeqdB(A)**
			8 December 2020	**-**	
N1	East boundary	Day	58	-	65
		Night	48	-	55
N2	South boundary	Day	57	-	65
		Night	47	-	55
N3	West boundary	Day	57	-	65
		Night	48	-	55
N4	North boundary	Day	56	-	65
		Night	47	-	55

20.4.7 Soil testing

Soil samples from nearby villages and the TMF were collected and tested on 15 December 2020. Table 20.9 shows the testing results.

Table 20.9 Soil testing results – Guangzhou Najia Testing Lab Co. Ltd. Report No. GZNJ20200829

Sample location	**Test item**						
	PH	**Hg mg/Kg**	**As mg/Kg**	**Pb mg/Kg**	**Cd mg/Kg**	**Cr mg/Kg**	**Zn mg/Kg**
Hashui farm	5.17	0.327	10.2	42	0.11	51	65
Datianzuo farm	5.67	0.242	6.26	37	0.11	43	68
Upstream of TMF	4.82	0.175	28.8	62	0.06	27	62
Downstream of TMF	4.87	0.183	7.48	39	0.03	21	82

20.5 Permitting requirements

Silvercorp completed the following permitting and contracting requirements to receive approval to extract ore from the GC Mine:

- Silvercorp obtained a Notice of Approval to start the process of the Application for Mining Permit from the Ministry of Land and Resources (MOLAR) in Beijing on a designated mining area. Silvercorp received the Notice of Approval from MOLAR in 2008.
- The Resource Utilization Plan (RUP) Report on the GC Project prepared by the Guangdong Institute of Metallurgical Industry was reviewed by a MOLAR design review organization, the China Non-Ferrous Metal Association, in 2008.
- The Health and Safety section of the RUP Report was reviewed by the Guangdong Provincial Safety Production Bureau in 2008. Both reviews indicated that the report satisfied the requirement for the mining permit application.
- An Environmental Assessment Report was completed in March 2009 and passed a review by an expert panel appointed by the Environmental Protection Bureau of Guangdong Province and by the local community.
- A Geological Hazards Assessment Report and Soil Conservation Plan Report, prepared by a qualified geo-engineering firm, was reviewed and filed with the Ministry of Land and Resources.
- A Geological Environment Protection and Rehabilitation and Reclamation Measure Report, prepared by a qualified geo-engineering firm, was reviewed and filed with the Ministry of Land and Resources.
- A Land Reclamation Measure Report, prepared by a qualified engineering firm, was reviewed and filed with the Ministry of Land and Resources.
- An Environmental Permit for the GC Silver-Lead-Zinc Project was issued by the Department of Environmental Protection of Guangdong Province in June 2010.
- A mining permit application for the GC Silver-Lead-Zinc Project was submitted to MOLAR in August 2010.
- A mining permit for the GC Mine was issued by the Ministry of Land and Resources of China. The GC mining permit has a term of 30 years and covers the entire 5.5237 square kilometre area of the GC Project. The permit was issued on the terms applied for and allows for the operation of an underground mine to produce silver, lead, and zinc ores.
- A qualified Chinese engineering firm finalized the mine design of a 1,600 tonne per day mechanized underground mine, a flotation mill, and a dry stack tailings facility, which plan was reviewed and approved by the relevant government agents.
- Land usage and acquisition of land for the GC Mine and milling sites was completed.
- A qualified mining development contractor was hired to build the mine.
- The same contractor who built Silvercorp's two mills (3,000 t/d) at the Ying Mining District was hired to construct a 1,600 t/d capacity flotation mill capable of producing silver-lead, zinc, pyrite flotation concentrates, and a tin gravity concentrate.
- An explosive permit was issued, and an explosives magazine was built following the requirement of the Bureau of Public Security.
- Completion of a review of the health and safety production measures in the mine design by the Guangdong Provincial Safety Production Bureau, after which review documentation was filed with the Guangdong Provincial Safety Production Bureau.
- A 'Safety Production Permit' was issued in 2015 by the Guangdong Provincial Safety Production Bureau to satisfy that the construction of the mine, mill, and tailings facility for the Stage I of mine construction (Commercial Production) was done appropriately. The Stage II expansion was completed in late 2017 and the 'Safety Production Permit' was renewed subsequently. On

4 September 2020, the 'Safety Production Permit' for mining and the 'Safety Production Permit' for dry stack tailings facility were renewed again and are valid for three years until 3 September 2023.

- The Guangdong Environmental Bureau conducted an inspection of the tailings facility, flotation mill, and other environmental engineering works upon completion of the Stage II expansion. An environmental permit to operate was issued. On 31 August 2020, a Receipt of Discharge Registration of fixed pollution sources was issued; it is valid for five years to 31 August 2025.

20.6 Social and community interaction

The nearest significant community to the GC Mine is the Gaocun Township, which is approximately 5 km from the mining area. Both Yunfu City and Yunan County are about 30 km from the GC Mine. Residents in the mine area hold a positive attitude to the mine development and operation. Public participation methods for the mine include information disclosure, inquiry form-sending, and promotion and improvement of reclamation consciousness.

Utilized at the site are low-noise machinery and equipment, measures to minimize vibration, noise-proofing, and noise reduction on the crusher and ball mills to ensure that the noise level of the mining area and the plant boundary meet the requirements of the Class III function area limitation of emission standard for industrial enterprises boundary noise (GB 12348-2008). The noise levels inside the mine area and nearby inhabitant areas are intended to meet the requirements of Class II function area standard.

Silvercorp also employs several local contractors to carry out construction and maintenance work.

Between 2013 and 2016, Silvercorp sponsored several sections of local roads. In January 2020, Guangdong Found Mining Co., Ltd. donated 500,000 RMB to the Yun'an District Charity Association to actively support the prevention and control of pneumonia caused by the new coronavirus infection (COVID-19) and to help the local government and the medical staff fight the COVID-19 pandemic.

The QP understands that there are no records of public complaints in relation to Silvercorp's Gaocheng Property operations.

20.6.1 Cultural minorities and heritages

There are no cultural minority groups within the general Project area. The cultural make-up of the broader Yunan County is predominantly Han Chinese. The QP understands that there are no records of cultural heritage sites located within or near the Gaocheng Property.

20.6.2 Relationships with local government

Silvercorp has indicated that it has close relationships with the local Yunan County and Yunfu City.

20.6.3 Labour practices

Silvercorp's production activities are in compliance with Chinese labour regulations. Formal contracts are signed for all the full-time employees with what the QP understands are wages well above minimum. The company provides annual medical surveillance, and checks are conducted for its employees before, during and after their employment with the Company. The Company does not use child or under-aged labour.

20.7 Remediation and reclamation

Remediation and reclamation items have been referenced above. The QP understands that Silvercorp has spent $3.0 million acquiring land for the Project and has also posted $200,000 to the Yunan County Government as bond for reclamation.

Table 20.10 shows RMB ‘000 spending on remediation and reclamation projects from FY2012 to FY2021.

Table 20.10 Expenditures on reclamation and remediation from FY2012 to FY2021 (‘000 RMB)

Year **Item**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**Subtotal**
Environmental protection		285.26	51.67	89.33	61.87	129.69	319.30	990.75	598.54	2,526.41
EIA										
Soil & water conservation				452.32	51.89		8.10	7.26	16.59	536.16
Environmental equipment		166.05		96.79	10.00	164.15	10	195.00	80.00	721.99
Tailing dam		6,168.32	68.70				533.73	402.84	52.36	7,225.95
Compensation for land acquisition		34,240.81				322.54		25.23	85.18	34,673.76
Totals		**40,860.44**	**120.37**	**638.44**	**123.76**	**616.38**	**871.13**	**1,621.08**	**832.67**	**45,684.27**

20.8 Site closure plan

Mine closure will comply with Chinese National requirements. These comprise Article 21 (Closure Requirements) of the Mineral Resources Law (1996), and Articles 33 and 34 of the Rules of Implementation Procedures of the Mineral Resources Law of the People's Republic of China (2006).

The site closure planning process will include the following components:

- Identify all site closure stakeholders (e.g., government, employees, community, etc.).
- Undertake stakeholder consultation to develop agreed site closure criteria and post operational land use.
- Maintain records of stakeholder consultation.
- Establish a site rehabilitation objective in line with the agreed post operational land use.
- Describe / define the site closure liabilities (i.e., determined against agreed closure criteria).
- Establish site closure management strategies and cost estimates (i.e., to address / reduce site closure liabilities).
- Establish a financial accrual process for site closure.
- Describe the post site closure monitoring activities / program (i.e., to demonstrate compliance with the rehabilitation objective / closure criteria).

Based on Chinese National requirements, a site decommissioning plan will be produced at least one year before mine closure. Site rehabilitation and closure cost estimates will be made in the site closure plan.

21 Capital and operating costs

21.1 Key cost items

Silvercorp utilizes contract labour for mining at Gaocheng on a rate per tonne or a rate per metre basis. The contract includes all labour, all fixed and mobile equipment, materials, and consumables, including fuel and explosives, which are purchased through the company. Power and ground support consumables such as timber are the responsibility of the company.

In its news release dated 4 February 2021 and in its annual MD&A for FY2021 (year-end 31 March 2021), Silvercorp indicated the following with respect to its FY2022 capital and operating expectations:

- Anticipated completion of 10,300 m of exploration and development tunnelling at estimated capital expenditures of US$3.0 million.
- US$1.0 million anticipated capital expenditure on equipment and facilities.
- Total GC FY2022 capital expenditures budgeted at US$4.4 million.
- Cash production costs expected to be US$55.7 to $59.6 per tonne of ore and all-in sustaining costs estimated at US$81.3 to $85.6 per tonne of ore processed.

The individual and summary cost projections made for the 2021 Technical Report and indicated below are considered by the QP to be representative of anticipated expenditures for FY2022 and within the ranges referenced by Silvercorp in its 2021 public reporting to date. The cost estimates are in US$ and assume an exchange rate of RMB6.5 to US$1.

The estimates are based on mining 311,271 tonnes of ore and milling the same amount. Other major operational items assumed are waste development tunnelling at 10,200 m, exploration and development tunnelling at 10,300 m, and drilling at 58,500 m. Sustaining development tunnelling of 500 m is also assumed.

21.2 Capital cost estimates

21.2.1 Non-sustaining capital

All necessary infrastructure for operation of the Gaocheng mine is in place. Table 21.1 summarizes the FY2022 non-sustaining capital assumptions.

Table 21.1 Gaocheng non-sustaining capital assumptions FY2022

Non-sustaining capital	US$
Ramp development	427,000
Total non-sustaining capital	**427,000**

21.2.2 Sustaining capital

Gaocheng sustaining capital costs are projected for mine development and exploration tunnelling and for property, plant, and equipment. Table 21.2 summarizes FY2022 assumptions.

Table 21.2 Gaocheng sustaining capital assumptions FY2022

Sustaining capital*	**US$**
Mine development and exploration tunnelling cost	3,000,000
Cost per metre	254
PPE investment / replacement	1,000,000
Cost per tonne of ore mined & milled	3.21
Total sustaining capital	**4,000,000**
Cost per tonne of ore mined	12.85

* Totals may not compute exactly due to rounding.

21.3 Operating cost estimates

Operating cost assumptions for FY2022 are summarized below in Table 21.3. The QP has also reviewed operating cost summaries for the financial years since the start of commercial operations and considers that the FY2022 cost assumptions are reasonable.

Mining operating costs are categorized by direct mining (shrinkage or resuing), waste development, exploration tunnelling, drilling, and common costs.

Other budgeted operation costs are for milling, general and administrative items, and government fee, Mineral Resources tax, and other taxes.

Table 21.3 Gaocheng operating cost assumption 2022

Gaocheng operating costs[1,2]	**US$ or US$/t**
Direct mining costs	
Resuing cost	
Contractor cost	2,580,000
Mining materials	177,000
Utility	142,000
Subtotal	**2,899,000**
Per tonne cost over resuing ore	**31.93**
Shrinkage cost	
Contractor cost	2,025,000
Mining materials	242,000
Utility	108,000
Others	70,000
Subtotal	**2,445,000**
Per tonne costs over shrinkage ore	**11.64**
Waste development costs	
Tunnelling cost	3,105,000
Cost per metre	305
Cost per tonne of ore mined	**9.98**
Exploration tunnelling costs	
Exploration tunnelling costs	2,418,000
Cost per tonne of ore mined	**7.80**
Drilling cost	1,544,000
Cost per metre	26.40
Cost per tonne of ore mined	**4.98**

Gaocheng operating costs[1,2]	**US$ or US$/t**
Common costs	
Equipment maintenance	622,000
Mine administration	42,000
Labour Cost	1,037,000
Subtotal	**1,701,000**
Cost per tonne of ore mined	**5.49**
Total mining cost	**14,112,000**
Cost per tonne of ore mined	**45.34**
Milling costs	
Milling cost	4,429,000
Cost per tonne of ore mined	**14.23**
G&A	
G&A	2,533,000
Cost per tonne of ore mined	**8.17**
Gov. fee, mineral resources tax, & other taxes	
Government fee and other taxes	1,528,000
Cost per tonne of ore mined	**4.93**
Total operating costs	**22,602,000**
Total operating cost/t ore mined	**72.61**

Notes:
[1] The LOM production plan (see Section 16) projects total FY2022 ore production of 311,271 tonnes.
[2] Totals may not compute exactly due to rounding.

Contractor costs are the major component of the mining cost. The principal components of the milling costs are utilities (power and water), consumables (grinding steel and reagents), and labour.

G&A costs include allowances for tailings management and environmental costs.

The government fee and taxes category includes Mineral Resources tax and is projected to be approximately 5% of revenue for FY2022.

The QP considers the operating cost estimates to be reasonable relative to the methods and technology used and to the scale of the Gaocheng operation. The QP notes that the 2021 Technical Report estimate for combined total operating and sustaining capital cost for FY2022 on a unit basis is $85.46/t of ore mined and milled.

22 Economic analysis

As Silvercorp is a producing issuer, an economic analysis for the Gaocheng mine is not required.

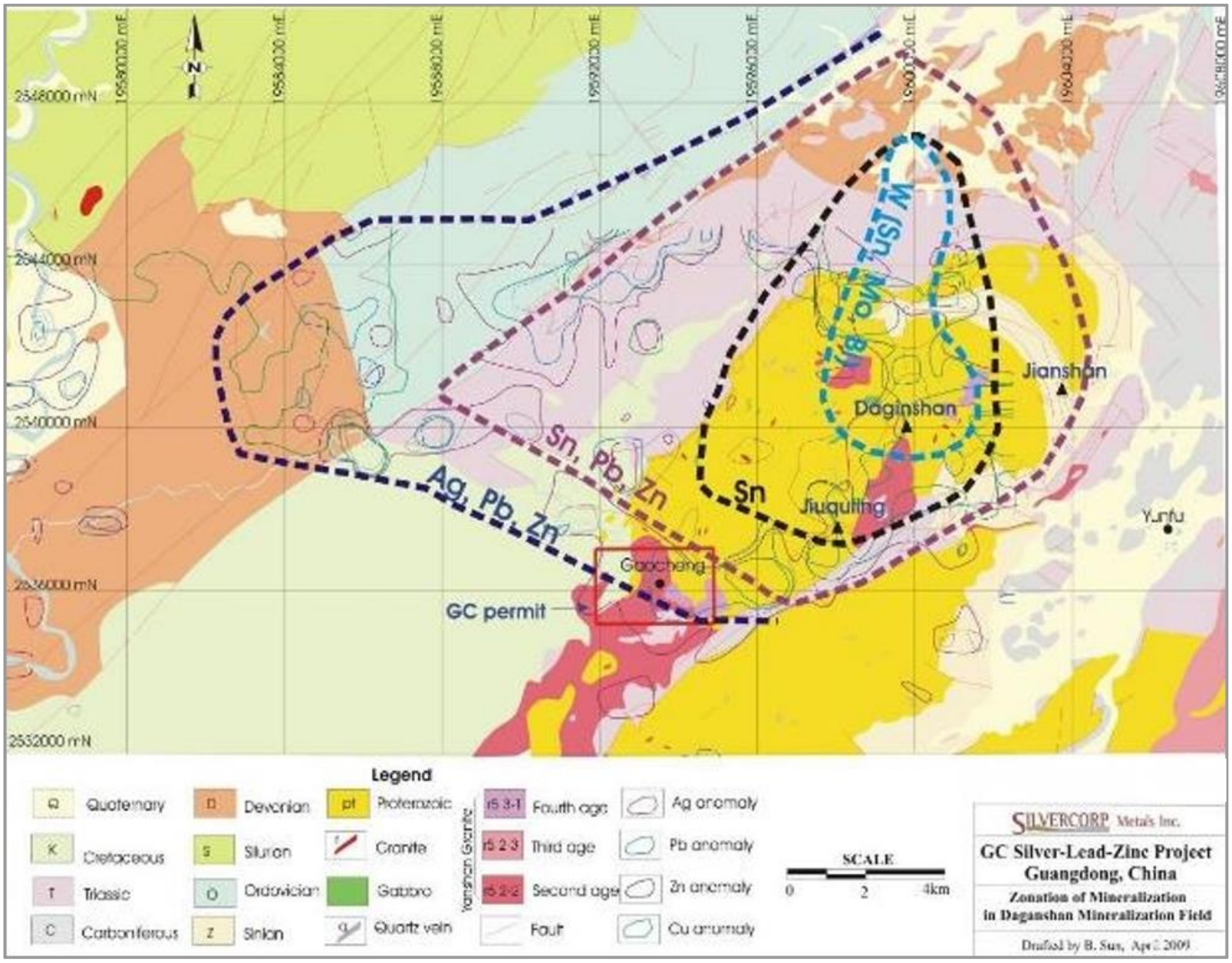
23 Adjacent properties

The GC Project is located within the Daganshan mineralization field featuring tungsten (W), tin (Sn), gold (Au), silver (Ag), lead (Pb), and zinc (Zn) mineralization - see Figure 23.1. The field is characterized by five "nested" zonations. From the centre outward, the mineralization zones are W (+Sn, Mo, and Bi), Sn, Sn-Pb-Zn, Ag-Pb-Zn, and Au (the gold zone is not shown in Figure 23.1). The following are a list of deposits that have been discovered and mined within the field:

- *Dajinshan Tungsten Deposit.* The deposit is located in the centre of the Daganshan field.
- *Jiuquling Tin Deposit*. The deposit is a quartz vein type and surrounds the tungsten mineralization zone. It is reported that the Jiuquling deposit has been developed and is in production, however detailed information such as grade, deposit size, tonnage, metal recovery, etc. are not available at this time.
- *Jianshan Tin-Lead-Zinc-Silver Deposit*. The deposit is located in the tin-lead-zinc mineralization zone. It is a sedimentary type of deposit.
- *Yunfu Pyrite Deposit.* The Yunfu pyrite mine is an open pit mine located 4.5 km north-west of the city of Yunfu. Mine production began in 1988.

Figure 23.1 illustrates the general geological understanding of properties adjacent to the GC Mine. The QP is not aware of any immediate adjacent properties that would directly affect the interpretation or evaluation of the mineralization and anomalies found on the GC Project property.

Figure 23.1 Zonation of mineralization in the Daganshan mineralization field



24 Other relevant data and information

The QP considers that there is no additional information or explanation required to make the Technical Report understandable and not misleading.

25 Interpretation and conclusions

Polymetallic mineralization at the Gaocheng project comprises over 150 distinct veins, ranging in thickness from a few centimetres to several metres, with a general east-west orientation and dipping generally south at 55° to subvertical. The Mineral Resource estimates described in the report were prepared by Silvercorp using Micromine software and reviewed, classified, and signed off by Ms D. Nussipakynova, P.Geo. of AMC, who is a QP for the purposes of the Technical Report.

Using a 105 g/t AgEq COG, Measured and Indicated Resources (inclusive of Mineral Reserves) are estimated at 10.03 Mt grading 82 g/t Ag, 1.2% Pb, and 2.8% Zn; and Inferred Mineral Resources are estimated at 8.44 Mt grading 87 g/t Ag, 1.0% Pb, and 2.4% Zn.

Compared to the previous estimate of Mineral Resources (Technical Report effective date 30 June 2019 – the '2019 Technical Report') Measured Resource tonnes increased by 57% and Indicated Resource tonnes have decreased by 11%. This is mainly due to conversion of the Indicated material into the Measured category, new resource delineation and an updated geological interpretation. Inferred Mineral Resource tonnes have increased by 17%. The QP notes that at the time of the 2019 Technical Report there were 110 veins identified at GC and now there are 156 veins. In the Measured category the silver grade has decreased by 9% and lead and zinc grades have both decreased by 6%. In the Indicated category silver grades have decreased by 3%. Lead grades have increased by 6% and zinc grades have decreased by 1%. In the Inferred category, grades have decreased for silver and zinc by 5% and 1% respectively. Lead grades have increased by 5%.

The results of the underground drilling program at GC show that vein structures are still open at depth.

Silvercorp has established QA/QC procedures that cover sample collection and processing at the GC Property. These QA/QC protocols have been progressively refined since 2011. Certified Reference Materials (CRMs) and coarse crushed blanks have been included with drilling samples since 2011, and with underground samples since 2014. Field duplicates have been included with drilling samples since 2012 and with underground samples since 2014. Check (umpire) samples (pulp duplicates) have been sent to a separate 'umpire' laboratory since 2012.

In 2018, Silvercorp further improved its QA/QC protocols to include regular and more frequent submission of CRMs, coarse blanks, and field duplicates with drilling and underground samples. Coarse reject duplicates and pulp duplicates were also incorporated into drill sampling programs. The proportion of check samples sent to a different laboratory was also increased. In 2019, Silvercorp initiated real-time monitoring of QA/QC protocols.

The QP has reviewed QA/QC data collected to date. While some issues have been noted with data collected prior to 2014, all data collected thereafter shows reasonable analytical accuracy and precision. The QP does not consider issues noted with pre-2014 data to be a material concern and considers the Gaocheng sample database acceptable for Mineral Resource estimation.

A series of recommendations have been provided for the improvement of QA/QC processes (see Section 26 Recommendations).

Mineral Reserves have been estimated using a full breakeven COG of 215 g/t AgEq for shrinkage stoping and 275 g/t AgEq for resuing, based on a mine design and plan prepared by Silvercorp engineers and reviewed by Mr H. Smith, P.Eng. of AMC, who is a QP for the purposes of the Technical Report. Total Proven and Probable Reserves are 4.13 Mt grading 94 g/t silver, 1.5% lead, and 3.2% zinc, containing 12.5 million ounces silver, 135 million pounds lead, and 293 million pounds zinc.

Metal prices used in determining COGs for both Mineral Resources and Mineral Reserves are: silver - $18.20/troy ounce; lead - $0.94/lb; zinc - $1.08/lb. An exchange rate of RMB6.8 to US$1 and mining costs of $49/t for shrinkage and $68/t for resuing have been assumed. Average metallurgical recovery assumptions are: silver – 82.6%; lead – 89.5%, zinc – 87.3%. Average payable assumptions are: silver – 65.5%, lead – 86.2%, zinc – 66.3%.

In comparison with the Mineral Reserve estimate in the 2019 Technical Report, there is a 39% increase in Proven Mineral Reserve tonnes and a 21% decrease in Probable Mineral Reserve tonnes, resulting in an increase in total Mineral Reserve tonnes of 8% (311,000 tonnes). Silvercorp received a mining permit in December 2010. From the start of commercial operations at Gaocheng in 2014 through to 31 December 2020, 1,853,662 tonnes have been mined at average head grades of 94 g/t silver, 1.6% lead, and 2.9% zinc.

The predominant shrinkage mining method uses the blasted ore as the working platform for each stope lift. The ore is removed on completion of stope mining leaving an empty void. There is potential to opportunistically dispose of development waste into these voids, but this is not envisaged in current mine plans. The resue method uses blasted waste from the footwall as the working platform for each stope lift. The waste remains in the stope at completion of stope mining. Some hand sorting of ore from waste is conducted.

The rock mass conditions are categorized as Fair to Good. Previous AMC assessment had anticipated that the vein and host rocks in the mine area would generally be competent and require minimal ground support. This has largely been confirmed in operations, with most areas deemed to require little or no support. Where Poor ground conditions have been encountered, ground support is provided, with a range of strategies available depending on the local situation.

Based on Proven and Probable Reserves only, the GC mine is a viable operation with a projected life-of-mine (LOM) of 13 years through to 2034, with an average annual production rate of approximately 310,000 tonnes, and with average silver equivalent grades of 309 g/t. GC also has the potential to extend the LOM beyond 2034, via conversion of existing Mineral Resources to Mineral Reserves and further exploration and development.

Since the start of trial operations in 2013 and commercial production in 2014 (FY2015), lead and zinc concentrates have been produced in commercial quantities at the GC processing plant. Small amounts of tin concentrate and sulphur have also been produced but these quantities have not been significant enough to be material to mine economics. In all sections of the plant, space / capacity has been allocated for an expansion to 1,600 tpd, but such expansion is not contemplated at this time.

Sales contracts are in place for the lead concentrates with Shandong Humon Smelting Co. Ltd., and for the zinc concentrates with Chenzhou Qiantai Industrial Co. Ltd. and Chenzhou Jieyin Minerals Co. Ltd.

All contracts have an effective period of one year, with key elements of the contracts subject to change based on market conditions when monthly supplemental agreements to the annual contracts are negotiated. All contracts have freight and related expenses to be paid by the customers.

The QP understands that an acceptable arsenic level in base metal concentrates, without penalty, for the Chinese smelters with which Silvercorp has contracts, is of the order of 1.0%, and notes that the GC lead and zinc concentrates are acceptable to those smelters.

All pertinent facilities are in place at the GC site, inclusive of security, accommodation, catering, engineering and administration building, mine dry, mine ventilation, main power sub-station, mine rescue, water supply, compressed air, underground dewatering, sewage treatment, explosives magazines, water treatment plant, maintenance / repair facilities, storage, laboratory, communications, fuel farm, fire prevention, waste rock dump, and TMF.

With respect to waste rock, all such material brought to surface is either used by Silvercorp for construction / maintenance activities or is removed from the site, free of charge, by local persons, again as construction material. The environmental assessment has indicated that waste rock at the GC mine has no significant acid-generating potential.

The TMF utilizes dry stacking and filling (from bottom to top and stacking by bench to form the embankment) with concurrent rolling and compaction. The most recent TMF risk assessment (report dated 30 July 2020) was done by Guangdong Huasheng Safety Occupation Evaluation Co., Ltd. After the issuing of the report, a new TMF Safety Production Certificate was granted on 3 September 2020, following a satisfactory on-site assessment organized by the local government. The certificate is valid until 3 September 2023.

Silvercorp has also entrusted Sinochem Mingda (Fujian) Geological Survey Co., Ltd., a survey company with China Grade A qualification, to conduct an engineering survey of the dry tailings area. Silvercorp has further entrusted the designer of the dry tailings area, Guangdong Metallurgical Architectural Design and Research Institute Co. Ltd., to assess the current flood control safety and dam stability of the dry tailings facility. This Project is expected to be completed by the end of 2021.

That notwithstanding, the QP recommends that Silvercorp continues to satisfy itself, as per best industry practice, that all fundamental aspects of the TMF design, construction and operation have been and continue to be satisfactorily addressed. This may include geotechnical drilling of the dam foundation area, as it is the QP's understanding that such activity has not specifically been undertaken.

Silvercorp utilizes contract labour for mining at GC on a rate per tonne or a rate per metre basis. The contract includes all labour, all fixed and mobile equipment, materials, and consumables, including fuel and explosives, which are purchased through the company. Ground support consumables such as timber and power are the responsibility of the company.

The 2021 Technical Report cost estimates for FY2022 include assumptions of mining 311,271 tonnes of ore and milling the same amount. Other major operational items assumed are waste development tunnelling at 10,200 m, exploration and development tunnelling at 10,300 m, and drilling at 58,500 m. Sustaining development tunnelling of 500 m is also assumed. Cost estimates are in US$ and assume an exchange rate of 6.5RMB to US$1.

FY2022 non-sustaining capital for further main ramp development is assumed at $0.4 million.

FY2022 sustaining capital is assumed at $4.0 million, which equates to $12.85 per tonne of ore projected to be mined.

The QP considers the 2021 Technical Report total operating cost estimate for FY2022 of $72.61/t of ore mined and milled to be reasonable relative to the methods and technology used and to the scale of the Gaocheng operation. The QP notes that the estimate of combined total operating and sustaining capital cost on a unit basis is $85.46/t of ore mined and milled.

26 Recommendations

The QP recommendations for the GC mine are indicated below. The QPs consider that the associated costs can be accommodated within existing operating budgets.

- All database records (drillhole and channel samples) to be assigned a consistent year between the collar and assay files.
- Each density sample to be geologically logged, with particular attention to the degree of oxidation and the presence or absence of vughs or porosity.
- The minimum size of the density samples to be 1 kg. The part of the sample that is selected for assaying should be as representative as possible of the mineralization in the part used for density measurement. Assaying of the density sample itself is preferable, but only if the wax does not lead to problems with assay sample preparation.
- Iron and / or sulphur to be added to the regular assay suite for samples used for resource estimation.
- Undertake additional bulk density measurements on representative samples with varying base metal and pyrite content.
- Take bulk density measurements on samples from the bounding waste material to allow more accurate estimation of the density of diluted Mineral Resources.
- Estimate the density of oxidized and fresh ores separately.
- Consider procurement of an additional CRM to monitor low grades and the anticipated COGs.
- Consider purchasing one or more 'pigeon pair' CRMs with similar, but not identical, expected values to CRMs currently in use. This will provide an additional check on laboratory accuracy.
- Revise protocols so that CRMs are inserted using a systematic approach at a rate of 1 CRM in every 20 samples (5%) for both drilling and underground samples. Consider implementation of practises such as assigning CRM samples in the sample tag books prior to actual sampling, so that CRM samples occur regularly and within each batch of samples.
- Continue monitoring CRM results on a 'real-time' basis and ensure that sample batches where consecutive CRMs return results outside of two standard deviations, or one CRM outside of three standard deviations, are investigated and reanalyzed.
- Revise protocols so that blanks are inserted using a systematic approach at a rate of at least one blank in every 25 samples (4%) for both drilling and underground samples.
- Insert blanks immediately after expected high grade mineralization to assess contamination occurring during sample preparation.
- Implement the use of both coarse and fine (pulp) blank material to enable sample preparation and analytical processes to be monitored for contamination.
- Revise and further reduce failure rates for Pb and Zn from current level of 0.1% Pb and 0.1% Zn.
- Implement the monitoring of blanks results on a 'real-time' basis and ensure that sample batches where blanks exceed failure limits are investigated and reanalyzed.
- Implement procedures to collect and submit coarse reject and pulp duplicates into the underground sample stream.
- Duplicate insertion rates to be increased to match that of drilling samples (approximately 5 – 6%).
- Investigate the cause of poor field duplicate performance in both core and underground samples. This could include a test phase which incorporates the following:
    - Completing polished section petrology to understand the particle size and nature of mineralization.

  - Submitting the second half of the core, instead of quarter core, as the field duplicates (if required, a thin slice (fillet) of core could be sliced off and retained for archival storage before cutting the core into halves).
  - Consider increasing the size of underground samples.
- Submit at least 5% of drilling and underground samples to a third-party umpire laboratory for check analysis on a regular basis
- Maintain a 'table of fails' that documents the remedial action completed on any failed batches.
- Implement a system whereby the original assays of failed batches are retained in the sample database and are available for audit.
- Continue to submit all QA/QC samples (with no identification), so that the results are not known by the laboratory.
- Insert QA/QC samples randomly within sample batches as opposed to the present practise of consistently inserting consecutive CRMs, blanks, and duplicates.
- Continue communication between the geology department and laboratory to ensure that any sample biases noted are investigated and addressed in a timely fashion.
- Sample on a minimum sample length of 0.4 m.
- Validate the master sample database and ensure that all fields are fully populated. Date fields should be reviewed and made consistent between collar, assay, and QA/QC datasets to enable consistent year-to-year reporting of results. Laboratory and laboratory report IDs should also be fully populated in the assay and QA/QC databases.
- Modify the central database so that assay data is recorded without rounding to accurately reflect the original assay certificates.
- Internally validate the existing sample database to ensure that any other sample prefix issues are addressed.
- Review database and sample procedures to ensure that sample prefix issues do not reoccur.
- Assess ground conditions on a round-by-round basis in all development headings (ore and waste) to determine the requirement for ground support. Doing so will help prevent the occurrence of significant failures from backs and walls, which require timely rehabilitation and expose the workforce to rock fall hazard.
- Ensure scaling of the development headings on a round-by-round basis.
- Maintain a focus on dilution and grade control.
- Conduct routine check scaling of all unsupported development at the mine. This process can help identify areas of the mine in which rock mass deterioration is occurring and allow rehabilitation works to be planned.
- As part of overall mine design, consider possible destabilizing effects associated with major structures such as faults or shear zones. These should be considered on a case-by-case basis. Where possible, avoid mining development intersections in fault zones, and design drifts to cross fault zones at right angles (to minimize the exposure length within the drift).
- Assess specific rock mass conditions for critical underground infrastructure, including shafts and chambers, to determine ground support and pillar requirements to ensure serviceability of the excavation for the LOM.
- Ensure that an assessment of crown pillar requirements has been incorporated into the detailed mine design with particular focus on surface pillar requirements in the vicinity of Hashui Creek valley, and any other streams (or drainage paths) that traverse the mine area.
- As part of ongoing operations at the mine, continuously review geotechnical aspects and ground support in a formal, recordable manner, bearing in mind previous recommendations, local and mine-wide operating experience in all rock types encountered, data collection protocols, and also looking to future mining development.

- Collect additional detailed geotechnical logging data, from drill core and mapping of underground workings, to incorporate collection of structural orientation data. Data collection to allow rock mass classification using an internationally recognized system, such as the Q-System (after Barton et al. 1974) or RMR (after Bieniawski 1989).
- Develop a three-dimensional geotechnical model with interpretations of primary lithologies and structures (such as faults and shear zones).
- As the mine moves deeper, undertake further investigation of in situ stresses to confirm assumptions made in the mine design and stability assessments.
- Consider the advisability of any further hydrogeological assessments.
- With respect to the TMF, Silvercorp to continue to satisfy itself, as per best industry practice, that all fundamental aspects of the TMF design, construction and operation have been and continue to be satisfactorily addressed. This may include geotechnical drilling of the dam foundation area, as it is the QP's understanding that such activity has not specifically been undertaken.
- Continue with a focus on safety improvement, including implementation of a policy whereby the more stringent of either Chinese or Canadian safety standards is employed.
- Place a strong focus on stockpiling and record keeping procedures and ensure that the summation of individual ore car weights by stope and zone is, as far as practicable, fully integrated into the tracking and reconciliation process.
- Undertake periodic mill audits aimed at ensuring optimum process control and mill performance.
- Continue exploration tunnelling and diamond drilling at Gaocheng. The exploration tunnelling is used to upgrade the drill-defined Resources to the Measured category, and the diamond drilling is used to expand and upgrade the previous drill-defined Resources, explore for new mineralized zones within the unexplored portions of vein structures, and test for extensions of the vein structures.

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28 QP Certificates

CERTIFICATE OF AUTHOR

I, Dinara Nussipakynova, P.Geo., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as Principal Geologist with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the technical report titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', with an effective date of 31 March 2021, (the "Technical Report") prepared for Silvercorp Metals Inc. ("the Issuer").

3 I am a graduate of Kazakh National Polytechnic University (B.Sc. and M.Sc. in Geology, 1987). I am a member in good standing of the Engineers and Geoscientists of British Columbia (License #37412) and the Association of Professional Geoscientists of Ontario (License #1298). I have practiced my profession continuously since 1987 and have been involved in mineral exploration and mine geology for a total of 34 years since my graduation from university. My experience is principally in Mineral Resource estimation, database management, and geological interpretation.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I visited the Gaocheng Property from 23 - 25 January 2018 for three days.

5 I am responsible for Sections 12 and 14, and parts of 1, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I was a qualified person for previous AMC Technical Reports on the GC property in 2018 (posted 27 July 2018, effective date 30 June 2018) and in 2019 (posted 18 September 2019, effective date 30 June 2019).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Effective Date: 31 March 2021
Signing Date: 6 October 2021

Original signed by

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Dinara Nussipakynova, P.Geo.
Principal Geologist
AMC Mining Consultants (Canada) Ltd.

CERTIFICATE OF AUTHOR

I, Herbert A. Smith, P.Eng. of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as Senior Principal Mining Engineer with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver, British Columbia V6C 1S4.

2 This certificate applies to the technical report titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', with an effective date of 31 March 2021, (the "Technical Report") prepared for Silvercorp Metals Inc. ("the Issuer").

3 I graduated with a degree of B.Sc. in Mining Engineering in 1972 and a degree of M.Sc. in Rock Mechanics and Excavation Engineering in 1983, both from the University of Newcastle upon Tyne, England. I have worked as a Mining Engineer for a total of 43 years since my graduation and have relevant experience in underground mining, feasibility studies, and technical report preparation for mining projects.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I visited the Gaocheng Property from 24 - 26 January 2018 for three days.

5 I am responsible for Sections 2 - 6, 15, 16, 19, 21 - 24, and 27, and parts of 1, 18, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I was a qualified person for previous AMC Technical Reports on the GC property in 2018 (posted 27 July 2018, effective date 30 June 2018) and in 2019 (posted 18 September 2019, effective date 30 June 2019).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Effective Date: 31 March 2021
Signing Date: 6 October 2021

Original signed by

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Herbert A. Smith, P.Eng.
Senior Principal Mining Engineer
AMC Mining Consultants (Canada) Ltd.

CERTIFICATE OF AUTHOR

I, Alan Riles, MAIG of Gorokan, New South Wales do hereby certify that:

1 I am the Director and Principal Consultant of Riles Integrated Resource Management Pty Ltd. with an office at 8 Winbourne Street, Gorokan, NSW 2263, Australia.

2 This certificate applies to the technical report titled ‘NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People’s Republic of China’, with an effective date of 31 March 2021, (the “Technical Report”) prepared for Silvercorp Metals Inc. (“the Issuer”).

3 I graduated with a Bachelor of Metallurgy (Hons Class 1) from Sheffield University, UK in 1974. I am a registered member of the Australian Institute of Geoscientists. I have practiced my profession continuously since 1974, with particular experience in study management, and both operational and project experience in precious and base metal deposits.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have visited the Gaocheng Property in May 2011 for two days.

5 I am responsible for Sections 13 and 17, and parts of 1, 18, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I was a qualified person for previous AMC Technical Reports on the GC property in 2012 (posted 6 February 2012, effective date 23 January 2012), in 2018 (posted 27 July 2018, effective date 30 June 2018), and in 2019 (posted 18 September 2019, effective date 30 June 2019).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Effective Date: 31 March 2021
Signing Date: 6 October 2021

Original signed by

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Alan Riles, MAIG
Director and Principal Consultant
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CERTIFICATE OF AUTHOR

I, Adrienne A. Ross, P.Geo., P.Geol., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as a Geology Manager / Principal Geologist with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver British Columbia, V6C 1S4.

2 This certificate applies to the technical report titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', with an effective date of 31 March 2021, (the "Technical Report") prepared for Silvercorp Metals Inc. ("the Issuer").

3 I am a graduate of the University of Alberta in Edmonton, Canada (Bachelor of Science (Hons) in Geology in 1991). I am a graduate of the University of Western Australia in Perth, Australia (Ph.D. in Geology). I am a registered member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (License #37418) and Alberta (Reg. #52751). I have practiced my profession for a total of 27 years since my graduation and have relevant experience in precious and base metal deposits.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have not visited the Gaocheng Property.

5 I am responsible for Sections 7 – 10 and parts of 1, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I assisted the qualified persons with respect to previous AMC Technical Reports on the GC property in 2018 (posted 27 July 2018, effective date 30 June 2018) and in 2019 (posted 18 September 2019, effective date 30 June 2019).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Effective Date: 31 March 2021
Signing Date: 6 October 2021

Original signed by

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Geology Manager / Principal Geologist
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I, Simeon Robinson, P.Geo., of Nanaimo, British Columbia, do hereby certify that:

1 I am currently employed as a Principal Geologist with AMC Mining Consultants (Canada) Ltd., with an office at Suite 202, 200 Granville Street, Vancouver British Columbia, V6C 1S4.

2 This certificate applies to the technical report titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', with an effective date of 31 March 2021, (the "Technical Report") prepared for Silvercorp Metals Inc. ("the Issuer").

3 I am a graduate of Curtin University of Technology, Kalgoorlie, Western Australia (Bachelor of Science – Mineral Exploration and Mining Geology, 2001). I have completed the Citation Program in Applied Geostatistics (University of Alberta, 2019). I am a registered member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (License #192869) and the Australian Institute of Geoscientists (#5609). I have practiced my profession for a total of 19 years since my graduation and have relevant experience in precious and base metal deposits and quality assurance and quality control.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have not visited the Gaocheng Property.

5 I am responsible for Section 11 and parts of 1, 25, and 26 of the Technical Report.

6 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I assisted the qualified persons with respect to previous AMC Technical Reports on the GC property in 2018 (posted 27 July 2018, effective date 30 June 2018) and in 2019 (posted 18 September 2019, effective date 30 June 2019).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Effective Date: 31 March 2021
Signing Date: 6 October 2021

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Simeon Robinson, P.Geo.
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CERTIFICATE OF AUTHOR

I, Guoliang Ma, P.Geo., of Vancouver, British Columbia, do hereby certify that:

1 I am currently employed as a Manager Exploration and Resource with Silvercorp Metals Inc. with an office at Suite 1750-1066 W. Hastings Street, Vancouver, BC V6E 3X1, Canada.

2 This certificate applies to the technical report titled 'NI 43-101 Technical Report Update on the Gaocheng Ag-Zn-Pb Project in Guangdong Province, People's Republic of China', with an effective date of 31 March 2021, (the "Technical Report") prepared for Silvercorp Metals Inc. ("the Issuer").

3 I am a graduate of Laval University in Quebec City, Canada (Masters of Science in 2001). I am a member in good standing of the Association of Professional Geoscientists Ontario (License #1967), and a member of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM, License #746506). I have practiced my profession for a total of 28 years. I have experience in the preparation of Resource and Reserve statements, due diligence reviews, and mining and exploration property valuations across a broad range of metalliferous mining projects.

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

4 I have visited the Gaocheng Property on numerous occasions, with the last two visits from 25 to 30 October 2019 and from 13 to 28 May 2021.

5 I am responsible for Section 20 and parts of 1, 25, and 26 of the Technical Report.

6 I am not independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

7 I have had prior involvement with the property that is the subject of the Technical Report in that I assisted the Qualified Persons in the preparation of previous AMC Technical Report on the Gaocheng Property in 2018 (effective date 30 June 2018) and in 2019 (effective date 30 June 2019).

8 I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Effective Date: 31 March 2021
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