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Technical Report

South Crofty Tin Project – Mineral Resource Update NI 43-101 Technical Report

Cornish Metals Inc.

Cornwall, United Kingdom

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

Qualified Persons:

Mr N Szebor, General Manager (Maidenhead, UK) and Principal Geologist, MCSM, MSc, BSc, CGeol, EurGeol, FGS.

Mr R Chesher, Senior Principal Consultant, FAusIMM(CP), RPEQ, MTMS.

AMC Project 0423037
Effective date 14 September 2023

1 Summary

1.1 Introduction

AMC Consultants (UK) Limited (AMC) was commissioned by Cornish Metals Inc. (Cornish Metals) to prepare a Technical Report (South Crofty Technical Report or Technical Report) on the South Crofty Tin (copper-zinc) Property (Property) in Cornwall, United Kingdom.

Cornish Metals is a mineral exploration and development company listed on both the Canadian TSX Venture Exchange (TSX-V: CUSN) and the Alternative Investment Market of the London Stock Exchange (AIM: CUSN). Cornish Metals is incorporated federally in Canada under the Canada Business Corporations Act (CBCA) with registered number 423627-1. Major shareholders of the company are Vision Blue Resources holding 25.95% of issued share capital, and Barkerville Gold Mines, a subsidiary of Osisko Development Corp. holding 8.57% of issued share capital. The flagship projects held by Cornish Metals are the South Crofty Tin (copper-zinc) and the United Downs copper-tin projects, both situated in Cornwall, United Kingdom.

This report is a National Instrument 43-101 (NI 43-101) Technical Report on the updated Mineral Resources of the South Crofty Tin (copper-zinc) Property (Property) with an effective date of 14 September 2023. The Mineral Resource update incorporates additional drilling and geological investigations completed at the Property since the previous Technical Report, which had an effective date of 7 June 2021.

The Mineral Resources are split into two areas, a polymetallic (tin-copper-zinc) Upper Mine and a tin-only Lower Mine. The Mineral Resources of the Lower Mine have been updated based on additional sample data obtained from compilation of historical drilling and channel sampling information. Since the previous 2021 Mineral Resource estimate, additional historical channel samples have been compiled by Cornish Metals, and initial metallurgical drilling has also been completed. The current Mineral Resource estimates incorporate these additional samples. The additional sample data has enabled further lodes to be included in the Mineral Resource in lode areas No.1, No. 2, No. 3, Main, Intermediate, North and Great.

The Mineral Resources for the Upper Mine are based on the estimates previously undertaken by P&E Mining Consultants Inc. (P&E) in 2016 (Puritch et al., 2016) and subsequently audited by the Qualified Person (QP). No material changes have occurred in the Upper Mine since the original P&E estimates. The QP has reviewed the P&E Mineral Resource estimate and takes responsibility for the Upper Mine Mineral Resources declared within this Technical Report. The Mineral Resources have been restated using a recalculated tin equivalent grade utilizing more recent metal prices. This Technical Report supersedes the following previous report:

"*Technical Report, South Crofty Tin Project Mineral Resource Update*", carried out by AMC Consultants (UK) Limited, with an effective date of 7 June 2021 (AMC, 2021).

Whilst no material ground developments or activities have advanced the Property, additional recently verified historical exploration data, and limited recent metallurgical drilling has been incorporated into the South Crofty database for the Lower Mine, resulting in updating the Lower Mine Mineral Resources.

The two QPs for the report are Mr Robert Chesher, Senior Principal Consultant (AMC) and Mr Nick Szebor, General Manager (Maidenhead, UK) and Principal Geologist (AMC). The QPs meet the requirements of independence as defined in NI 43-101. Mr Nick Szebor, Principal Geologist, AMC, qualifies as the independent QP for the Mineral Resources declared herein. He has visited the Property in July 2023 and February 2020.

1.2 Property description

The South Crofty Project is a former producing tin mine located in the town of Pool in the historic Cornwall tin mining district of south-west England. The Project has a long history of operation until closure in March 1998, at which point the pumps were switched off and the mine was left to flood. The mine has been flooded since closure, except near-surface workings which are situated above the drainage adit level.

Cornish Metals (previously known as Strongbow Exploration) acquired a 100% interest in the project and its associated mineral rights in 2016 when they took the previous operating company, Western United Mines Ltd (WUM) – out of administration. Since 2016, Cornish Metals has obtained all the necessary permissions to dewater the mine and is progressing studies in advance of a production decision. This Mineral Resource update is part of Cornish Metals' ongoing studies.

The Project's extensive 1,490 ha underground permissions extend over 26 historic mining operations. The current South Crofty Project comprises the former producing South Crofty and Dolcoath mines, referred herein singularly as South Crofty or South Crofty Project. The two former mines that make up the South Crofty Project were two of the most significant mines in the Cornish tin mining district. The Project's underground permissions include five Mineral Rights, which are registered with the Land Registry, as well as areas of Mineral Rights that are leased or unregistered.

The Project has permissions that were granted in 2011 and 2013 that largely replace historic planning permissions granted in 1952 and updated in 2006 with environmental conditions imposed but remain extant. The new planning permissions for surface and underground developments were granted by Cornwall Council, the Local Planning Authority, and have increased the Project area to 1,490 ha with a working depth of 1,500 m below surface. The underground mining permission is valid until 2071. Cornish Metals also has approximately 7.65 ha (18.9 acres) of surface ownership.

Current infrastructure supports the ongoing care and maintenance of the Property, and will help support any future developments. More recent infrastructure advancements, including the servicing of shafts, and construction of the mine water treatment plant, have been implemented to support access into the historical mine. Access into the mine will facilitate additional investigations, and does not reflect a production decision by Cornish Metals.

The Project site is located within an industrial area with highly developed power supply and regional distribution, has two 33 kV overhead power lines which cross the Property, and a dedicated 11 kV power supply to the New Cook's Kitchen (NCK) shaft. The NCK shaft comprises one of seven main shafts accessing the mine workings, and historically was the main hoisting shaft. The Project also has ready access to fresh water supplied by the South West Water utility. Site infrastructure from prior mining and development operations includes office and warehouse buildings, and the partially refurbished NCK shaft. A modern decline extends to a vertical depth of 120 m at an average gradient of -16%, the west branch provides access to the Upper Mine mineralization while the east branch, mined in the 1980s, was being developed to provide trackless vehicle access/secondary egress into the South Crofty Mine. Mill and concentrator facilities from prior operations have been dismantled and removed.

Cornwall has a strong history of mining, and historically has exported mine workers around the globe. Although mining has experienced a considerable decline in the region, mining capability and knowledge is still present in the local workforce. With a local urban population of more than 59,100 in the Redruth, Pool, and Camborne area, there are sufficient local human resources to staff many skilled, unskilled, or partially skilled jobs at a mine.

1.3 Ownership of the Property

The South Crofty Project is located in the highly mineralized Central Mining District of Cornwall. Mining is reported to have been undertaken in the region from before 2000 BC during the Bronze Age of Western Europe. The modern ownership history may be considered as starting in 1906 when South Crofty Limited (SCL) was founded in order to exploit the tin deposits located beneath historic copper mines in the area. In 1967, SCL became a wholly owned subsidiary of Siamese Tin Syndicate Ltd and Siamese Tin's subsidiary, St. Piran Ltd. In mid-1983, the company was acquired from St. Piran by Charter Consolidated plc (Charter), which subsequently disposed of 40% of its holdings to Rio Tinto Zinc (RTZ). In 1984, RTZ acquired Charter's remaining 60% interest and South Crofty became part of Carnon Consolidated Ltd (Carnon), a wholly owned subsidiary of RTZ that also owned and operated the nearby Wheal Jane tin mine.

In October 1985, the price of tin dropped dramatically on the world markets following the collapse of the International Tin Agreement. Carnon became privately owned in June 1988 when the business and assets of the group were purchased from RTZ through a management buy-out. In 1994, South Crofty was purchased by Crew Natural Resources (Crew) of Canada. After several years of depressed tin prices, South Crofty was closed in March 1998 and the mine was allowed to flood. At the time of its closure in 1998, South Crofty was the last remaining working tin mine in Europe. On closure, Crew sold the assets of both Wheal Jane and South Crofty to a newly formed company, Wheal Jane Group (WJG).

The South Crofty Project was acquired from WJG by Baseresult Holdings Limited (Baseresult) in 2001. In November 2007, Baseresult formed a 50-50 joint venture with Galena Special Situations Fund (GSSF) a subsidiary of the Trafigura Group, and formed WUM to own and operate the mine on behalf of the joint venture partners.

At the same time, Cornish Minerals Limited (Bermuda) (CMLB), was founded and the mineral rights for the South Crofty Project as well as others elsewhere in Cornwall, were transferred from Baseresult to CMLB. Cornish Minerals Limited (CML), a UK registered company, was created as a holding company over both WUM and CMLB with GSSF and Baseresult as 50-50 shareholders.

In 2011, Celeste Copper Corp. (Celeste), a Canadian publicly listed company, entered into a joint venture agreement with Baseresult and GSSF to earn into CML in return for staged investments into WUM. In 2013, due to poor market conditions, Celeste failed to meet its commitments under the terms of the joint venture, consequently GSSF placed WUM and CML into administration to protect the Project assets. However, CMLB was not put into administration.

GSSF was the only secured creditor under administration. In 2014, GSSF reached an agreement with a Vancouver-based private company, Tin Shield Production Inc (Tin Shield), whereby Tin Shield had the right to acquire a 100% interest in WUM/CML and CMLB. Tin Shield funded ongoing operational costs under the administration process in order to maintain the underground mining permissions in good standing and funded CMLB to ensure it also remained in good standing.

In March 2016, Strongbow Exploration (now Cornish Metals) announced that it had reached agreement with GSSF and Tin Shield to acquire a 100% interest in WUM (now renamed to South Crofty Ltd (SCL)) and CMLB (collectively the Companies) by funding WUM's exit from administration. Cornish Metals acquired from administration a 100% interest in WUM (now SCL) and acquired a 100% interest in CMLB on 11 July 2016. The material terms of the agreement are detailed in Section 6.

On 16 September 2016 the TSX Venture Exchange Inc. confirmed it accepted for filing the purchase and sale agreement entered into by Cornish Metals with the administrator managing the affairs of

SCL and Cornish Minerals Limited (UK). In February 2021, Cornish Metals was granted admission to AIM, resulting in shares for the company being traded both on the TSX-V and AIM markets.

1.4 History

The Project has historically seen extensive mining activity. Average annual production in the period 1984 to 1998 at the South Crofty Mine amounted to 191,200 tonnes at an average grade of 1.31% Sn. A total of 9,976,171 tonnes at an average grade of 1.00% Sn was mined between 1906 and 1998. In addition to the South Crofty Mine production, the adjacent Dolcoath Mine operated as an independent mine from 1895 to 1921. During this period 2,135,470 tonnes of ore was processed at a grade of approximately 2% Sn. Due to the extensive history of mining at the Property, records of the full total volume of material extracted are incomplete.

The South Crofty Project has a large historical database with approximately 3,000 drillholes (87,000 m) and 45,000 underground channel samples that have been compiled by Cornish Metals. A closure estimate was completed for the South Crofty Property in 1998 (Owen et al., 1998). This estimate included Proven and Probable "reserves" of 730,750 tonnes at 1.48% Sn plus Inferred resources of 2,172,850 tonnes at 1.48% Sn. The estimate was based on longitudinal section calculations using a 1% Sn cut-off and minimum 1.0 m mining width.

The historical mine closure estimate was prepared according to the mine's operational policy at the time of closure in 1998. The estimate predates the introduction of National Instrument 43-101 (NI 43-101).

Diamond drilling from 2008 to 2013 in the Upper Mine and the increase in resources there, rendered the 1998 estimate out of date.

Micromine Limited (Micromine), UK, was engaged by Celeste to produce NI 43-101 Resource Estimates and Technical Reports in 2011 and 2012 (Hogg, 2011 and Hogg, 2012). These estimates incorporated results of drilling by WUM and focused on the Upper Mine, west of the Great Crosscourse fault and above approximately 400 m depth from surface.

The QP has not done sufficient work to classify the historical estimates discussed in this section as current Mineral Resources or Mineral Reserves, and Cornish Metals is not treating the historical estimates as current Mineral Resources or Mineral Reserves.

1.5 Geology and mineralization

The geology of Cornwall is dominated by granitic intrusions that are part of Permian Cornubian batholith, and Devonian metasedimentary and metavolcanics, known locally as "killas", that form the metamorphic aureole and host rocks of the intrusions. The sedimentary and volcanic package was deformed during the Variscan Orogeny. Crustal thickening of the package during the initial phase of the orogeny followed by subsequent lithospheric extension and crustal subsidence resulted in anatexis of the metasedimentary package and formation of the Cornubian batholith.

The South Crofty Project area is situated on the north side of the Permian Carn Brea Granite that is thought to be connected with the Cornubian batholith at depth. The South Crofty Project area is underlain by a series of metasedimentary and metavolcanic rocks (killas) and associated hornfels and skarns, that occur in close proximity to the granite contact. At depth, the granite underlies the whole Project area.

Mineralization occurs in "lodes" or vein-type structures that generally strike east-north-east and parallel the strike of the granite/killas contact. The lodes occur in both the granite and the overlying killas and the character of the lodes changes depending on the host rocks. Within the granite, the principal mineral of economic significance is cassiterite, whereas above the granite contact, copper and zinc sulphide mineralization is developed. The Great Crosscourse is a late fault that bisects the South Crofty Project area and is associated with an approximately 100 m of strike slip movement. The Great Crosscourse had a significant influence on the historical mine development of the South Crofty Project. The Great Crosscourse transects the Project area dividing the mine into two areas: east and west.

The South Crofty tin deposit is an intrusion-related, structurally controlled, vein-hosted mineralization type.

1.6 Exploration and drilling

WUM re-established the decline at the Project and in 2008 extended the existing decline a further 380 m to a total depth of 120 m below surface at an average gradient of 1-in-6. At a depth of 120 m, a spine drive was commenced and progressively developed to a length of 130 m. The decline extends in a south-westerly direction through the Great Crosscourse above the historical Dolcoath workings and provides exploration access to the Upper Mine. The decline and spine drive has served as an access point for the 31,000 m underground drill programme conducted by WUM between 2008 and 2013.

Tin Shield's exploration was limited to assaying approximately 720 samples from drill core intersecting the Upper Mine (Dolcoath lodes). These assays were collected from holes drilled by WUM in late 2012 and 2013 and have been incorporated into the assay database.

Cornish Metals has carried out a 1,694 m diamond drilling programme in 2020 consisting of a single parent hole and two directionally drilled daughter holes targeting the Lower Mine lodes beneath the historical workings. The aim of the drilling was to prove the concept of being able to drill the Lower Mine from surface, and to confirm the position and continuity of the mineralization at depth. The results were not available at the time of the Mineral Resource update and therefore have not been used as part of the Mineral Resource.

In 2022, South Crofty Ltd (SCL) commenced drilling in order to collect samples for a metallurgical testwork programme. The planned drilling included directional drilling from three new surface parent holes, one existing surface parent hole (SDD20_001), and two new parent holes drilled from underground. These parent holes then had multiple daughter holes drilled in "clusters" in order to collect enough sample mass for the testwork. A total of 10,312 m were drilled in order to complete the programme which resulted in the collection of 1,162 kg of material for testing. In addition, approximately 1-in-5 drillholes were assayed to give an indication of likely grades in that "cluster" of drillholes. Assays for lodes No. 1, No. 4, No. 8, Roskear B FW, and the North Pool Zone have been used in the Mineral Resource estimates.

1.7 Quality assurance and quality control

A review of the duplicate assay results for both the Upper Mine (2008–2013 drilling) and the Lower Mine (2020, and 2022–2023 drilling) show comparable results. Field duplicates show a poor level of precision which is markedly improved following the crushing and pulverization stages of sample preparation. The results indicate that mineralization is inherently nuggety and homogenization of the samples is achieved only following the crushing stage. Based on the pseudo-twinning analysis, and the review of the duplicate assay results, the QP is of the opinion that grade variability is likely a function of the inherent compositional and distributional heterogeneity of mineralization rather than a sampling issue. The pseudo twin hole results show variability that would be anticipated from a nuggety deposit with corresponding increases in precision as the sample is subjected to crushing and pulverization. The field duplicates show an improvement on sample repeatability compared to the twin samples in line with the QPs experience of other nuggety styles of mineralization.

Where blank samples have been submitted for the 2008–2013 drilling works and the Cornish Metals 2020 and 2022–2023 drilling, no evidence of significant sample contamination has been identified. There are a few instances identified in 2023 which show potential low-level contamination in sample preparation of very high-grade Sn samples; however, is not material. CRM submissions for the 2008–2013 drilling and the Cornish Metals 2020 and 2022–2023 drilling show good levels of analytical accuracy.

The digitization of historical sample and survey data by Cornish Metals has been undertaken in a diligent manner with no evidence of significant transcription of digitization errors noted.

Prior to the use of X-ray fluorescence spectroscopy (XRF) in 1974, assays for Sn were conducted using the vanning assay method. To check for bias by either assay method, the QP has carried out a vanning versus XRF comparison. The QP has reviewed the sample data on a lode-by-lode basis to ascertain areas where there are coincident intervals of vanning and XRF assays. The QP has selected areas where samples are situated within discrete shoots and therefore less susceptible to bias from the inherent heterogeneity of the mineralization.

The vanning and XRF comparisons show comparable grade populations with no evidence of significant bias noted. The mean grades for the vanning assays are typically slightly lower than the corresponding XRF assays, potentially indicating that the vanning assays are more conservative than the XRF.

The QP has reviewed sample preparation, analysis, security protocols and quality assurance and quality control (QA/QC) employed at the South Crofty Project by previous and present operators. Based on the this work the QP is of the opinion that the sample data is suitable for use in the Mineral Resource estimation.

1.8 Metallurgy and processing

Historical gravity-only processing from the Lower Mine with ore grading 0.84% Sn resulted in average Sn recovery of 73%. From 1988 to 1998, South Crofty ore was processed at the nearby Wheal Jane mill which achieved 88.5% recovery (1997) by recovering Sn in fine fractions by froth flotation in addition to gravity recovery of coarse Sn.

As of the effective date of this Technical Report, 14 September 2023, no metallurgical testwork has been completed by Cornish Metals. In 2022, Cornish Metals engaged Wardell Armstrong International (WAI), an independent consultancy providing range of minerals-related testing services, to test samples and provide data in support of the South Crofty Project. This testwork is currently ongoing.

Mining of Upper Mine mineralized material which also contains Cu and Zn is contemplated. Production of Sn, Cu, and Zn concentrates would require construction of a gravity plus differential flotation plant at South Crofty. Detailed testing to establish comminution and processing response of all mineralized material types to be treated would be required to fully inform the design and sizing of a processing plant. Recoveries of 88.5% Sn, and 85% for Cu and 70% for Zn have been assumed for evaluation of the economic potential of the Upper Mine. The Cu and Zn estimates were reported by P&E in a previous report (Puritch et al., 2016) and are considered reasonable by the QP assuming recovery using flotation methods. The Sn recovery of 88.5% is based on the Lower Mine. The Upper Mine may display lower recoveries owing to a lower Sn head grade compared to the Lower Mine.

No deleterious elements of significance have been observed in any of the past metallurgical testwork or production records.

1.9 Mineral Resources

The Mineral Resource is split into two sections: The Upper Mine Mineral Resource, which is predominantly polymetallic Sn-Cu-Zn mineralization hosted in metasedimentary country rock, and the Lower Mine Mineral Resource which is tin-only and hosted predominantly in granite. The Upper Mine Mineral Resource is defined from a drill programme carried out by (WUM) from 2008 to 2013 comprising 31,000 m of diamond drilling. The Lower Mine Mineral Resource is defined from underground channel sampling, drilling data collected during the mine's operation which ceased in March 1998, and limited drilling completed by Cornish Metals in 2020, and 2022-2023.

The Upper Mine was originally estimated by P&E on 26 February 2016 (Puritch et al., 2016). The resource methodology and data remain unchanged as there has been no material change since the P&E Mineral Resource estimate in 2016; however, the block tin equivalent (SnEq) grades have been recalculated reflecting current metal prices. During the original review of the Upper Mine by the QP in 2021, part of the Dolcoath Upper Main Lode was identified as being over extrapolated and lacking supporting data. This area of the lode was subsequently depleted.

Cornish Metals undertook a Mineral Resource estimate on many of the main tin lodes in the Lower Mine at South Crofty in 2021. Since then, it has undertaken to build on that estimate by modelling and estimating the remaining principal lodes in the Lower Mine. This model has been reviewed by the QP who takes responsibility for the estimate. The significant new additions include No. 1 Lodes, parts of No. 2 Lodes, No. 3 Lodes, and the Main, Intermediate, North, and Great Lode areas. The updated Lower Mine Mineral Resource estimate incorporates historical channel samples that have been compiled by Cornish Metals, and additional diamond drilling completed by Cornish Metals in 2020, and 2022-2023.

The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The Property is a previously operating mine situated in a mining friendly jurisdiction. The United Kingdom is a politically stable jurisdiction and socio-political factors are unlikely to affect the Mineral Resource. Cornish Metals has underground permissions which include five Mineral Rights, which are registered with the Land Registry, as well as areas of Mineral Rights that are leased or unregistered. Conditional planning permissions for the surface development and underground workings were granted by Cornwall Council, the Local Planning Authority (LPA), in 2011 and 2013 respectively. On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the United Kingdom Environment Agency (EA) allowing the discharge of up to 25,000 m3 of treated water per day from the South Crofty Mine. In January 2020, abstraction licence SW/049/0026/005 was awarded to the Company by the EA. Cornish Metals has the necessary title arrangements and permits, and has addressed environmental considerations relevant to the reporting of Mineral Resources. The QP is not aware of any factors which would materially affect the Mineral Resource disclosed herein.

Both the Upper and Lower Mine Mineral Resources have been reviewed by the QP who takes responsibility for the estimates.

The Upper Mine Mineral Resources reviewed by the QP and based on the P&E 2016 estimate with an updated metal equivalent cut-off grade is provided in Table 1.1, Mineral Resources are reported at a cut-off grade of 0.6% SnEq and a minimum mining width (MMW) of 1.2 m.

Table 1.1 Upper Mine Mineral Resource estimate at 0.6% SnEq cut-off as of 6 September 2023

South Crofty Upper Mine Mineral Resource estimate at 0.6% SnEq Cut-Off Grade ([1-12])						
Lode/Zone	**Mass (kt)**	**Grade**				**Contained Tin Equivalent (t)**
		% Sn	**% Cu**	**% Zn**	**% SnEq.**	
Dolcoath Middle	90	0.72	0.88	0.16	1.01	904
Dolcoath Middle Branch	37	0.89	0.34	0.02	1.00	367
Dolcoath Upper Main	-	-	-	-	-	-
Dolcoath Upper South South Branch	-	-	-	-	-	-
Dolcoath NVC	-	-	-	-	-	-
Dolcoath Little NW	12	0.69	0.16	0.87	0.81	99
Dolcoath Little NW FW	-	-	-	-	-	-
Dolcoath Little NE	-	-	-	-	-	-
Dolcoath South Entral	122	0.62	0.91	1.05	1.00	1,213
Total Indicated	**260**	**0.69**	**0.78**	**0.59**	**0.99**	**2,583**
Dolcoath Middle	22	0.75	0.05	0.01	0.77	171
Dolcoath Middle Branch	-	-	-	-	-	-
Dolcoath Upper Main	271	0.61	0.60	0.22	0.82	2,210
Dolcoath Upper South-South Branch	88	0.50	0.73	1.83	0.88	778
Dolcoath NVC	36	0.75	1.09	0.15	1.10	395
Dolcoath Little NW	-	-	-	-	-	-
Dolcoath Little NW FW	1	0.81	0.03	0.25	0.84	8
Dolcoath Little NE	47	1.15	0.55	1.43	1.45	677
Dolcoath South Entral	-	-	-	-	-	-
Total Inferred	**465**	**0.66**	**0.63**	**0.63**	**0.91**	**4,239**

1. The Mineral Resource estimate is reported in accordance with the requirements of the Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy, the JORC Code (2012).
2. The Qualified Person for this Mineral Resource estimate is Mr Nicholas Szebor, MCSM, MSc, BSc, CGeol, EurGeol, FGS, of AMC Consultants (UK) Limited.
3. Mineral Resources for the Upper Mine are estimated by conventional 3D block modelling based on wireframing at 0.5% SnEq cut-off grade and a minimum width of 1.2 m and estimated by inverse distance to the power of 3 grade interpolation.
4. SnEq is calculated using the formula: SnEq% = Sn% + (Cu% x 0.314) + (Zn% x 0.087). Cornish Metals has used metal prices of US$24,500/tonne Sn, US$8,000/tonne Cu, and US$2,700/tonne Zn. Assumptions for process recovery are 88.5% for Sn, 85% for Cu, and 70% for Zn.
5. For the purpose of this Mineral Resource estimate, assays were capped by lode for the Upper Mine at 6% for Sn, 4% for Cu, and 20% for Zn.
6. Bulk densities of 2.77 t/m^3 and 3.00 t/m^3 have been applied for ore volume to tonnes conversion for the granite-hosted and killas-hosted Mineral Resources, respectively.
7. Mineral Resources are estimated from near-surface to a depth of approximately 350 m.
8. Mineral Resources are classified as Indicated and Inferred based on drillhole and channel sample distribution and density, interpreted geological continuity, and quality of data.
9. The Mineral Resources have been depleted for past mining; however, they contain portions that may not be recoverable pending further engineering studies.
10. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
11. Effective date 6 September 2023.
12. Totals presented in the table are reported from the resource model are subject to rounding and may not sum exactly.

The Lower Mine Mineral Resources estimated by Cornish Metals in 2023 and reviewed by the QP are provided in Table 1.2.

Table 1.2 South Crofty Lower Mine Mineral Resource estimate at 0.6% Sn cut-off as of 06 September 2023 (inclusive of remnants)

South Crofty Lower Mine Mineral Resource estimate at 0.6% Sn Cut-Off Grade (1-14)				
Lode / Zone	**Classification**	**Mass (kt)**	**Grade % Sn**	**Contained Tin (t)**
No. 1/2	Indicated	479	1.31	6,281
No. 3	Indicated	164	1.26	2,070
No. 4	Indicated	488	1.76	8,595
No. 8	Indicated	113	2.00	2,264
No. 9	Indicated	98	1.47	1,442
Dolcoath	Indicated	466	1.39	6,464
Main/Intermediate/North/Great	Indicated	61	1.09	662
North Pool Zone	Indicated	283	1.35	3,814
Providence	Indicated	-	-	-
Pryces / Tincroft	Indicated	347	1.18	4,092
Roskear	Indicated	397	1.99	7,889
Total Indicated		**2,896**	**1.50**	**43,573**
No. 1/2	Inferred	580	1.21	7,029
No. 3	Inferred	183	1.13	2,079
No. 4	Inferred	293	1.53	4,467
No. 8	Inferred	149	2.08	3,103
No. 9	Inferred	103	1.55	1,597
Dolcoath	Inferred	304	1.31	3,993
Main/Intermediate/North/Great	Inferred	276	1.16	3,214
North Pool Zone	Inferred	185	1.30	2,391
Providence	Inferred	98	1.55	1,520
Pryces / Tincroft	Inferred	177	1.34	2,375
Roskear	Inferred	278	2.01	5,596
Total Inferred		**2,626**	**1.42**	**37,364**

1. The Mineral Resource estimate is reported in accordance with the requirements of the Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy, the JORC Code (2012).
2. The Qualified Person for this Mineral Resource estimate is Mr Nicholas Szebor, MCSM, MSc, BSc, CGeol, EurGeol, FGS, of AMC Consultants (UK) Limited.
3. Mineral Resources for the Lower Mine are estimated by conventional block modelling based on wireframing at 0.4% Sn threshold whilst honouring lode continuity and by ordinary kriging or inverse distance to the power of 3 grade interpolation.
4. Assumptions for process recovery are 88.5% for Sn.
5. Cornish Metals has used a metal price of US$24,500/tonne Sn.
6. For the purpose of this Mineral Resource estimate, assays were capped by lode for the “Lower Mine” between 1.5% Sn and 23% Sn.
7. Bulk densities of 2.77 t/m^3 have been applied for volume to tonnes conversion for the Lower Mine.
8. Mineral Resources for the Lower Mine have had a minimum mining width of 1.2 m applied using 0.0% Sn dilution.
9. Mineral Resources are estimated from a depth of approximately 350 m to a depth of approximately 870 m.
10. Mineral Resources are classified as Indicated and Inferred based on drillhole and channel sample distribution and density, interpreted geological continuity, and quality of data.
11. The Mineral Resources have been depleted for past mining; however, they contain portions that may not be recoverable pending further engineering studies.
12. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
13. Effective date 6 September 2023.
14. Totals presented in the table are reported from the resource model are subject to rounding and may not sum exactly.

1.10 Infrastructure

Although not an advanced property, the South Crofty Project does contain infrastructure associated with the previous mining operations. Current infrastructure supports the ongoing care and maintenance of the Property. More recent infrastructure advancements, including the servicing of shafts, and construction of the mine water treatment plant, have been implemented to support access into the historical mine. Access into the mine will facilitate additional investigations, and does not reflect a production decision by Cornish Metals.

The Project has good transport connections with access to the national road network via a junction with the A30 road which links the city of Exeter with the town of Penzance. Flights to the region are available from London, Gatwick Airport to Newquay, Cornwall Airport. Newquay airport is located 30 km north-east of the Project. Train services between London and Penzance on the First Great Western line extend to Redruth and Camborne.

The main project site is bisected by two 33 kv overhead power lines. Medium-pressure gas mains are present at various locations across the site, with fresh water supplied by South West Water utility via a six-inch mains water-line that crosses the site.

General site infrastructure comprises a modern office block with adjoining warehouse and workshop buildings. Further offices are located adjacent to the NCK shaft, fully equipped with changing and washing facilities. Part of the former mining change-house has been converted to house the electrical installations associated with the mine dewatering pumps and an accompanying control room.

The NCK South winder-house and NCK shaft headgear were refurbished in 2013.

1.11 Environment and social impact

The South Crofty Mine is situated in the Town of Pool between Camborne and Redruth in Cornwall, United Kingdom. It is part of the Cornwall and West Devon Mining Landscape, and is partly within a United Nations Educational, Scientific and Cultural Organization (UNESCO) designated World Heritage Site comprised of mining landscapes in Cornwall and West Devon.

Conditional planning permissions for the surface development and underground workings were granted by Cornwall Council, the Local Planning Authority (LPA), in 2011 and 2013 respectively. On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the United Kingdom Environment Agency (EA) allowing the discharge of up to 25,000 m^3 of treated water per day from the South Crofty Mine. In January 2020, abstraction licence SW/049/0026/005 was awarded to the Company by the EA. This permit allows up to 25,000 m^3 per day of raw mine-water to be abstracted from the mine and pumped to the process plant. This has enabled the construction of a mine water treatment plant, which is due to be commissioned in October 2023, and the subsequent dewatering of South Crofty Mine.

Atkins Engineering Limited completed two environmental statements for the below-ground and above-ground works at the South Crofty Mine in support of applications for planning permission.

The UK planning process involves a consultation period where the application is open to public comment, including support and objection. The project as proposed in 2011 was not materially objected to, with one exception. In 2012, UNESCO initially expressed its opposition to the Project as proposed in 2011. It is worthy to note that UNESCO has no jurisdiction over planning decisions in the UK and its statement of opposition was made after the conditional planning permission had been granted.

Cornish Metals carries out quarterly liaison meetings with stakeholders to provide updates on the progression of the Project. Regular contact with parish councils in the Project areas is also made to inform on operational activities. In addition to this, Cornish Metals employs a designated Community Liaison Manager to consult directly with local stakeholders on operations which might impact them and ensure open lines of communication exist between Cornish Metals and local residents and businesses. The company also carries out community liaison open days which are scheduled to inform the community of new projects and significant milestones of the project development. These events share the company's progress and plans in order to engage and receive feedback from the local community.

1.12 Recommendations

The QP makes the following recommendations:

- Additional work be undertaken to collate the outstanding historical sample data into the database to further inform the Mineral Resource estimates. The collation of historical sample data can be accommodated by the current Cornish Metals geological team and existing operating costs.
- Additional sampling be carried out. The QP is of the opinion that sampling from underground following dewatering would provide the best access for drilling and sampling. The QP understands that Cornish Metals is planning to commence dewatering in October 2023. Dewatering of the mine would require 18-months to two years, but with potential drilling access coming sooner at approximately six months. The cost of dewatering has previously been estimated by Cornish Metals at US$20,000,000.
- Whilst dewatering is ongoing, the QP recommends additional surface drilling. The number of drillholes would be limited due to surface access restrictions, and costs would range between US$270,000–US$1,000,000.
- Following dewatering, a programme of checking the mine surveys should be undertaken to provide additional support to the historical digitized mine survey data. The additional survey checks could be undertaken by Cornish Metals under its existing operating costs.
- Samples for the ongoing metallurgical testwork programme have been limited to those obtained from surface drilling of the down-dip extents of known lodes. As the mine dewatering progresses further, the QP recommends that metallurgical sampling and variability testwork should be completed on the upper parts of the mine and lodes not currently covered by the ongoing metallurgical testing. Costs would range between US$100,000–US$500,000.

Contents

Tables

Figures

Distribution list

1 e-copy to Cornish Metals Inc.
1 e-copy to AMC’s Maidenhead office

2 Introduction

2.1 General and terms of reference

This Technical Report (South Crofty Technical Report or Technical Report) on the South Crofty Tin (copper-zinc) Property (Property) has been prepared by AMC Consultants (UK) Limited (AMC) of Maidenhead, UK, on behalf of Cornish Metals Inc. (Cornish Metals or the Issuer), of Vancouver, Canada. The Property is in Cornwall, United Kingdom.

This Technical Report is an update to the previous Technical Report "*South Crofty Tin Project Mineral Resource Updated*" completed by AMC with an effective date of 7 June 2021 (AMC, 2021).

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. Mineral Resources are classified in accordance with the JORC Code (2012). The confidence categories assigned under the JORC Code were reconciled to the confidence categories in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards – for Mineral Resources and Mineral Reserves May 2014 (the CIM Definition Standards). The confidence categories between CIM and JORC are the same, and therefore there is no requirement for modification of the confidence categories.

2.2 The Issuer

Cornish Metals is a dual-listed company (TSX-V:CUSN, AIM:CUSN) focused on advancing the South Crofty high-grade, underground tin project as well as exploring its additional mineral rights, all located in Cornwall, South-west England. Cornish Metals' mineral rights have potential for the discovery of tin, copper, lithium, tungsten, zinc, and silver mineralization.

2.3 Qualifications of authors

The names and details of persons who have prepared, or assisted the Qualified Persons (QPs) in the preparation of this Technical Report are listed in Table 2.1. The QPs meet the requirements of independence as defined in NI 43-101.

Mr Robert Chesher, Senior Principal Consultant (AMC) has undertaken a review of the metallurgical data and takes responsibility for Section 13. Mr Nick Szebor, General Manager (Maidenhead, UK) and Principal Geologist (AMC) has undertaken the review of the technical data and Mineral Resources presented herein and takes responsibility for the estimates and the remaining sections of the report.

The South Crofty Project is split into two areas, an Upper Mine which is polymetallic (tin-copper zinc) and a Lower Mine which is tin only. The QP, Mr Nick Szebor, has reviewed and accepts responsibility for both the Upper Mine and Lower Mine Mineral Resource estimates.

A site visit was undertaken by Mr Szebor in July 2023 and February 2020. NI 43-101 requires at least one QP to inspect the Property. Given that this Technical Report focuses on the Mineral Resource update, the Geologist, Mr Szebor, went to site. A site visit by Mr Chesher, a Metallurgist, was not deemed necessary.

Table 2.1 Persons who prepared or contributed to this Technical Report

Qualified Person	Position	Employer	Independent of Cornish Metals	Date of site visit	Professional designation	Sections of report
Qualified Persons responsible for the preparation of this Technical Report						
Mr N Szebor	General Manager (Maidenhead) and Principal Geologist	AMC Consultants (UK) Limited	Yes	14 July 2023 and 4 Feb 2020	MCSM, M.Sc., B.Sc., CGeol, EurGeol, FGS CGeol (London), EurGeol, FGS	2-12 and 14-24, 27 and part of 1, 25 and 26
Mr R Chesher	Senior Principal Consultant	AMC Consultants Pty Ltd	Yes	None	FAusIMM(CP), RPEQ, MTMS	13 and part of 1, 25 and 26
Other experts who assisted the Qualified Persons						
Mr A Wilkins	Chief Geologist	Cornish Metals Inc.	No	Ongoing	CGeol (London), EurGeol, FGS	1-14
Mrs L Beveridge	Senior Resource Geologist	Cornish Metals Inc.	No	Ongoing	AusIMM CP(Geo)	1-14
Mr O Mihalop	Chief Operating Officer	Cornish Metals Inc.	No	Ongoing	MIMMM (CEng)	1-14, and 20
Mr S Holley	Feasibility Study Manager	Cornish Metals Inc.	No	Ongoing	CEng MIMMM QMR	13 and 18

2.4 Sources of information

In supervising the preparation of this Technical Report, the QPs have relied on various geological maps, cross-sections, reports, and other technical information provided by Cornish Metals. The QPs have reviewed and analysed the data provided and drawn their own conclusions, augmented by their knowledge of the Project and communications with Cornish Metals personnel. Specific documents referenced in this report are listed in Section 27.

2.5 Effective Date

The Technical Report is effective 14 September 2023.

2.6 Units

All units of measurement used in this Technical Report are metric unless otherwise stated. Tonnages are reported as metric tonnes (t), precious metal values (gold and silver) in grams per tonne (g/t) or parts per million (ppm), and base metal values (tin, copper, lead, and zinc) are reported in weight percent (%) or ppm. Other references to geochemical analysis are in ppm or parts per billion (ppb) as reported by the originating laboratories. All currency amounts and commodity prices are stated in US dollars (US$) unless otherwise stated.

This report includes the tabulation of numerical data which involves a degree of rounding for the purpose of resource estimation. AMC does not consider any rounding of the numerical data to be material to the Project.

The following units (Table 2.2) were used in this report and are in metric (SI) units.

Table 2.2 List of units

Unit	Description
asl	above sea level
%	per cent
/	per
°	degrees
°C	degrees Celsius
cm	centimetres
g/t	grams per tonne
ha	hectares
kg	kilogram
km	kilometre
m	metres
mm	millimetres
m^3	cubic metres
Ma	million years
Mt	million tonnes
ppb	parts per billion
ppm	parts per million
t or tons	tonnes (metric)
tpd	tonnes per day
µm	micrometre

The following abbreviations were used in this report (Table 2.3).

Table 2.3 List of abbreviations

Abbreviation	Description
AGAT	AGAT Laboratory
Ai	Bond Abrasion Index
AIM: CUSN	London Alternative Investment Market
AMC	AMC Consultants (UK) Limited
Baseresult	Baseresult Holdings Limited
BBWi	Bond Ball Mill Work Index
BC	Before Christ
BRWi	Bond Rod Mill Work Index
Carnon	Carnon Consolidated Ltd
Cassiterite	Cassiterite Ltd
Celeste	Celeste Copper Corp
Charter	Charter Consolidated
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CML	Cornish Minerals Limited
CMLB	Cornish Minerals Limited (Bermuda)
Cornish Metals or the Client	Cornish Metals Inc.
Crew	Crew Natural Resources
CRM	Certified Reference Materials
CSM	University of Exeter's Camborne School of Mines
Cu	copper
CV	coefficient of variation
DMS	dense medium separation
DTI	Department of Trade and Industry
EA	United Kingdom Environment Agency
EDPXRF	Energy Dispersive Polarised X-Ray Fluorescence
GRA	gravity release analysis
GSSF	Galena Special Situations Fund
HHP	high-heat producing
ICP-AES	Inductively Coupled Plasma Atomic Emission Spectrometry
ICP/ICP-MS	Inductively Coupled Plasma – Mass Spectroscopy
ICP- OES	Inductively Coupled Plasma - Optical Emission Spectroscopy
IDW^3	Inverse Distance Weighting Cubed
IEC	Inter-Element Correction
JORC	Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy
LCT	locked cycle tests
LIMS	Laboratory Information Management System
LPA	Local Planning Authority
MCA	multi-channel analyzer
MCF	Mine Call Factor
Micromine	Micromine Limited
MMW	minimum mining width
NCK	New Cook's Kitchen

Abbreviation	Description
NI 43-101	National Instrument 43-101 (Standards of Disclosure for Mineral Projects), Form 43-101F1 and the Companion Policy Document 43-101CP
NPV	net present value
NPB	North Pool
NPQ	North Pool Quartzites
NSR	net smelter return
OK	ordinary kriging
ORE	Ore Research and Exploration Pty. Ltd
OS	Ordnance Survey
P&E	P&E Mining Consultants Inc.
Pb	lead
PEA	Preliminary Economic Assessment
Property	South Crofty tin (copper-zinc) Property
QA/QC	quality assurance and quality control
QMS	Quality Management System
QP	Qualified Person
RB FW	Roskear B Footwall
RTZ	Rio Tinto Zinc
RQD	Rock Quality Designation
SCL	South Crofty Ltd. (previously WUM)
SGS	SGS Cornwall
Sn	tin
SnEq	Sn equivalent
South Crofty	South Crofty Project
Technical Report	South Crofty Technical Report or Technical Report
The Report	NI 43-101 Mineral Resource Report on the South Crofty Project, UK, prepared for Cornish Metals Inc. with an effective date of 14 September 2023.
Tin Shield	Tin Shield Production Inc
Tomra	Tomra GmbH
TSF	tailings storage facility
TSX-V: CUSN	Canadian TSX Venture Exchange
UNESCO	United Nations Educational, Scientific and Cultural Organization
UK	United Kingdom
W	tungsten
WAI	Wardell Armstrong International Laboratories
WHIMS	wet high-intensity magnetic separation
WJG	Wheal Jane Group
WUM	Western United Mines Ltd (became SCL in 2020)
XRF	X-ray fluorescence spectroscopy
Zn	zinc

3 Reliance on other experts

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

- The following disclosure is made in respect to information provided by Cornish Metals personnel led by Mr Owen Mihalop, Chief Operating Officer, Cornish Metals.
- Report, opinion, or statement relied upon: Information on mineral tenure and status, title issues, royalty obligations, etc.
- Extent of reliance: Full reliance following a review by the QP.
- Portion of Technical Report to which disclaimer applies: Section 4.2 and Section 4.3.

The QP has 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 QP disclaims responsibility for the relevant section of the report.

- The following disclosure is made in respect to information provided by Cornish Metals personnel led by Mr Owen Mihalop, Chief Operating Officer, Cornish Metals.
- Report, opinion, or statement relied upon: Information 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 QP.
- Portion of Technical Report to which disclaimer applies: Section 20.

4 Property description and location

4.1 Property location

The South Crofty Project is a past-producing underground tin mine located in the historic Central tin mining district of Cornwall, United Kingdom, situated in the parish of Pool, between the towns of Camborne and Redruth.

The Project is located at latitude 50° 13′ 21″ N longitude 5° 16′ 32″ W (UTM Coordinates WGS84 30U 337,679 mE 5,565,836 mN) and located approximately 390 km west-south-west of London, UK, and is approximately 4.5 km south of the north coast of Cornwall and the Celtic Sea (Figure 4.1).

Figure 4.1 Location of South Crofty Project

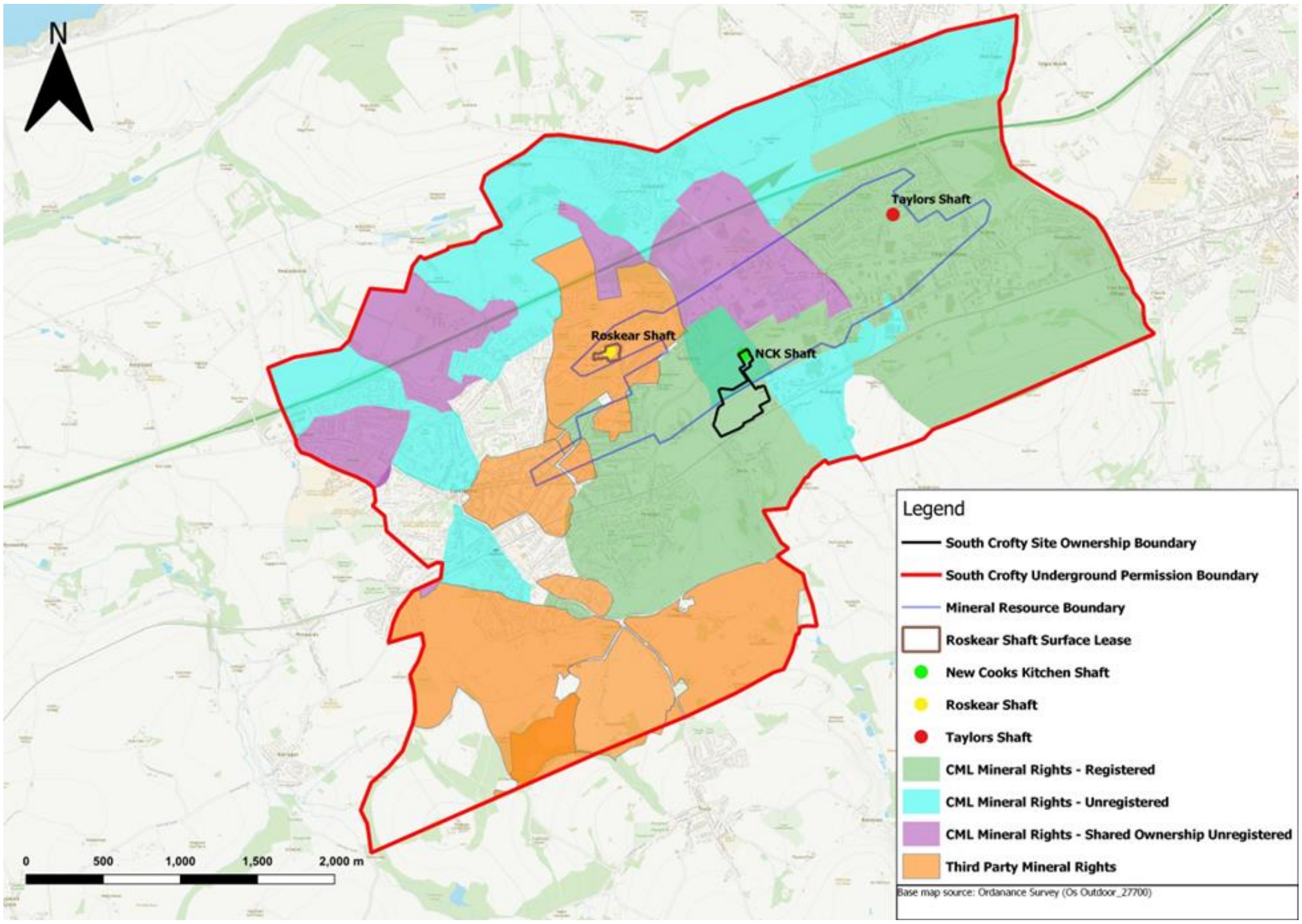
Source: Cornish Metals, 2023. Modified after Ordnance Survey, 2022.

Underground workings extend beneath Pool and the neighbouring towns. The South Crofty Project and past-producing mines extend 3.3 km east-west along-strike from Camborne toward Redruth in the east and 800 m north–south from the main A30 trunk road to the main South West railway line in the south, with some workings extending to a depth of 885 m below surface.

4.2 Property description and tenure

Cornish Metals Inc. (formerly Strongbow Exploration Inc.) acquired the South Crofty Project from administration on 11 July 2016. Cornish Metals holds its 100% interest in the project through a subsidiary company, South Crofty Ltd (SCL) (formerly Western United Mines Ltd (WUM)). At the same time as acquiring SCL, Cornish Metals also acquired a 100% interest in Cornish Minerals (Bermuda) Ltd (CMLB). CMLB holds title to the underground mineral rights and SCL holds the licences, permits, and freehold surface land that form the South Crofty Project. Replacement planning applications for surface and underground developments were approved by Cornwall Council in 2011 and 2013 which has increased the Project area to 1,490 ha with a working depth of 1,500 m below surface. The underground mining permission is valid until 2071.The Project's extensive 1,490 ha underground mining Permission Area extends over 26 historic mining operations. The current South Crofty Project comprises the former producing South Crofty and Dolcoath mines, referred herein singularly as South Crofty. The mining operations were historically separated by the Great Crosscourse fault, which follows the course of the Red River as its surface feature. The underground Permission Area and the geographical context of the Project is shown in Figure 4.2 below.

Figure 4.2 Underground permissions area and the geographical context of the Property



Source: Cornish Metals, 2023. Modified after Ordnance Survey, 2022.

The Project underground Permission Area includes five Mineral Rights which are registered at the Land Registry as well as areas of Mineral Rights that are unregistered. The registered Mineral Rights have the following title numbers:

- CL169822
- CL169823
- CL188226
- CL188227
- CL188228.

Unregistered Mineral Rights pertain to those rights which are held by Cornish Metals, but which have yet to be publicly registered at the Land Registry. There is currently no requirement in the UK to register Mineral Rights. Registered and unregistered Mineral Rights are held in perpetuity by Cornish Metals with no expiration date

Certain Mineral Rights within the underground Permission Area are leased from third party mineral owners. These include Roskear Minerals LLP and the Vyvyan family of Trelowarren in Cornwall. Both lease agreements are valid for a period of 25 years up until 6 March 2046 and February 2047, respectively, with a further right to renew prior to the end of the lease. The terms of the leases require Cornish Metals to pay an annual rent, plus a net smelter royalty on production of any minerals recovered from the leased areas.

Those Mineral Right areas classed as shared ownership (unregistered), refer to Mineral Rights where Cornish Metals has a shareholding in an undivided mineral right, and a third party holds the remaining share. In the majority of cases, Cornish Metals retains the "Power to Work" any minerals contained within the shared area but is in discussions with the other parties regarding putting a formal lease in place to cover their share of the minerals. As part of the agreements, Cornish Metals is likely to be required to pay a royalty to the third party. Should an agreement not be reached Cornish Metals still retains the right to work the minerals in the majority of the shared ownership areas, but it may be necessary to set aside funds for future royalty payments should it be demanded. If the third party owners are unknown or unwilling to enter into a lease agreement, then Cornish Metals is able to apply to the Secretary of State for Business and Trade for permission to settle any dispute in accordance with the rights set out in the Mines (Working Facilities and Support) Act, which can confer powers of compulsory purchase and other ancillary rights.

In the UK, mineral ownership extends to the centre of the earth. The Project operates under several planning permissions that were granted in 1952 and updated in 2006 with environmental conditions imposed, and remain extant but have largely been superseded by two new planning permissions for the proposed modernization of South Crofty Mine to allow for the continuation of "winning" and working of minerals. Winning is defined as making a mineral available or accessible to be removed from the land. The new surface planning permission and the new underground planning permission were approved by Cornwall Council in 2011 and 2013 respectively. The underground planning permission has increased the Project area to 1,490 ha with a working depth of 1,500 m below ground level. SCL has approximately 7.65 ha (18.9 acres) of surface ownership. Independent legal opinion regarding tenure, rights and easements, restrictions, stipulations, incumbrancers, existing use, taxes, charges, and fees dated 27 March 2022, was conducted by Stephens Scown LLP, a law firm specializing in UK mineral law and solicitors to Cornish Metals. This opinion is an update to previous opinions by Stephens Scown LLP dated 5 February 2021 and 24 May 2017. The March 2022 letter of opinion was supplied prior to a significant investment into the company by Vision Blue Resources Ltd, whilst the February 2021 letter of opinion was supplied for Cornish Metals listing on the Alternative Investment Market (AIM) of the London Stock Exchange.

In addition to the mineral rights discussed above, Cornish Metals also has a 1.5% net smelter return (NSR) royalty agreement with Osisko Development Corporation on all production from within the Permissions Area. Osisko Development Corporation being a major shareholder of Cornish Metals.

4.3 Permitting and environmental liabilities

Cornwall Council, the Local Planning Authority (LPA), issued a Grant of Conditional Planning Permission for Project-related surface activities in 2011 (PA10/04564) and another for Project-related underground activities in 2013 (PA10/05145) based on the scope described in the applications submitted by SCL. These two permissions enable mining and processing operations to 2071. Under the Town and Country Planning Act 1990, Schedule 5, Part 1, s.1(2) the winning and working of minerals or the deposit of mine waste must cease not later than 60 years after the date of the permission, unless extended prior to that date.

Atkins Engineering Limited completed two environmental statements for the below-ground and above-ground works at the South Crofty Mine in support of its applications for planning permission.

Under the terms of the surface permission, the permitted surface development was to be commenced by 3 November 2016. In September and October 2016, eight key-surface conditions (numbers 6, 7, 8, 9, 10, 11, 12, and 32) were discharged by Cornwall Council which allowed construction work to commence. A 5 m section of concrete kerb was then installed along the main road into the Project site and a Certificate of Lawfulness for Proposed Use or Development was issued by Cornwall Council dated 30 January 2017, effective 18 November 2016. The Certificate of Lawfulness states that development has materially commenced in connection with PA10/04564 and that permission is therefore considered to be extant. The Grant of Conditional Planning Permission extends to 30 June 2071.

On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the United Kingdom Environment Agency (EA) allowing the discharge of up to 25,000 m^3 of treated water per day from the South Crofty Project. Untreated water from historical mining operations (pre-Cornish Metals) currently flows directly into the Red River. Cornish Metals' new permit allows the Company to proceed with construction of a mine water treatment facility that will lead to an improvement in the quality of water discharged. In January 2020, abstraction licence SW/049/0026/005 was awarded to the Company by the EA. This permit allows up to 25,000 m^3 per day of raw mine water to be abstracted from the mine and pumped to the process plant. The need for this additional permit was brought about by a change in legislation after the 2017 discharge permit was issued. Previously, abstraction of groundwater for the purposes of mine dewatering had been an exempted activity.

Waste rock and thickened tailings could be used to backfill mined-out workings. The underground permission requires tailings leach testing and LPA approval before tailings can be used for underground backfilling. The permissions will also likely require other non-material amendments to the current LPA approvals as the Project is advanced.

The mine would be closed in an orderly manner based on a closure plan that would be regularly updated and refined over the life of the Project. As defined in the surface permission, a surface restoration scheme is required to be submitted for approval at least two years prior to the expiration of the date in the permission or within two years of the permanent cessation of mineral working, whichever is the sooner. A restoration scheme for the surface features and shafts needs to be submitted for approval by the LPA at least two years prior to the expiration of the permission or within two years of the permanent cessation of mining activity.

To the extent known to the QP, all the permits that must be acquired to conduct the work proposed for the Property have been obtained.

4.4 Conclusions

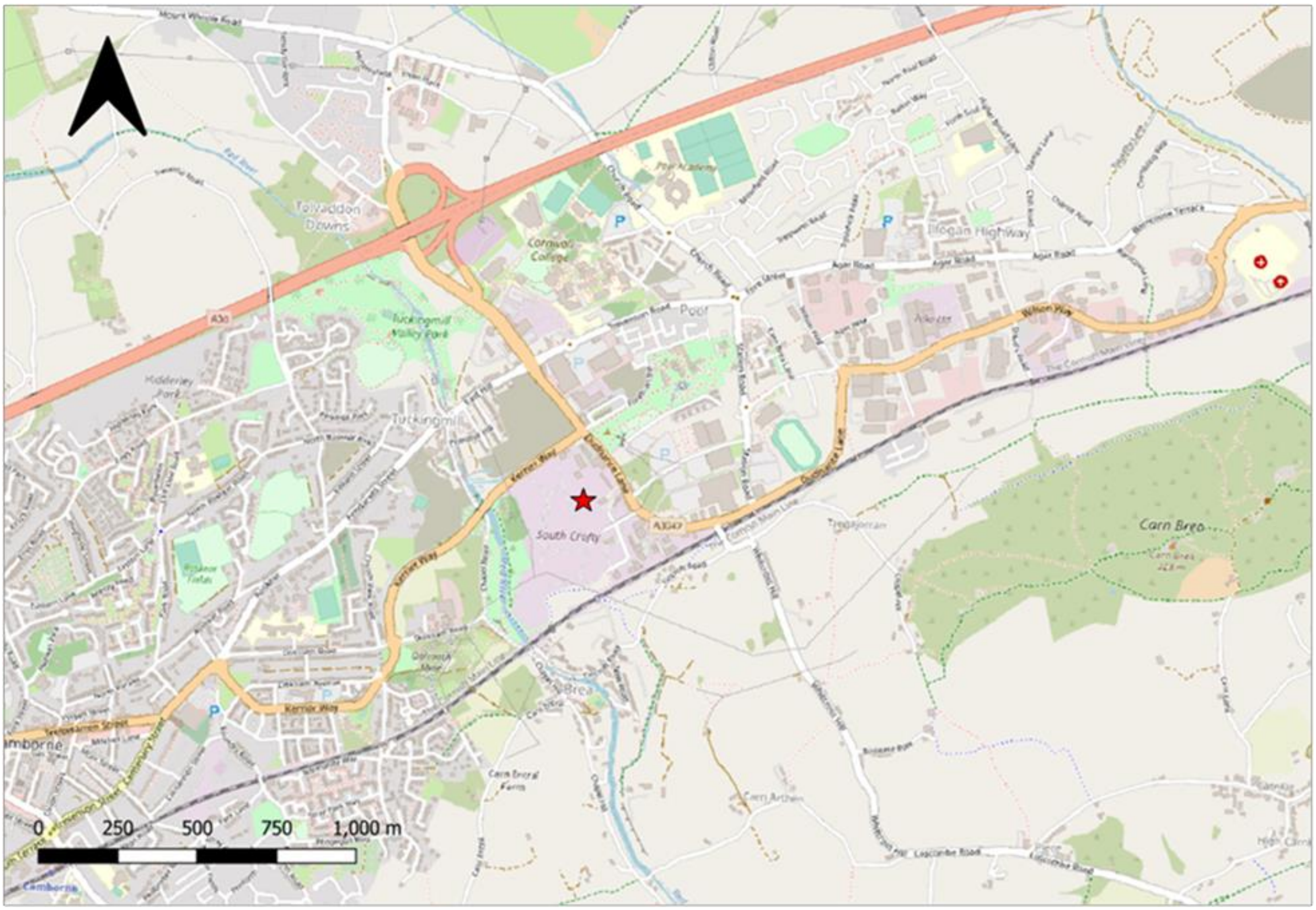
To the QP's knowledge, there are not any other significant factors or risks that may affect access, title, or the right or ability to perform work on the Property.

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

5.1 Access

The South Crofty Property and the underground workings are largely within and underneath the town of Pool, situated between the towns of Redruth and Camborne. The Property is located in an urban and semi-urban area and, as a consequence, existing transport infrastructure is well developed. This is shown in Figure 5.1 below.

Figure 5.1 Location and infrastructure of the South Crofty Property area



Source: Cornish Metals, 2021. Using OpenStreetMap.

The South Crofty Property is situated 1 km south of the main A30 trunk road from London to Land's End, Cornwall. The towns of Redruth, Camborne, and Pool are all accessed from the A30 road. Flights to the region are available from London, Gatwick Airport to Newquay, Cornwall Airport. Newquay airport is located 30 km north-east of the Project. Train services between London and Penzance on the First Great Western train line extend to Redruth and Camborne.

5.2 Climate

Cornwall has a temperate oceanic climate with average annual temperatures of approximately 10°C. Climate data for 2022, Camborne, Cornwall, located to the west of South Crofty, are provided in Table 5.1.

Table 5.1 Weather observations for Camborne, 2022 (latitude 50.218 longitude -5.327)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high (°C)	9.9	10.8	11.8	12.7	15.8	17.9	20.8	22.4	17.8	16.2	12.9	9.1
Average Low (°C)	4.9	6.5	6.5	6.9	9.8	11.1	14.1	14.9	12.5	11.5	8.7	3.8
Rainfall (mm)	63.4	108.6	68.0	36.8	45.4	65.6	19.6	23.8	125.4	85.8	213.2	142.8

Source: Met Office, 2022.

Typically, June, July, and August are the warmest months with average high temperatures of approximately 20°C and February is the coldest month with average lows of 3°C. The wettest months tend to be through the winter.

The length of the operating season is 12 months of the year.

5.3 Local resources

The extensive history of mining in the region and the ongoing China clay industry has resulted in a number of mining-related enterprises being established in Cornwall. Mining-based enterprises include equipment and service providers, and the University of Exeter’s Camborne School of Mines (CSM).

The Camborne, Pool, and Redruth area has a population of approximately 47,500, with the potential to contribute to the Project’s workforce.

5.4 Infrastructure

The site has excellent transportation infrastructure, including the A30 trunk road located less than 1 km north of the Property and the national railway line that borders the Property to the south. There are modern active port facilities at Falmouth approximately 17 km to the south-east.

The Property is located within an industrial area with highly developed power supply and regional distribution. The site has two 33 kV overhead power lines which cross the Property. Capacity is sufficient for future mining operations. The Property also has ready access to fresh water supplied by the South West Water utility, with a six-inch main water-line crossing the site location.

Site infrastructure from prior mining and development operations includes office and warehouse buildings, the partially refurbished New Cook’s Kitchen (NCK) shaft, and a water treatment plant that is nearing completion. A modern decline extends to a depth of 120 m at an average gradient of -16%. The decline extends in a south-westerly direction through the Great Crosscourse fault above the historical Dolcoath mine workings and provides access to the Upper Mine – Dolcoath mineralization. Section 18 discusses the site infrastructure in more detail.

Processing facilities from prior operations have been dismantled and removed.

Although the Property is bordered by urban residential and industrial areas to the north, east, and west, Cornish Metals owns approximately 7.65 ha (18.9 acres) of freehold surface land over which the surface permission is granted, providing sufficient surface area for production requirements.

5.5 Physiography

The topography of the Camborne and Redruth district, including the site consists of a broad plateau, with the site elevation being approximately 102 m to 116 m asl. The plateau slopes gently north toward the north Cornish coast (Figure 5.2). The plateau is cut by north–north-west trending valleys with 5 m to 10 m of local relief that are drained by north flowing streams, including the Red River valley that borders the site to the immediate west. The south of the plateau is flanked by the Carn Brea Granite which forms an east-north-east trending ridge with a height of 228 m.

Figure 5.2 View of Property looking north-west from Carn Brea hill

Photo source: Andy Beveridge, 2021.
Notes: Looking north-west from Carn Brea hill, Celtic Sea is visible in background.

The topography in the immediate area of the site has been modified by dumping of mine waste rock over many years and by urbanization. The vegetation which develops on the modified sites is generally typical of the surrounding area, and is composed of gorse scrub, willow, acid grassland, heathland, bare ground, and wetlands. In Cornwall, gorse and willow scrub typically take the place of woodland.

Figure 5.3 Photograph of the New Cook's Kitchen headframe

Photo source: Andy Beveridge, 2021.
Notes: Looking north-west of the NCK headframe showing its location in semi-industrial setting.

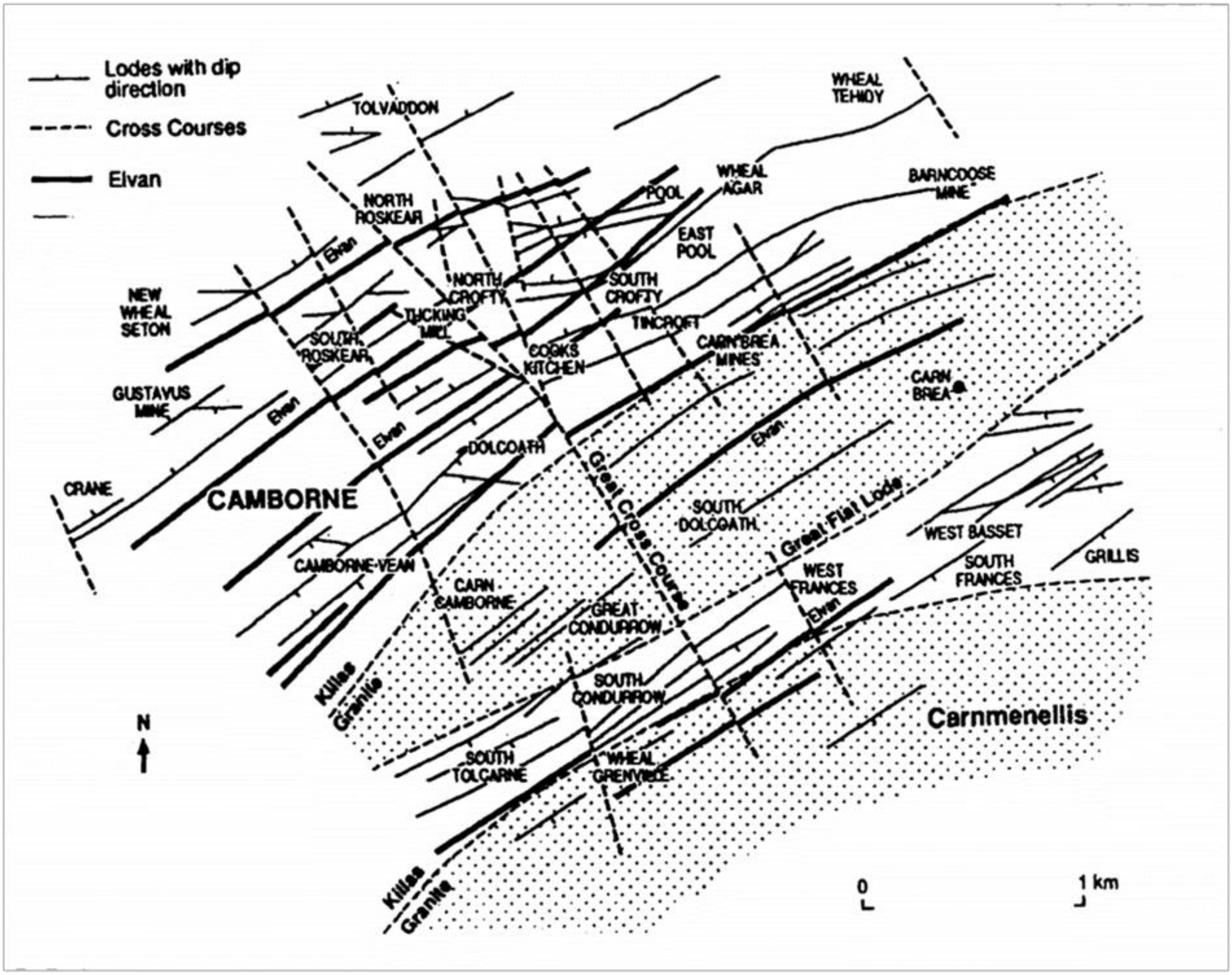
6 History

6.1 Project history

Historical records show that mining has taken place in the Camborne – Redruth district since the 1670s up until the closure of South Crofty in March 1998. The South Crofty Project is an amalgamation of many ancient mining leases (setts) and mines, including North Wheal Crofty, Dudnance, Longclose, Wheal Susan, and NCK. Included within the mining permissions are the historical mines of Dolcoath, Tincroft, Cook's Kitchen, East Pool and Agar, and part of the Carn Brea Mines, amongst several others. These mines have been worked for various minerals through different periods including tin, copper, arsenic, and zinc.

A plan of the historical mine locations within the Project area is shown in Figure 6.1. The historical mines collectively form the current South Crofty Project.

Figure 6.1 Map showing historical mine locations



Source: Dominy et al., 1994.

Notes: Location map showing the main geological features and the old mines which now collectively form the South Crofty Project. The Great Crosscourse is shown running from the north-west to the south-east.

The modern South Crofty Mine, which ceased operations in March 1998, was formed following the conversion of the cost book company to that of limited liability. A new vertical shaft named Robinsons had already commenced from surface during 1900 and with the sinking of NCK vertical shaft starting during 1907, South Crofty Mine entered a phase of working that continued almost without interruption until 1998. It should be noted that during the period from approximately 1920 to 1998, the neighbouring mines of Dolcoath and Carn Brea were closed and remained flooded whilst the modern South Crofty Mine was operational.

Where reference is made to the lodes of Dolcoath North, South, and South-South Branch in the Lower Mine, these structures are not part of the original Dolcoath Mine further south and are not connected with any of the old workings on that mine.

The modern mine workings which form the Lower Mine are located at depth (generally depths greater than 300 m below surface) and situated within the granite, on the northern flank of the outcropping granite ridges of Carn Brea and Carn Entral, with workings extending laterally from the centre of Camborne in the west, to the Tolskithy valley in the east. The modern mine exploited predominantly tin mineralization.

The surface of the site has numerous historical shafts, many of which date from the eighteenth and nineteenth century. The majority are capped but some are retained infrastructure for the working of the modern mine.

6.2 Ownership

The modern ownership history may be considered as starting in 1906 when South Crofty Limited (SCL) was founded in order to exploit the tin deposits located beneath historic copper mines in the area. In 1967, SCL became a wholly owned subsidiary of Siamese Tin Syndicate Ltd and Siamese Tin's subsidiary, St. Piran Ltd. In 1969, of a GBP1 million programme to increase ore hoisting capacity and to make substantial improvements to the mill. By 1975, the mill was processing more than 200,000 tonnes of ore annually (including some from Pendarves Mine) to yield approximately 1,500 tonnes of tin concentrate annually.

Due to the extensive history of mining at the Property, records of the full total volume of material extracted are incomplete, particularly for mining prior to 1906. Average annual production in the period 1984 to 1998 at the South Crofty Mine amounted to 191,200 tonnes at an average grade of 1.31% Sn. A total of 9,976,171 tonnes at an average grade of 1.00% Sn was mined between 1906 and 1998. In addition to the South Crofty Mine production, the adjacent Dolcoath Mine operated as an independent mine from 1895 to 1921. During this period 2,135,470 tonnes of ore were processed at a grade of approximately 2% Sn.

In mid-1982, the company was acquired from St. Piran by Charter Consolidated (Charter), which subsequently disposed of 40% of its holdings to Rio Tinto Zinc (RTZ). These holdings were vested in a new holding company, Wheal Crofty Holdings Ltd, with the same proportion of ownership. Then in 1984, RTZ acquired Charter's 60% interest and South Crofty became part of Carnon Consolidated Ltd. (Carnon).

In October 1985, the price of tin dropped dramatically on the world markets following the collapse of the International Tin Agreement. Carnon rationalized the operations, involving closure of the nearby Pendarves Mine which had supplied ore to the South Crofty mill. With a diminishing ore supply, this mill was progressively shut and by 1988 all South Crofty ore was trucked for processing at Wheal Jane mill.

As well as a reduction in manpower, the mines were rationalized and a programme of modernization, started by RTZ before the price crash, was partly continued. This was made possible by the cooperation and financial support of the Department of Trade and Industry (DTI) in the form of loans for the capital improvement. The majority of this capital was put into the South Crofty Project. In addition, RTZ also provided a loan to fund the operating losses.

Carnon became privately owned in June 1988 when the business and assets of the group were purchased from RTZ through a management buy-out. A trust was established for the benefit of the employees who received 20% of the equity. Carnon Holdings Limited was incorporated at this time.

In February 1991, the DTI stopped all further support of capital projects. The company substantially reduced costs by again reducing labour which, coupled with a small rise in the tin price, allowed the mine to continue operating at a small loss. These losses were funded through the sale of surplus land and redundant assets. In 1994, South Crofty was purchased by Crew Natural Resources (Crew) of Canada, and around this same time, the New Roskear shaft took over from the Robinson shaft as the secondary egress shaft.

During the last years of operation, the mine effectively became partly trackless with two conveyor declines driven below the bottom of the main vertical shaft (NCK) to the north and west to access the Roskear 1 to 6 lodes. The focus of operations thus became deeper and further removed from the main South Crofty workings to the east and south.

After twelve years of depressed tin prices, SCL announced in August 1997 that closure was imminent, and closure was completed by March 1998 with the mine was allowed to flood. At the time of its closure in 1998, South Crofty was the last remaining tin mine working in Cornwall.

6.2.1 Ownership post-1998 mine closure

The following section is compiled from Hogg (Hogg, 2012), information in the public domain, and material provided by SCL.

The South Crofty Project was acquired by Baseresult Holdings Limited (Baseresult) in 2001. Baseresult was a private company formed by a group of investors to develop the project. Cornish Minerals Limited (Bermuda) (CMLB), a sister company to Baseresult held the mineral rights to South Crofty.

Subsequent to the acquisition by Baseresult, the South West Regional Development Agency, established by the UK Government, concluded that the region should no longer be investing in mining. Several years of negotiation followed, with the regulatory authorities favoring complete cessation of mining activity at South Crofty and redevelopment of the site. In 2007, this concept was overturned and the mining permits effectively reconfirmed.

In November 2007, Baseresult formed a 50-50 joint venture with Galena Special Situations Fund (GSSF) with GSSF providing financing through Cassiterite Ltd. (Cassiterite), a special purpose company. Ownership of the Project was transferred to Western United Mines Ltd (WUM), owned by Cassiterite and Baseresult.

In 2011, Celeste Copper Corp. (Celeste), a Canadian publicly listed company, entered into a joint venture agreement with WUM on the South Crofty Project. The earn-in resulted in the incorporation of a new entity, Cornish Minerals Limited (CML), which held 100% of WUM and was to be funded by staged investments by Celeste. In 2013, due to poor market conditions, Celeste failed to meet its commitments under the terms of the joint venture, consequently GSSF placed WUM and CML into administration to protect the Project assets. However, CMLB was not put into administration.

GSSF was the only secured creditor under administration. In 2014, GSSF reached an agreement with a Vancouver-based private company, Tin Shield Production Inc (Tin Shield), whereby Tin Shield had the right to acquire a 100% interest in WUM/CML and CMLB. Tin Shield funded ongoing operational costs under the administration process in order to maintain the underground mining permissions in good standing and funded CMLB to ensure it also remained in good standing.

In March 2016, Strongbow Exploration (now Cornish Metals) announced that it had reached agreement with GSSF and Tin Shield to acquire a 100% interest in WUM/CML (now SCL) and CMLB (collectively the Companies) by funding WUM's exit from administration. Cornish Metals acquired from administration a 100% interest in WUM/CML (now SCL) and acquired a 100% interest in CMLB on 11 July 2016.

On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the Environment Agency (EA) allowing the discharge of up to 25,000 m^3 of treated water per day from the South Crofty Mine. Under the terms of the agreement with GSSF/Tin Shield this was a milestone for Cornish Metals to issue 1,000,000 common shares to GSSF/Tin Shield upon receipt of this permit. The issuance of shares was announced on 6 November 2017.

On 16 September 2016 the TSX Venture Exchange Inc. confirmed it accepted for filing the purchase and sale agreement entered into by Cornish Metals with the administrator managing the affairs of SCL and Cornish Minerals Limited (UK).

6.3 Historical sampling

6.3.1 Historical exploration

Historical sample exploration data comprises data spanning from the 1920s up to closure in 1998. Historical data includes channel samples from the backs of drives, face sheet samples, and diamond drillhole samples. Throughout the nineteenth century and up to closure in 1998, the exploration for new resources in the narrow-vein South Crofty Mine has predominantly been conducted by on-lode development rather than by diamond drilling. Typically, the narrow lode structure was maintained in the face with at least some of the hangingwall granite contact visible. Where the lode was wider than the face (e.g.: Pryces/Tincroft lodes), the footwall of the structure was identified and sampled by follow-up infill bazooka drilling (typically the length of such drillholes being 5 m–20 m).

Areas designated for stoping were delineated by means of ongoing thorough channel sampling campaigns on the lode drives followed by additional sampling of raises, sublevels, and stoping fronts.

6.3.2 Historical channel sampling

Prior to approximately 1988, sampling of the lode drive was conducted on the same day that the fortnightly contract survey was measured for driveage by the drilling crew; in order to establish advance meterage for payment purposes. At the same time as establishing advance meterage, the survey crew would measure drive off-set from a centre line between the back and front pegs in order to provide the geologist with drive width at any point.

The geologist accompanied by a two-man sampling crew would at the same time as the surveyors, sample the roof/back of the drive at average strike intervals of 3.0 m (occasionally 1.5 m). The geologist would initially paint the hangingwall and footwall contacts on the drive roof and then mark the interval to be sampled within lode based on lithotype (maximum width typically 1.0 m and minimum of 0.1 m). Further samples were taken outside the main lode contacts either in alteration or barren host granite to ensure additional ore-grade bearing zones were not missed. The geologist would thereafter map the roof the drive. On surface the geology of the roof would be entered onto a proforma drive sample sheet, and grade values entered on return of assays. At each sample point the samplers would initially clean the roof off from contamination and with hammer and moil cut a 1.5 cm by 10 cm channel out of the allocated length, collecting the sample in a bucket and placing into a calico bag. This sample bag was labelled on the outside with the hole number and sample ID; whilst a corresponding paper sample tag was inserted into each sample bag containing details of the identical hole number and sample ID.

After the major cost-cutting exercises introduced by management circa 1988, the sampling of on-lode development drives was reduced to face sampling on a daily or two-day basis. The geologist alone would paint up the face marking up the hangingwall and footwall contacts, mark-up sampling intervals perpendicular to the dip orientation of the lode, measure the width of the intervals, and take a chip channel groove sample through that interval. All data collected underground by the section geologist would then be transposed onto a proforma face sheet log, showing the mapped face, salient structural, and lithological features, the distance sampled from a line peg and the width and grade of each interval. From this the width and weighted average grade of the lode could be derived; whether the dirt blasted was of ore or waste grade and if the lode was narrower than 1.4 m (the minimum mining width (MMW) at the time) – what the lode grade would be expanding it to MMW by application of dilution at 0% Sn.

6.3.3 Historical drilling

Historically there has been limited surface drilling at the South Crofty Project, and much of the underground exploration drilling in the twentieth century was essentially horizontal, or at a slight downward inclination from workings. The limited drilling therefore encouraged horizontal development along-strike or down-dip. It is of note that the lodes last worked by South Crofty in the western part of the mine (the "Roskears" were all discovered by essentially horizontal drilling and had not been explored at higher levels). The majority of exploration development headings were positioned on lower levels and ahead of the immediate drive on the same structure on the level above. Drilling from the exploration drives to test mineralization extensions was often limited owing to the position of the drives relative to the lodes. In addition, drilling from a drive on one lode to an adjacent lode was precluded owing to the distance between lodes.

Diamond drillhole sampling comprises a mixture of resource definition drilling, using primarily Boyles bazooka pneumatic drill rigs, drilling EW (25.2 mm) core, whilst longer holes (generally greater than 15 m) were drilled using either; Boyles V.A.G. (pneumatic), Atlas Copco Diamec 250, or Diamec 260 (electro-hydraulic) diamond drill rigs. Some longer exploration holes were surveyed using Tropari downhole survey instruments. However, the majority of holes (typically 10 m–30 m) from the pre-closure data do not have downhole survey. Given the relatively short drillhole lengths, and the competency of the host rock, the QP is of the opinion that no material drillhole deviations would be anticipated.

Core was transported to the surface sample preparation facility for logging and core splitting/cutting, with the half core in drill boxes stored in racks in a secure building.

After the tin crisis and the implementation of cost-cutting measures through all areas of the operation, all core was logged and sampled by the section geologist underground, with individual samples bagged and transported to surface to the sample preparation facility for processing.

Core sampling was undertaken on those portions of the core with observable mineralization, and/or alteration. Waste rock up to 2.0 m either side of the defined mineralized intersection may also have been sampled.

Sample intervals were determined by the geologist with the maximum core interval being approximately 1.0 m and minimum of 0.1 m. Altered, and non-mineralized zones were also sampled at appropriate intervals, which were up to 1.0 m into the barren zone. The sample bag was labelled on the outside with the hole number and sample ID; whilst a corresponding paper sample tag was inserted into each sample bag containing details of the identical hole number and sample ID. Within each core sample batch no quality assurance and quality control (QA/QC) samples were submitted.

On surface, the geologist transposed the underground log sheet onto a master paper copy (and in the latter years (1994–1998) into an Excel™ spreadsheet for processing in Surpac™ modelling software). Sample numbers were also recorded ready for insertion of assay results upon receipt from the laboratory. The samples were not weighed; nor were density determinations undertaken.

6.4 Historical estimates

The QP has not done sufficient work to classify the following estimates, outlined in this and following subsections of Section 6, as current Mineral Resources or Mineral Reserves and Cornish Metals is not treating the following historical estimates as current Mineral Resources of Mineral Reserves.

6.4.1 Closure estimate – Owen and Leboutillier (1998)

Upon closure of South Crofty in 1998, M. Owen, Chief Geologist and N. LeBoutillier, Senior Mine Geologist, completed a closure estimate for the South Crofty Mine (Owen et al., 1998). The estimate was prepared according to the mines reporting policy at the time of closure in 1998. The estimate predates the introduction of most current industry standard reporting codes and uses a different methodology for reporting results, with the most notable difference being the application of “payability” factors to defined blocks of mineralized material. Also, the classification of mineralized material uses different criteria to current reporting standards. As such it is difficult to compare tonnages and grades with modern estimates and a direct comparison of mineralized volumes is not possible. Therefore, it is not possible to quote these as current Mineral Resources or Mineral Reserves and the numbers must be treated as historical.

The historical estimate is based on a variety of sampling methods, including drilling, chip, and channel sampling from within drives, crosscuts, raises, and other areas surrounding stopes planned for mining. The estimate also contains old pillars and other remnants in the totals. The estimate is based on a longitudinal sectional calculation method, then summarized into a tabular format for final reporting.

Underground production at South Crofty ceased on Friday 6 March 1998 at the end of the night-shift and the historical closure estimate as of that date is summarized in Table 6.1 below.

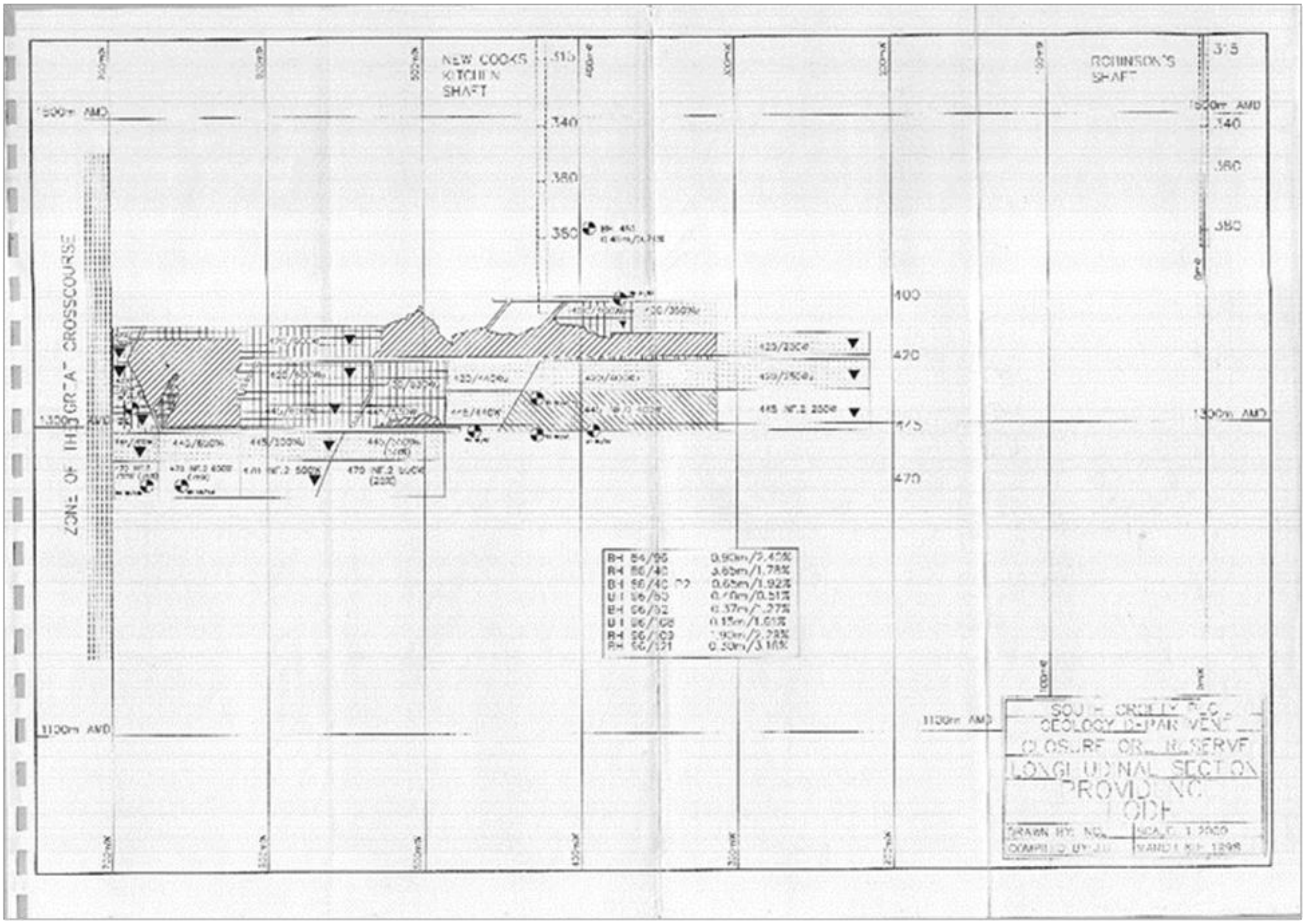
Table 6.1 South Crofty Closure Reserve (1998) at 1% Sn cut-off (historical estimate)

Demonstrated (Measured+Indicated)			Inferred 1/DD			Inferred 2			Total		
True width (m)	Sn (%)	Tonnes (t)	True width (m)	Sn (%)	Tonnes (t)	True width (m)	Sn (%)	Tonnes (t)	True width (m)	Sn (%)	Tonnes (t)
1.4	1.48	730,750	1.5	1.57	806,500	1.3	1.42	1,366,350	1.4	1.48	2,903,600

Note: "Reserve" classifications are not reported in accordance with any current international reporting code, and are reported based on the historical US Geological Survey circular No.831. These cannot be considered as Mineral Resources or Reserves.

The Owen and LeBoutillier (Owen et al., 1998) estimate includes detailed tables of tonnage and grade for individual resource blocks that are identified on longitudinal sections for each of the mineralized lodes. An example longitudinal section is shown in Figure 6.2. The estimate uses definitions outlined in US Geological Survey circular No. 831 as a basis of classification.

Figure 6.2 Example longitudinal section from the South Crofty Closure Estimate (1998)



Source: Owen and LeBoutillier, 1998.

Notes: This page is of the Providence Lode in the Lower Mine.

Owen and LeBoutillier (Owen et al., 1998) define Measured reserves blocks as those that are fully sampled and evaluated and ready for mining, whilst Indicated reserve blocks as being partially developed and partially sampled, and notes that indicated blocks may extend above and rarely below the lode drive. Inferred blocks have no development or incomplete development and are based on available lode intersections and assumed continuity based on geological evidence.

The Owen and LeBoutillier (Owen et al., 1998) estimate was prepared based on a cut-off grade of 1.00% Sn and a MMW of 1.0 m true width. Where lode widths were less than 1.0 m, wall rock grade was applied to achieve MMW. High-grade assay cutting was used on a lode-by-lode basis and ranged from a low of 4.0% Sn to a maximum of 10.0% Sn. A bulk density of 2.77 t/m^3 was used for granite-hosted lodes and a bulk density of 2.85 t/m^3 was used for killas (metasedimentary) hosted lodes.

The mine closure estimate represents the entire Project area. All subsequent Mineral Resource estimates have only assessed subsets of the South Crofty Project area. This is largely due to the large area the project covers and the time constraints for carrying out validation works on the historical data.

6.4.2 Post mine-closure estimates – Micromine

The Project has had one post mine-closure historical estimate. An estimate and subsequent update was produced by Micromine Limited (Micromine) in 2011 and 2012 respectively as outlined in Hogg (Hogg 2011, 2012). These estimates focused on the polymetallic mineralization in near-surface areas defined by drilling conducted from 2008 onwards.

Micromine in London, UK, was engaged by Celeste to produce Mineral Resource estimates and Technical Reports in accordance with NI 43-101 in 2011 and 2012. These estimates incorporated results of drilling by WUM and focused on the Upper Dolcoath lodes, west of the Great Crosscourse fault and above approximately 400 m depth. The Dolcoath "Upper Mine Lodes" were the focus of exploration for WUM who considered they offered the most immediate potential to advance. It is important to note that the Micromine 2011 report (Hogg, 2011) and Micromine 2012 report (Hogg, 2012) considered only the Upper Mine Dolcoath Lodes and therefore represent only a subset of the mineralization considered in the historical Owen and Leboutillier (Owen et al., 1998) closure "reserve". Furthermore, the 2011 Micromine (Hogg, 2011) and 2012 Micromine (Hogg, 2012) resource estimates used 0.3% SnEq and 0.2% SnEq cut off grades, respectively. These cut-off grades are considerably below the 1% Sn cut-off used in 1998 estimate.

The 2011 Micromine Report (Hogg, 2011) estimated the Upper Mine Dolcoath resource at 1,331,000 t at a grade of 0.44% Sn, 1.08% Cu, and 0.66% Zn, or 0.88% Sn equivalent (SnEq) in the Inferred Category at a 0.30% SnEq cut-off (Table 6.2). This estimate was based on 62 diamond drillholes drilled between 2008 and 2011 for 1,261 samples, and two channels for 53 samples.

Table 6.2 Historical Micromine Dolcoath resource estimate – March 2011

Category	Cut-off grade %SnEq.	Tonnes	Density	%SnEq	Sn %	Cu %	Zn %
Inferred	0.3	1,330,982	3.06	0.88	0.44	1.08	0.66

The SnEq calculation for the Micromine (Hogg, 2011) estimates was calculated using the formula: SnEq% = Sn% + (Cu% x 0.354) + (Zn% x 0.091). The metal equivalent formula is based on prices of US$25,430/tonne Sn, US$8,990/tonne Cu, and US$2,318/tonne Zn. Assumptions for process recovery are 60% for Sn, 60% for Cu, and 60% for Zn.

In 2012, Celeste engaged Micromine for an updated Dolcoath Mineral Resource estimate and Technical Report. The 2012 estimate included the results of 121 diamond drillholes for 23,067 m, and two underground channels cut for 53 m. The 2012 Micromine Mineral Resource (Table 6.3) updated the initial June 2011 Mineral Resource estimate and utilized the data from 59 additional drillholes.

Table 6.3 Micromine Dolcoath resource estimate – March 2012

Category	Cut-off grade %SnEq	Tonnes	Density	%SnEq.	Sn %	Cu %	Zn %
Inferred	0.2	2,469,000	3.03	0.68	0.46	0.54	0.23

The Sn equivalent (SnEq) calculation for the Micromine (Hogg, 2012) Mineral Resource was calculated using the formula: SnEq% = Sn% + (Cu% x 0.354) + (Zn% x 0.091). The metal prices used in the metal equivalent formula are US$21,675/tonne Sn, US$7,883/tonne Cu, and US$2,101/tonne Zn were used. Assumptions for process recovery are 85% for Sn, 85% for Cu, and 85% for Zn.

A total of seven areas were modelled for tin (Dolcoath Middle, Dolcoath South, Dolcoath South South Branch, Dolcoath "Flat", Dolcoath North Entral, Dolcoath South Entral, and Dolcoath Main). Eight areas were modelled for Cu and Zn (Dolcoath North, Dolcoath Middle, Dolcoath South, Dolcoath South-South Branch, Dolcoath "Flat", Dolcoath North Entral, Dolcoath South Entral, and Dolcoath Main).

Grade domain modelling was completed for Sn, Cu, and Zn, with a minimum width of approximately 1.0 m. Where appropriate, geology was used in combination with grade values to assist in lode interpretation.

Mineral Resources were reported for a marginal cut-off grade of 0.2% SnEq based on the cost of mining and processing the mineralization and the selling price of the final product. Metal prices were based on London Metal Exchange (LME) three-year trailing averages as of 16 July 2012, which were US$21,675/tonne Sn, US$7,883/tonne Cu, and US$2,101/tonne Zn. The cut-off grade for reporting of resources at Dolcoath was established using Sn equivalent grade (%SnEq), and block revenue factors, including metal recovery adhering to best practices and NI 43-101 reporting requirements in order to satisfy the criterion of "reasonable prospects of eventual economic extraction".

The QP has not done sufficient work to classify the historical estimates as current Mineral Resources and Cornish Metals is not treating these historical estimates as current Mineral Resources.

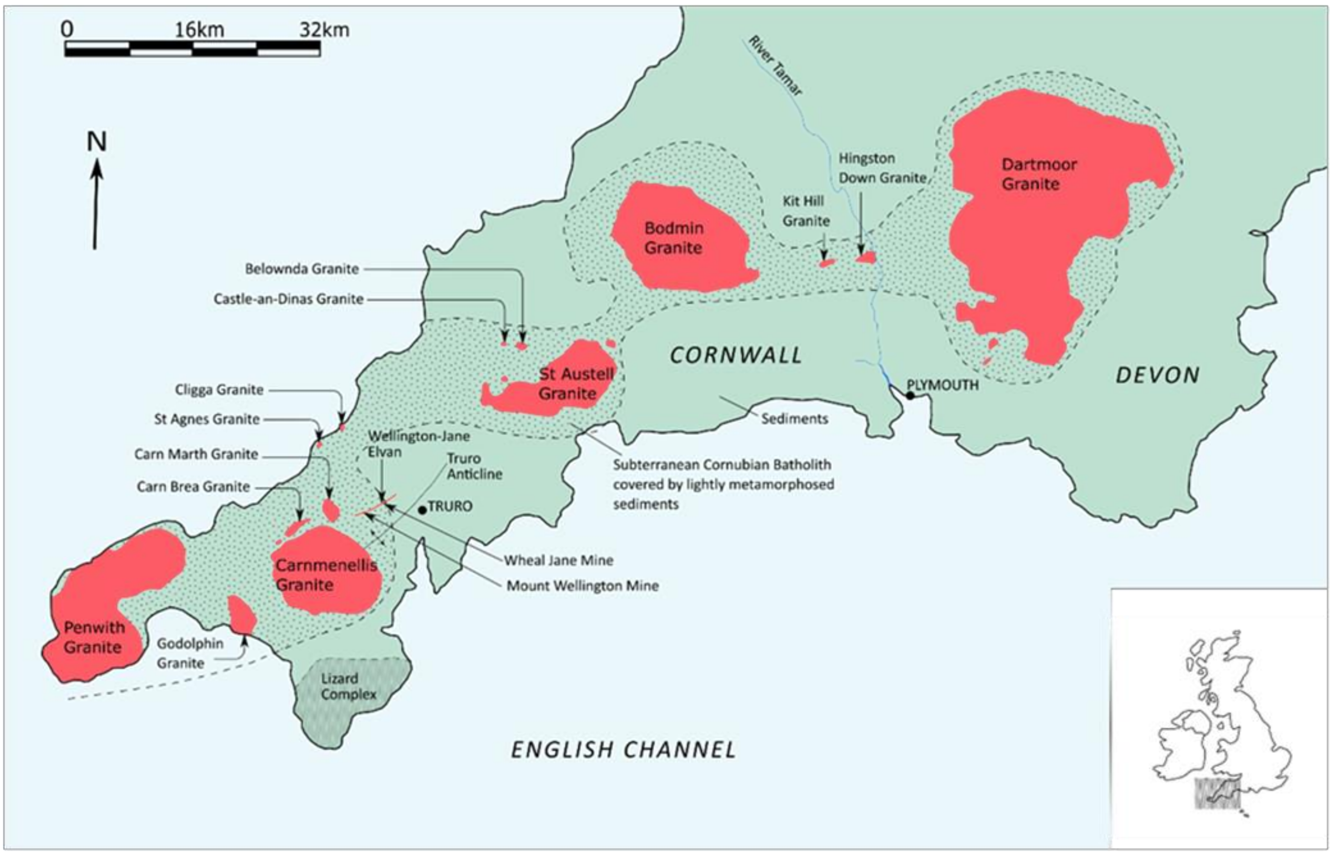
7 Geological setting and mineralization

7.1 Regional geology

The geology of south-west England comprises a sequence of weakly metamorphosed Devonian to Carboniferous argillaceous and arenaceous sedimentary and meta volcanic rocks which are flanked to the south by metamorphic and igneous complexes of the Lizard and Start Point domains (Figure 7.1). The sequence has been intruded by an east-north-east trending 200 km chain of Permo-carboniferous granitic intrusions which represent the surface expression of the Cornubian batholith.

The Devonian to Carboniferous sedimentary and volcanic package was deformed during the Variscan Orogeny. Crustal thickening of the package during the initial phase of the orogeny followed by subsequent lithospheric extension and crustal subsidence resulted in anatexis of the metasedimentary package and formation of the Cornubian batholith.

Figure 7.1 Regional geology

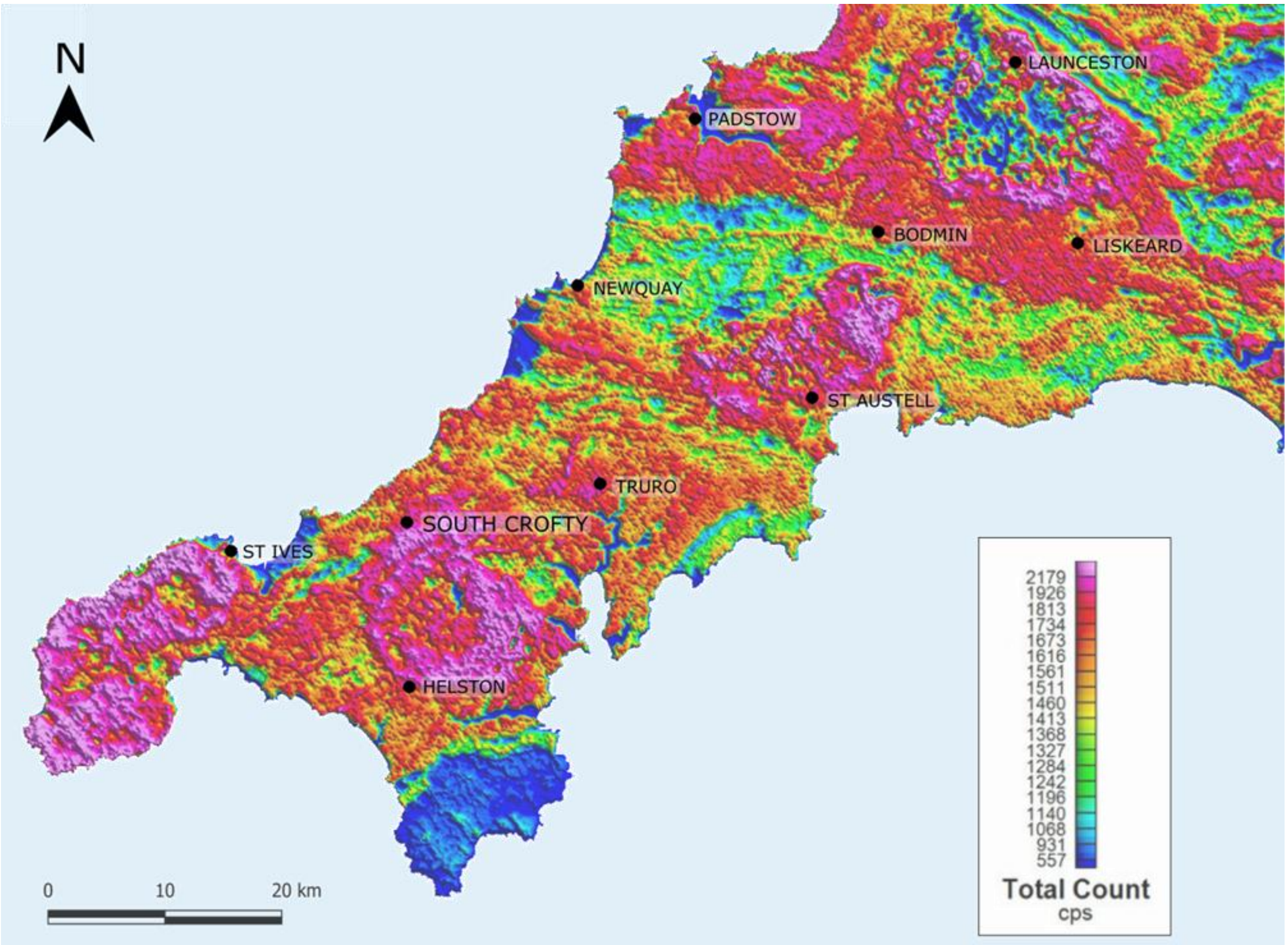


Source: Cornish Metals 2023. Modified after Rayment et al 1971.

The Cornubian granite is coarse-grained and enriched in a variety of elements including potassium, lithium, uranium, thorium, tin, tungsten, copper, chlorine, fluorine, and rare earth elements. The enrichment in radiogenic elements such as potassium, uranium, and thorium and strong thermal activity has resulted in it being classified as a high-heat producing (HHP) granite. Figure 7.2 presents a total count radiometric map resulting from an airborne radiometric and total field magnetic surveys over south-west England completed by the British Geological Survey as part of the TELUS SW programme in 2014. This map shows a strong correlation between radiometric peaks and granitic intrusions.

Metal deposits in Cornwall are directly related to the HHP granites. Slow crystallization and possible internal reheating of the granites are considered to have resulted in fractionation of metals which were transported and concentrated by late-stage meteoric fluids.

Figure 7.2 Airborne radiometric map of south-west England



Source: After British Geological Survey "TELUS SW Project" 2014.

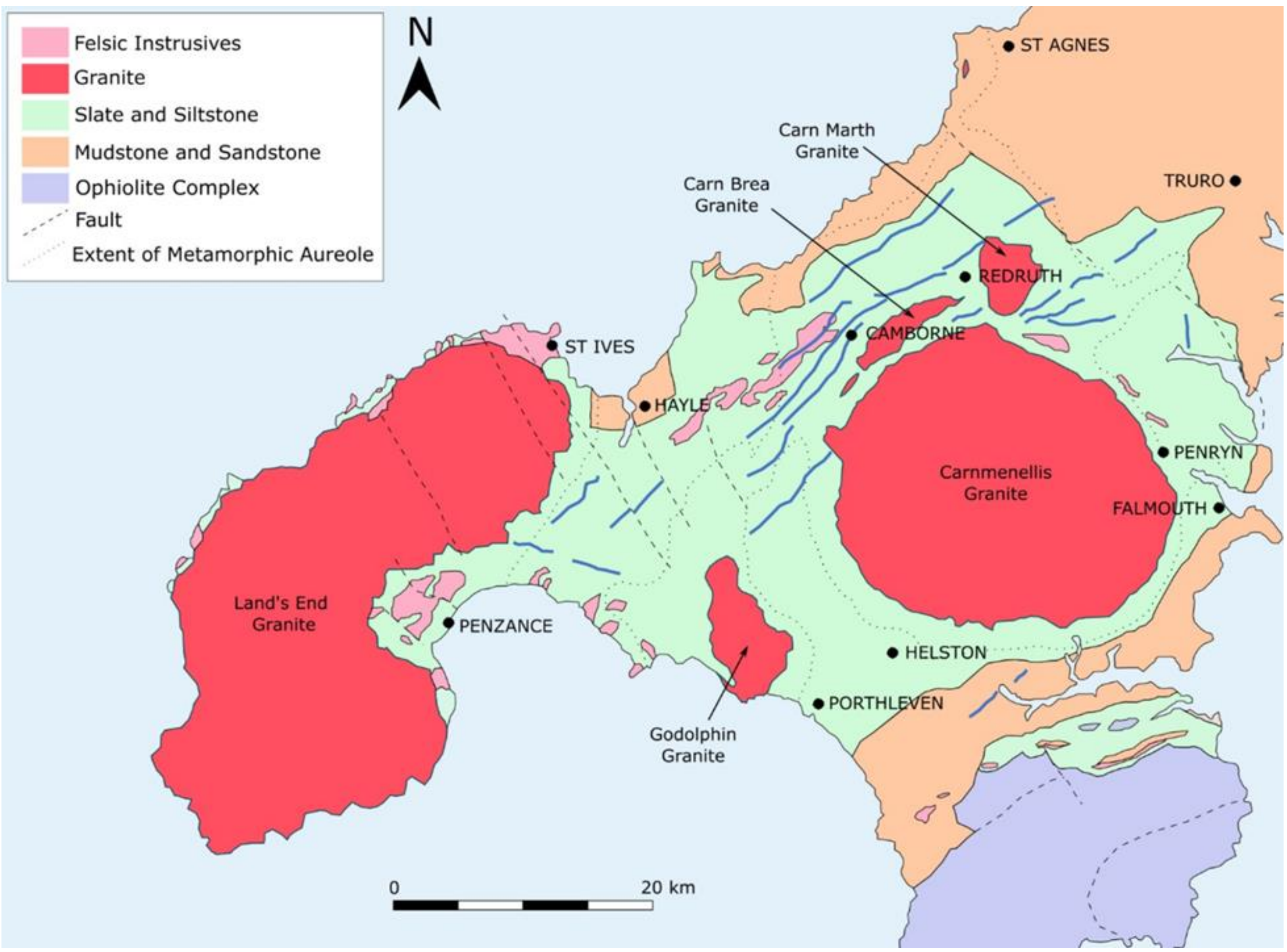
7.2 Local geology

The following geological summary is based on the work of Hogg (2012).

The geology of the South Crofty Project area consists of metasedimentary and minor metavolcanic rocks of the Mylor Slate formation, locally known as "killas" and granite of the Cornubian batholith (Figure 7.3). The Project area is located on the north-western flank the Permian Carn Brea granite, the outcrop of which forms the hills of Carn Brea, Carn Arthen, and Carn Entral. The Carn Brea granite is a satellite of the main Carnmenellis granite which is the major pluton of the district. The Carnmenellis granite is part of the larger Cornubian batholith. The country rock (killas) primarily comprises slate and siltstone and is intruded by Devonian metamorphosed mafic rocks and associated hornfels and skarns, that occur in close proximity to the granite contact. The contact of the Carn Brea granite dips to the north-west, with the contact surface striking east-north-east and dipping to the north–north-west at 30° to 40°. Rolls and ridges along the granite contact are thought to have significant influence on the location of mineralization.

The mineralized structures in the district (locally termed "lodes") which have been exploited historically by numerous mines generally strike east-north-east and parallel the strike of the granite/killas contact. Within the granite, the principal mineral of economic significance is cassiterite, whereas above the granite contact, copper and zinc sulphide mineralization is developed. A series of north-west trending faults with associated mineralization, locally known as "Crosscourses" are considered to be related to Triassic rift basin development at 240 Ma to 220 Ma. The Great Crosscourse is a late fault that bisects the South Crofty Project area and is associated with an approximately 100 m strike slip movement. The Great Crosscourse had a significant influence of the historical mine development of the South Crofty Project. South Crofty Mine was developed on the east side of the fault and the Dolcoath Mine was developed on the west side of the fault. The two mines were not physically or hydraulically connected.

Figure 7.3 Geology of West Cornwall



Source: Cornish Metals, 2023.

7.3 Deposit geology

The South Crofty Project extends 3.3 km along-strike (ENE-WSW) and 800 m across-strike (NNW SSW), with the deepest workings being 885 m below surface.

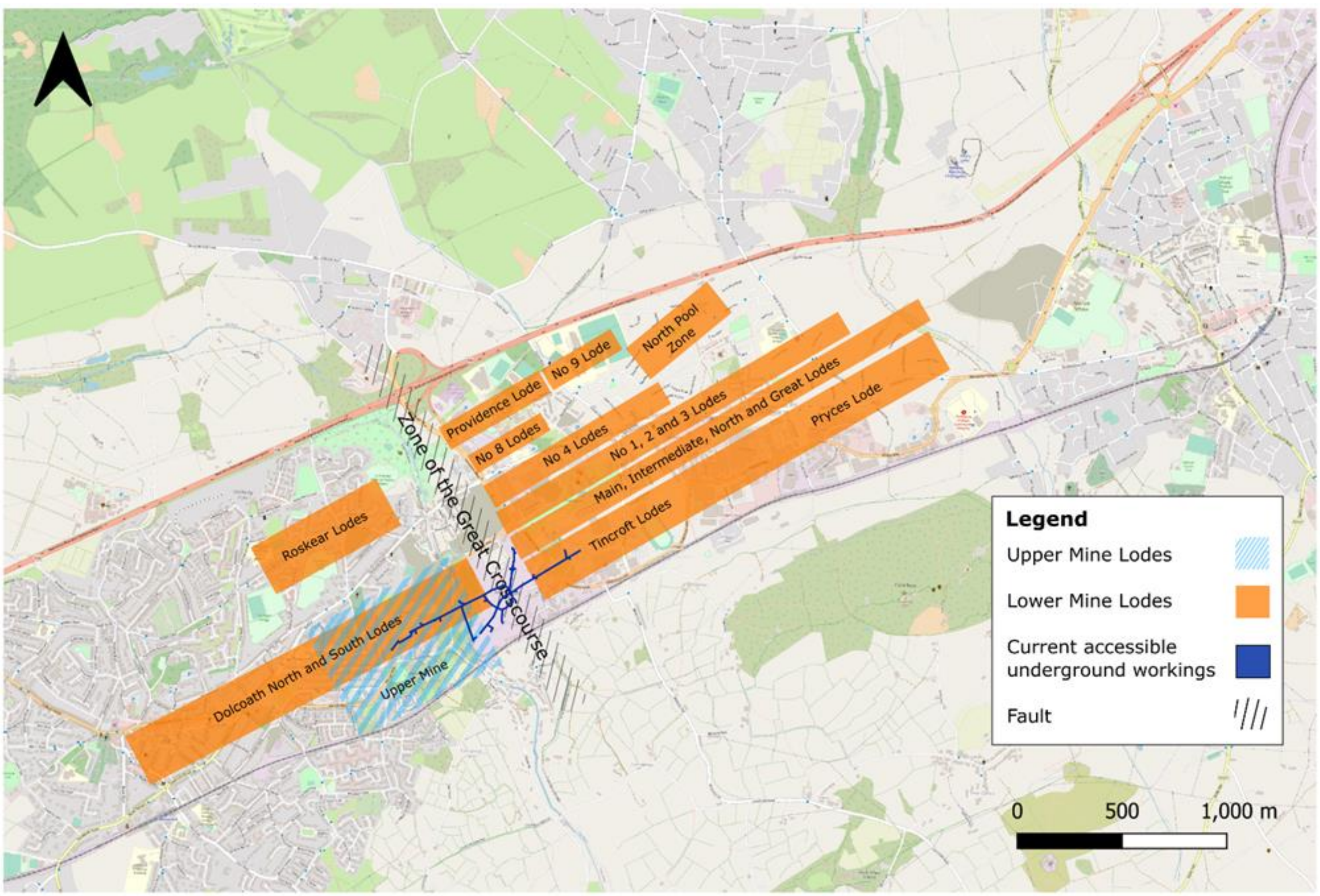
The surface workings of South Crofty Project are situated on a series of metasediments (predominantly slates) belonging to the Mylor Slate Formation, of Upper Devonian (Famennian) age. These metasediments (killas) overlie the Carn Brea Granite, with the contact in the South

Crofty Project area being approximately 271 m below surface. The contact dips to the north-west and as such is deeper in the north-western area of the Project. The Carn Brea granite, outcrops at approximately 500 m to the south-east and forms the prominent hills of Carn Brea, Carn Arthen, and Carn Entral, close to the mine site.

The mine exploits a series of subparallel fissure veins (lodes) that trend ENE-WSW, and dip subvertically. Figure 7.4 presents a plan view of some of the major mineralized structures and their lateral extents. Details of the more significant mineralized lodes can be found in Table 7.1.

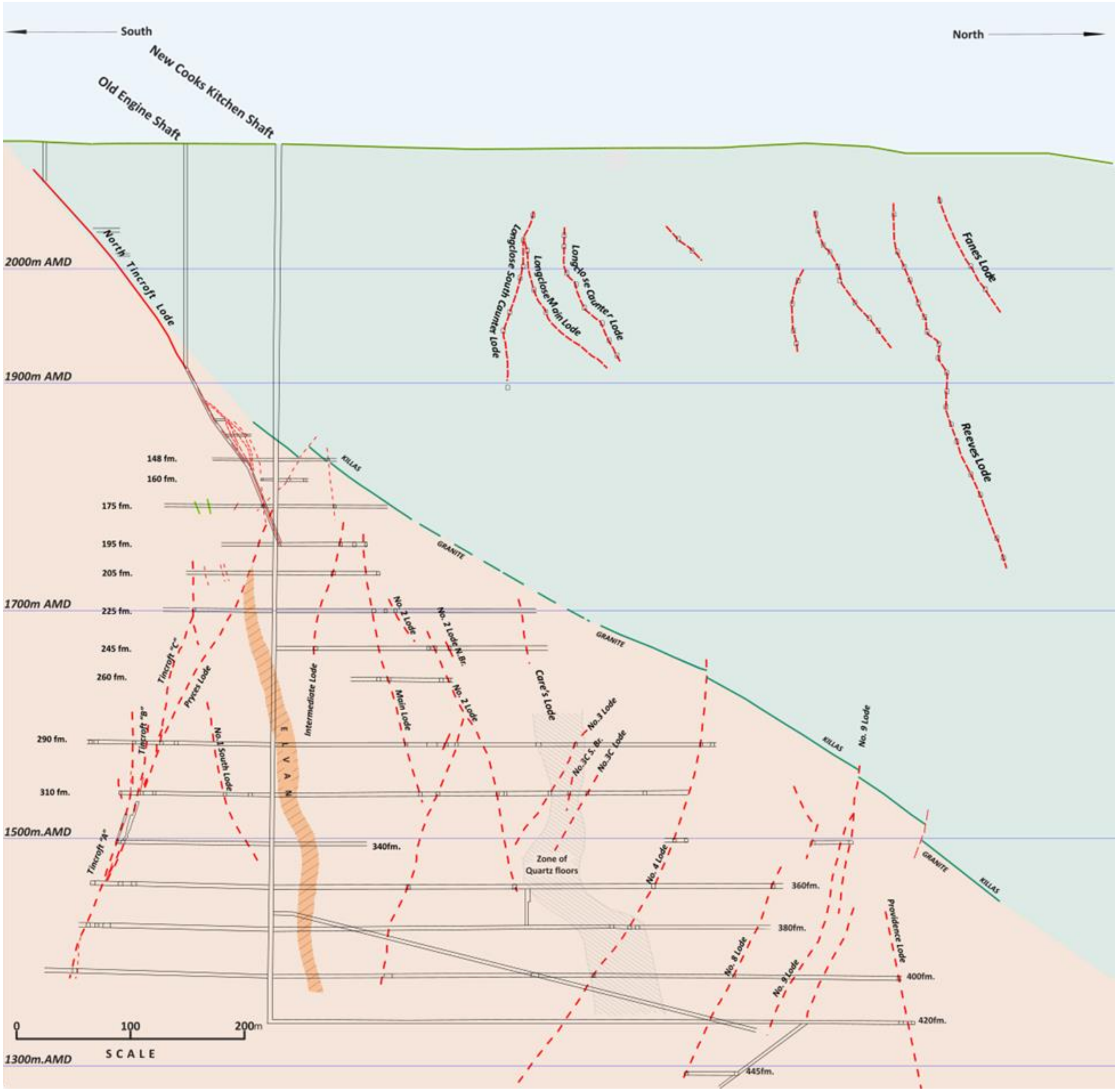
Lode structures can persist up to 2 km along-strike and over 800 m down-dip, and have average widths ranging from 0.6 m to 3.3 m. Figure 7.5 shows a cross-section through the main NCK shaft and demonstrates the complex nature of the mineralized structures. The Mine is split into an eastern area and western area by the major, regional NW-SE striking fault, locally known as the Great Crosscourse (indicated by the black hatched area in Figure 7.4).

Figure 7.4 Plan view of the major mineralized structures and their lateral extents



Source: Cornish Metals, 2023.

Figure 7.5 Cross-section through NCK shaft



Source: Cornish Metals, 2023.

Historically the structures were mined for copper and minor amounts of lead/zinc and iron. Near-surface within the metasediments, polymetallic mineralization becomes less dominant towards the contact between the metasedimentary rocks and the granite. Within the granite, higher-temperature chlorite-tourmaline tin-bearing assemblage becomes the dominant mineralization.

7.4 Mineralization

Five main phases of mineralization have been identified at the South Crofty Project (Kneebone, 2008). These are summarized in order from oldest to youngest:

"*1 An early black tourmaline (schorl) phase, with thin, tin-bearing stringers of schorl emplaced throughout the fracture zones. The tungsten-bearing (greisen-type mineralization) subhorizontal quartz veins "floors" and pegmatites of Pegmatite Lode and the North Pool Zone are of similar age.*

2 Tourmaline to Chlorite phase consisting of:

- *A blue tourmaline phase that carries the majority of the tin mineralization in the form of fine-grained cassiterite, which may be in discrete seams, veinlets or disseminated grains. This phase shows evidence of very rapid crystallization and often displays brecciation textures related to explosive decompression.*
- *A chlorite phase. In this phase (which often overprints the 2a phase), dark green crystalline chlorite is the dominant gangue mineral. It often carries coarsely crystalline cassiterite, as disseminations and seams.*

3 A tin barren fluorite phase that occupies sections of the lodes with "caunter east-west trending orientation", where the lodes have been faulted by later tensional wrench faults. These intralode segments (having the same strike as east-west trending caunter lodes) have been infilled with a fluorite/haematite/earthy chlorite/quartz paragenesis, in substitution for absent earlier tin rich phases of mineralization.

4 A caunter lode phase that represent later mesothermal/epithermal mineralization emplaced in east–west trending fractures. These lodes are typically poor in cassiterite, carrying a gangue of early amorphous chlorite -haematite- fluorite- quartz, with copper- lead- zinc- bismuth base metal mineralization. These lodes commonly fault and offset earlier lodes, often with considerable displacement.

5 A late crosscourse phase with displacement and mineralization that post-dates phases 1 to 4. Crosscourses have a rough north-west orientation and carry an epithermal paragenesis of chalcedonic silica with earthy chlorite, haematite, and minor amounts of marcasite and occasional copper and bismuth sulphides."

As described by Kneebone (2008) the lodes of the mine can be subdivided as follows:

"*I Type I Lodes - These are lodes predominantly showing phase 2a. mineralization. They are typified by certain sections of Dolcoath South Lode, North Lode and Roskear A Lode.*

II Type II Lodes - These lodes show a higher proportion of hematite / chlorite / fluorite enrichment as well as having mineralization phases 2a. and 2b present. They show areas consisting largely of phase 3 type mineralization. They are typified by certain sections of Providence Lode, Dolcoath North Lode, Roskear B Lode, Roskear D Lode and Roskear South Lode.

III Type III Lodes - "Caunter" or "Guide" lodes which carry an assemblage of chlorite / hematite / fluorite with minor cassiterite and variable copper, lead, zinc, and bismuth phases. These structures were sometimes worked for copper in the shallower Upper Mine. A typical example is the Reeve's Lode.

IV Type IV Lode Zones - Lode zones that resemble stockwork veins and are characterized by quartz / cassiterite / tourmaline assemblages. The wallrocks are pervasively altered and often carry significant mineralization. They are typified by certain sections of No.2 Complex, 3ABC Complex, 3B Pegmatite Lode, and North Pool Zones."

Table 7.1 presents a summary of significant mineralized lodes (structures) identified at the South Crofty Property.

Table 7.1 Significant mineralized structures at the South Crofty Property

Zone	Lode name (wireframes)	Dip/dip direction	Strike length	Dip extent	Average lode width (m)	Continuity	Lode type
Upper Mine (polymetallic lodes generally hosted in meta-sediment)	Dolcoath Little North East	43/330	175 m	80 m	2.00	Not open	Polymetallic
	Dolcoath South Entral	83/330	320 m	135 m	2.64	Curved, open at depth	Polymetallic
	Dolcoath North Valley Caunter (NVC)	85/125	240 m	100 m	2.57	Mined at depth	Type III
	Dolcoath Upper South-South Branch	85/350	275 m	175 m	2.72	Open at depth	Polymetallic
	Dolcoath Main	80/150	180 m	285 m	3.32	Footwall portion of previously mined lode.	Polymetallic
	Dolcoath Little North West	67/150	210 m	65 m	1.60	Open to the west	Polymetallic
	Dolcoath Little Northwest Footwall	75/330	70 m	35 m	1.41	Open at depth	Polymetallic
	Dolcoath Middle	75/140	170 m	135 m	1.65	Potentially open at depth.	Type I
	Dolcoath Middle Branch	75/130	300 m	175 m	1.36	Extends down into granite.	Type I
Lower Mine (tin only lodes generally hosted in granite)	No. 1 (4)	65/145	1,430 m	350 m	0.77	Cross-cuts No. 2	Type I
	New North, Little Middle, 2 East	87/140	850 m	165 m	0.87	Upright	Type II
	No. 2 (3)	65/325	820 m	435 m	1.16	Cut-off by No. 4 at depth.	Type II
	No. 2 2nd South Dipper	80/155	165 m	250 m	1.02	Cut-off by No. 2 at the top, open at depth.	Type II
	No. 3 (5)	70/145	1285 m	260 m	0.47	Focused on a Type IV zone.	Type I and IV
	No. 4 & 5 (5)	70/145	1,050 m	400 m	1.58	Interleaved lodes, open at depth.	Type II
	No. 8 (2)	55/148	315 m	275 m	1.74	Partially open at depth, open to the east.	Type I
	No. 9 (3)	70/138	620 m	195 m	1.41	Interleaved lodes, split by fault.	Type II
	Main, Intermediate. North, Great (6)	75/325	2,130 m	280 m	0.97	Interleaved lodes	Type II
	Dolcoath South	71/150	1,000 m	275 m	0.75	Continuous single structure, open to the west and at depth.	Type I
	Dolcoath South-South Branch	73/335	225 m	185 m	0.64	Cut off by Docloath South at depth.	Type I
	Dolcoath North (4)	75/158	770 m	200 m	0.96	Interleaved lodes, open to the west and at depth.	Type I
	North Pool Zone No.6	64/322	420 m	100 m	1.22	Meets No. 6 North Branch at depth, open to the east.	Type II
	North Pool Zone No. 6 North Branch (3)	64/144	360 m	145 m	1.16	Open to the west and at depth.	Type II

Zone	Lode name (wireframes)	Dip/dip direction	Strike length	Dip extent	Average lode width (m)	Continuity	Lode type
	North Pool Zone Pegmatite Lodes (2)	85/160	140 m	75 m	1.18	Cross-cut by other NPZ lodes.	Type II
	North Pool Zone Other Lodes (7)	65/319	400 m	130 m	1.82	Interleaved lodes, several dip south.	Type IV
	Providence (2)	80/325	360 m	100 m	1.83	Discontinuous	Type II
	Roskear A	60/140	260 m	195 m	1.53	Open at depth.	Type I
	Roskear B (3)	65/152	500 m	270 m	2.43	Interleaved, hangingwall dips north and hinges into main lode.	Type II
	Roskear South	80/140	400 m	175 m	1.23	Dips towards quartz porphyry, unknown relationship.	Type II
	Tincroft (3)	75/145	700 m	300 m	2.35	Discontinuous, interleaved.	Type II
	Pryces (4)	60/150	1,500 m	320 m	1.93	Discontinuous	Type II

Wallrock mineralization within the South Crofty Project is widespread, although not ubiquitous (Kneebone, 2008).

Wallrock alteration comprises the following:

- Tourmalinization (both pervasive replacement and veining).
- Chloritization (usually involving predominantly micas and, to a lesser extent, feldspars).
- Hematization (often as hematization of chlorite, micas, and felspars or as later hematization of earlier pervasive chloritization).

Pervasive albitization has also been noted in association with zones of interaction of certain of the Lodes, Quartz “Floors”, and “Pegmatite Zones”.

Cassiterite (tin) mineralization is often, though not always, present in these wallrock alteration zones occurring as veinlets, and disseminations. These incidences of mineralization are usually seen to be associated with reactivation of lode fissures and/or later mineralization phases within the lode fissures.

Mineralized wallrock can constitute a major component of the mineralized structure or be the main mineralized zone rather than the lode itself.

The mineralization encountered at South Crofty was developed during different phases and can display differing characteristics warranting different domaining for Mineral Resource estimation work.

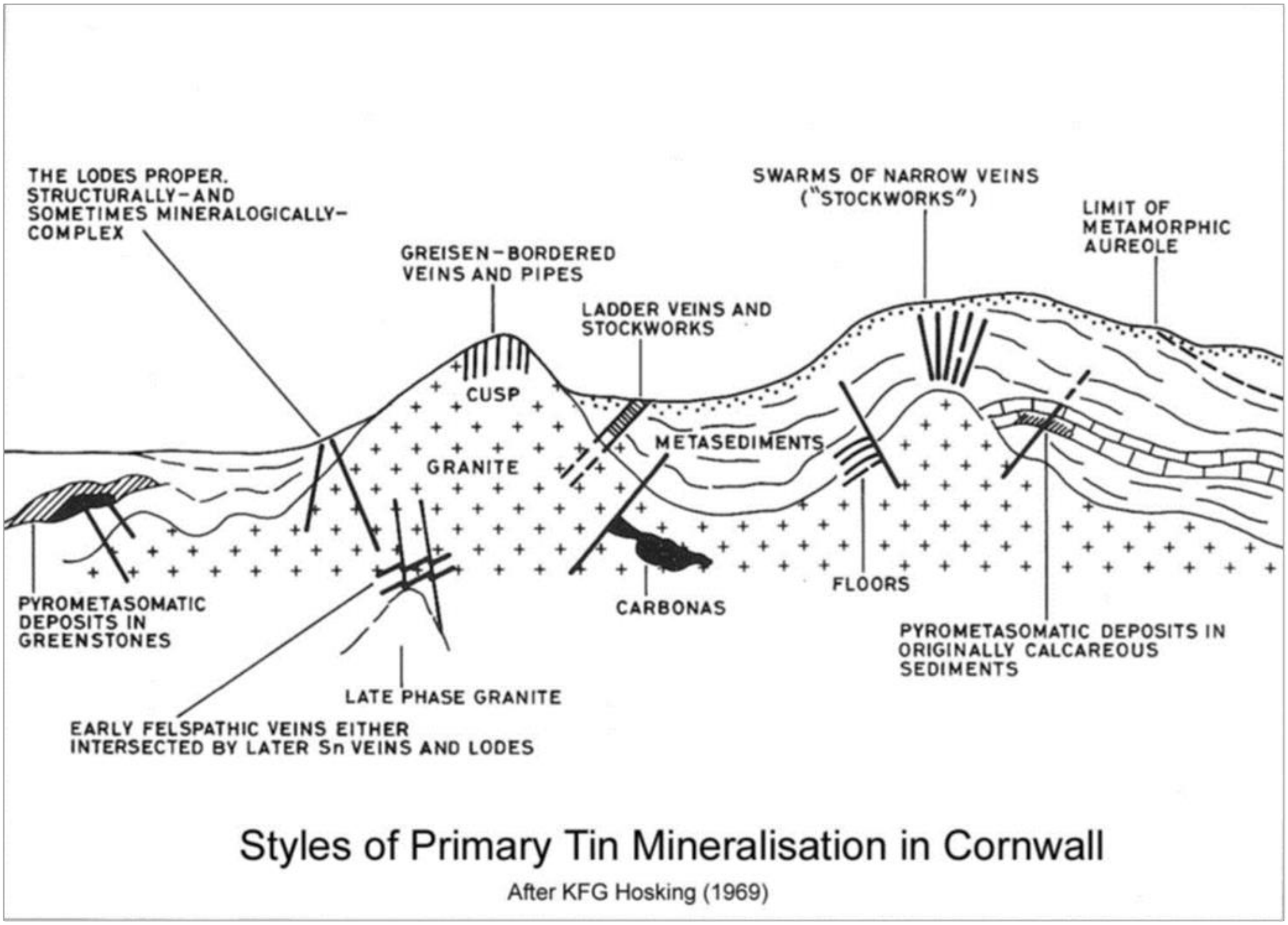
8 Deposit types

Cornish tin deposits have been extensively explored and researched. The majority of Cornish tin projects are related to the emplacement and subsequent cooling of the granites. The South Crofty deposit genetic model is an intrusion-related, structurally controlled, vein-hosted mineralization type.

The geological model for the deposit type is described by Kneebone (2008) and Selwood et al., 1999. The main phase of mineralization was protracted, lasting well over 20 Ma, and comprising multiple events. Hot brines can still be encountered at depth within the granite, as experienced by miners on the 380-fathom level of the former South Crofty Mine.

Styles of primary tin mineralization in Cornwall are shown in Figure 8.1.

Figure 8.1 Styles of primary tin mineralization in Cornwall



After: Hosking, 1969.

Cornish tin mineralization is considered to have commenced at approximately 285 Ma with the onset of intrusion related hydrothermal activity. A simplified description of the sequence of mineralizing events is provided by Selwood et al., 1999, comprising:

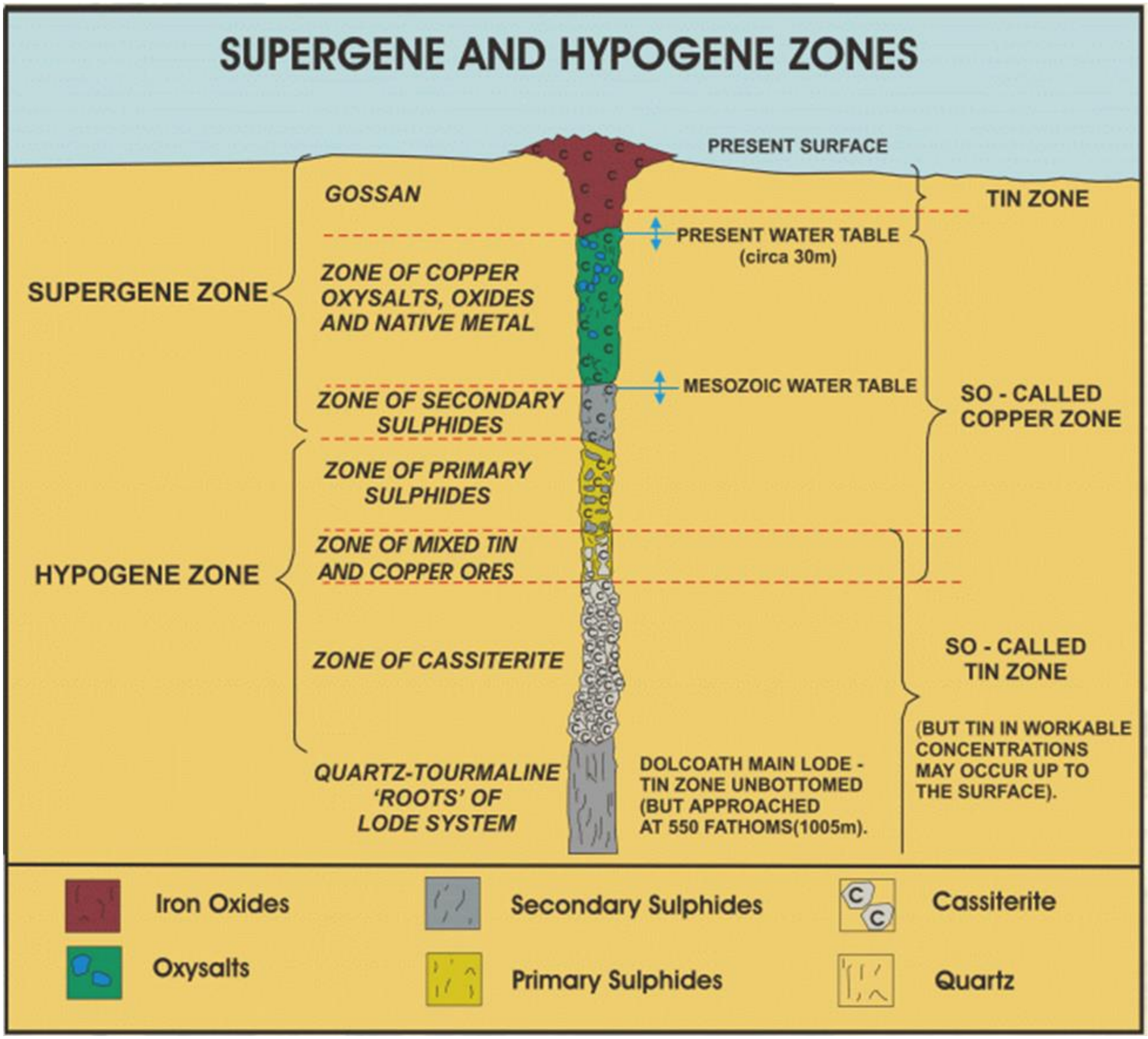
- "*Subhorizontal "floors" of quartz and wolframite, with griesened margins, also some wolframite-bearing veins of pegmatitic aspect.*
- *Fe-rich tourmaline (schorl) veinlets, carrying some cassiterite and mostly forming steeply dipping swarms.*
- *The main economic Sn-bearing veins in steeply dipping fractures trending ENE-WSW. The dominant mineralogy is of very finely crystalline tourmaline ("blue peach"), with aggregates and discrete grains of fine-grained cassiterite. Brecciation is a common feature of these veins.*
- *The blue peach veins are overprinted in places by chlorite ("green peach"); there is some remobilization and recrystallization of cassiterite, which in this assemblage commonly occurs as coarsely crystalline grains and aggregates.*
- *Steeply dipping, WNW-ESE-trending fractures are infilled with assemblages of fluorite, quartz, earthy chlorite, and hematite [sic.]. These fractures may form individual veins ("caunter lodes") or form crosscutting zones within the earlier peach lodes. Cassiterite in these structures is scarce or absent, and the caunter lodes may carry Cu-Pb-Zn-Bi minerals.*
- *Chalcedony and clay filled wrench faults of NW-SE to NNW-SSE trend, associated with extensive kaolinization. The principal example of this type is a major fracture complex, catted the Great Crosscourse, which has a displacement of more than 100 m, and physically divides the mine into two distinct compartments.*
- *Extensional fractures of roughly N-S trend, typically infilled with comb-layered quartz and fluorite. These veins may carry minor amounts of low-temperature sulphide minerals, and are not commonly associated with kaolinitic alteration.*"

The principal Sn-bearing vein mineralization phase was coeval with the second magmatic event approximately 270 Ma. This phase was more diverse than the first phase and gave rise to the extensive hydrothermal vein system of the Cornish mineralization. The main tin-bearing veins (lodes) strike ENE-WSW and are steeply dipping.

The mixing of magmatic, meteoric, and connate fluids via convection cells brought in a great volume of metals, together with boron, and sulphur leached from the killas (metasediments). The increase of fluid pressure resulted in the fracturing of the granite carapace and the rapid movement of mineral-depositing vapors and fluids along these fissure systems. With the deposition of minerals, the fracture became sealed until the fluid pressure reached a high enough level to cause failure along the plane again. This repetition of "crack sealing" and hydraulic failure events gave rise to highly brecciated lode textures displaying characteristics of multiphase deposition. Early high-temperature minerals deposited in the lodes within and adjacent to the granite/killas contact comprise pegmatite style of mineralization, and associated quartz, feldspar, wolframite, arsenopyrite/löllingite, cassiterite, and tourmaline.

Mineralization at depth is dominated by tin mineralization with pervasive tourmalinization of the wallrock. At higher levels, copper mineralization becomes dominant with the deposition of a mesothermal assemblage, including chalcopyrite, chalcocite, chlorite, fluorite, and sphalerite. At higher levels again, there is a gradual change to an epithermal suite with the deposition of galena, stibnite, haematite, and siderite. A section through a typical Sn-Cu lode showing vertical zonation exhibited in some major structures (Hosking, 1988) is shown in Figure 8.2. Combined with historical plans and sections of previously producing mines, the zonation model allows potential tin-rich zones to be targeted underneath historical eighteenth- to twentieth-century copper mines.

Figure 8.2 Cross-section through a typical Sn-Cu lode showing vertical zonation exhibited in some major structures



Source: Hosking, 1988.

A change in stress conditions in the Lower Permian resulted in the development of a second fracture system trending north-west-south-east. These are the "caunter lodes" that displace earlier vein systems and are dominantly mesothermal in character and are steeply dipping, and trend WNW-ESE. The caunter lodes can be infilled with fluorite, quartz, chlorite, and haematite. Whilst tin can be rare in the caunter lodes, they can be associated with copper, lead, zinc, and bismuth mineralization.

Late extensional crosscourse faults locally offset many of the lodes. These faults may be infilled with clay or chalcedony, quartz, haematite, and chlorite. Some crosscourses are mineralized, carrying a mesothermal to epithermal suite of minerals, including galena, chalcopyrite, marcasite, barite, and fluorite.

Exploration activities to date have included on-lode development with channel sampling, providing assay information and definition of lode geological continuity along-strike and down-dip. Underground drilling, and limited surface drilling has been conducted targeting the main lode orientations along-strike and down-dip.

The geological continuity of the lodes, and the extensive understanding of geological controls on mineralization has helped govern the approach to exploration. Metallurgical drilling completed in 2023 further supported the geological interpretation. The 2023 metallurgical holes were drilled from surface and targeted down-dip extensions of known lodes, confirming the extents of lodes No. 1, No. 4 C, 8 A, North Pool B (NPB), North Pool Quartzites (NPQ), Roskear B Footwall (RB FW), Roskear, and the Main, Intermediate, North and Great Zone Intermediate Lode.

9 Exploration

Cornish Metals has carried out no exploration to date. Work completed since 2008 by previous issuers is described below. Exploration completed prior to mine closure in 1998, including underground sampling, is discussed in Section 6.

9.1 Channel sampling

Details of historical channel sampling are provided in Section 6.3.2.

Cornish Metals undertook a programme of digitization and verification checks of the pre-1998 channel sampling.

During digitization of the database by Cornish Metals, channel collars were located by identifying the known point on the digital mine development model and measuring along drive the corresponding distance for each channel. The location in national grid X and Y coordinates and mine elevation was recorded as the collar for each channel sample. Face sheets which records the face mapping and face samples were located in much the same way although when the sample was collected the sample was taken from across the development face, rather than the back of the drive.

9.2 WUM programme 2008–2013

In 2008, WUM re-established the decline at the Project site and extended it a further 380 m for a total depth of 120 m below surface, with an average gradient of 1-in-6. The decline trends to the south-west, through the Great Crosscourse providing access to the Upper Mine (Dolcoath) lodes. At the base of the decline a spine drive was developed to a length of 130 m. The decline and spine drive was used to facilitate a 31,000 m underground drilling programme conducted by WUM.

9.3 Tin Shield programme 2012–2013

Exploration works by Tin Shield comprised the assaying of 720 drill core samples obtained from the WUM drilling in 2012 and 2013.

9.4 Mine survey

The UK Mines and Quarries act of 1954 and subsequent versions, including the Mines Regulations 2014, states that a mine operator must ensure that there are accurate plans of all the workings within a mine (abandoned or not) and sections of the seams or vein systems currently being worked. They must be prepared and revised at suitable intervals by the surveyor of the mine, marked with the date, and permanently and clearly drawn or printed on suitable and durable material, and maintained in good condition. The regulations provide clear guidance as to the responsibilities for maintaining the mine surveys. This includes stipulating that the scale and features defined are sufficient for the safe operation of a mine. The surveys should also provide accurate information on the position and conditions of existing workings and, so far as practicable, workings that have been discontinued or abandoned.

The South Crofty Mine archive also holds many calculation books in which all the coordinates for each survey station are computed. During the latter years of the 1980s and early years of the 1990s the process of survey station computation was transferred from paper sheets and computation books to a large computer database into which the observations from the field books were entered. A copy of this database was recovered at mine closure in 1998 along with much of the paper records.

During the QP site visit in July 2023, the QP visited the Cornish Metals archive and was shown the mine survey plans and sections, along with the original survey calculation books first-hand. The survey documents are stored securely in a dedicated archive room with restricted access.

Prior to the 1980s all the survey stations are relative to the South Crofty Mine Grid system, whose origin was the Robinsons shaft. At some stage during the 1980s the decision was made to transfer all surveys from the mine grid to the Ordnance Survey (OS) National Grid. At this stage, all the original mine plans were redrawn level-by-level onto the new sheets. The use of the OS National Grid continued until closure in 1998 and forms the base grid system from which the Mineral Resource model has been created.

To create the 3D computer representation of the South Crofty Mine workings, the level plans were digitized and elevated using the information stored within either the modern survey peg database or from original paper records. Due to the current flooding of mine workings, it is not possible to re-survey the underground. Historically, there has been a process of checking the computations, whereby each survey station was computed by one member of the survey department and checked by another before being accepted as correct. Known errors in the survey, which appear in the calculation books, were rectified by re-survey. Thus, it is believed that the mine survey as plotted on the level plans and transformed into the 3D computer model is as accurate as the data held by Cornish Metals will allow.

Along with the digitization of the mine survey the longitudinal stoping survey sections were also digitized. This information was transformed into its correct location in 3D space. The stope sections form the basis of the depletion models.

10 Drilling

The SCL database comprises two data sets, the pre-closure data discussed in Section 6.3.3, and the more-recent diamond drilling conducted between 2008 and 2013 (WUM), and by Cornish Minerals in 2020. Drilling completed prior to mine closure in 1998 is discussed in Section 6.

These two data sets represent spatially different areas of the Project and intercept generally different mineral assemblages, with the 2008-2013 programme largely focused on near-surface polymetallic mineralization in the Upper Mine. The pre-closure data set is principally located in the Lower Mine and comprises predominantly tin mineralization and is generally limited to tin only assays.

The diamond drilling carried out in 2020 by Cornish Metals targeted lodes below the deeper workings with the aim of confirming the position and continuity of mineralization. The results of the 2020 assay programme are described herein. From 2022 to 2023, Cornish Metals conducted a metallurgical drilling programme, with the aim of obtaining sufficient sample material from Lower Mine lodes for metallurgical testwork.

10.1 WUM programme 2008 – 2013 drilling

Between 2008 and 2013, WUM carried out a programme of diamond core drilling in the Upper Mine part of the South Crofty Project. The total amount of drilling comprised 157 drillholes totalling 31,000 m. Due to the extensive amount of surface development, WUM opted to drill from underground using the decline and spine drive described in Section 9.2. Collars for the 2008–2013 drillholes in the decline and spine drive were surveyed by WUM surveyors using conventional underground survey methods.

The core recovered from the drillholes ranged from PQ (85 mm core) to NQ (48 mm core) in size but was typically HQ (64 mm core). The drillholes were collared at ten underground locations along the decline over a strike length of approximately 750 m (Puritch et al., 2017).

Drillhole lengths range from 4.2 m to 450 m, averaging 197 m. To prevent water ingress into the mine following drilling through old, flooded parts of the mine valves were used on the drillhole collars. These enabled the holes to be sealed off following the completion of drilling.

Core recovery was reported as being in excess of 95% except in areas where voids or old mine workings were intersected. Some holes were terminated due to poor ground conditions associated with the old mine workings.

Downhole surveys were typically taken on 6 m intervals; however, in some instances holes were only surveyed at the end of hole. Holes were drilled on azimuths of between either 300° to 360° or between 130° and 204°, Inclination ranges between +24.6° and -78.9°. Downhole surveys were conducted using a Reflex EZ-Trac tool with an accuracy of 0.25° for inclination measurements and ±0.35° for azimuth.

A total of 6,591 m was sampled and assayed with samples typically taken on 1 m intervals in mineralized areas. Whilst assaying was predominantly undertaken in areas considered mineralized some sampling outside of mineralized areas was also undertaken, typically on 2 m intervals. Samples honour lithological boundaries with a minimum permissible length of 20 cm.

The 2008–2013 drilling targeted the Upper Mine lodes with the aim of providing additional information pertaining to geological and grade continuity. The interpreted lodes conform to the established mineralized structures in the area, typically dipping north at 60° to 80°, occasionally dipping south at 60° to 80° with conjugate structures at flatter dips. There are some shallow (30°)

dipping lodes in this area. With the mineralization style, and the drilling angles, several intersections were drilled along the structures and in these cases apparent thicknesses are in excess of the known true thickness from other historically worked lodes in the system (Puritch et al., 2016).

Significant intercepts from the WUM drilling programme at interval lengths >1 m and greater than 0.5% SnEq are presented in Table 10.1. A number of the drillholes in Table 10.1 had core loss due to old workings. The drillholes were reported by Celeste during the joint venture with WUM. All drillholes were located south of the decline and intersected the South Central, Dolcoath Main, Dolcoath South-South, and Interstitial Lodes (Puritch et al., 2017).

Table 10.1 Significant drill intercepts from the WUM underground drilling programme reported by Celeste in 2012 and 2013

Hole	Az./dip of hole	From (m)	To (m)	Width (m)	Sn (%)	Cu (%)	Zn (%)	SnEq [a] (%)	Lode Interpretation [b]
0908	174/-14	165.30	166.35	1.05	0.10	1.05	0.12	0.50	Dolcoath Main
0909	174/-26	105.56	108.56	3.00	2.13	1.02	0.02	2.50	South Entral
1210	158/-30	103.81	112.81	9.00	0.37	0.97	0.05	0.72	South Entral
1211	158/-45	121.97	124.97	3.00	0.55	0.75	0.03	0.82	South Entral
		165.97	167.97	2.00	0.49	0.05	<0.01	0.51	South Entral
		171.97	176.97	5.00	0.21	0.78	0.02	0.50	South Entral
		281.93	283.93	2.00	0.57	0.93	0.02	0.91	Main Lode
1213	196/-25	113.44	118.44	5.00	0.32	1.20	0.02	0.75	South Entral
		286.51	290.11	6.50	0.18	0.95	0.87	0.61	Main Lode
1214	173/-35	103.25	106.25	3.00	0.18	1.40	0.83	0.77	South Entral
		131.83	133.83	2.00	0.30	2.10	0.01	1.06	South Entral
1215	171/-44	116.23	118.23	2.0	0.71	0.59	0.10	0.93	South Entral
1215	171/-44	246.0	247.0	1.0	0.22	2.64	0.08	1.18	Dolcoath South South
1215	171/-44	306.64	307.43	0.79	1.52	0.44	0.03	1.68	Main Lode
1216	191/0	144.09	150.00	5.91	0.57	0.11	0.22	0.63	Interstitial Lode
1216	191/0	182.37	184.12	1.75	0.44	0.11	3.00	0.76	Dolcoath South South
1217	190/-14	90.22	93.72	3.70	0.11	1.12	5.30	1.09	South Entral

Notes: Intersections are selected from Celeste press releases dated 18 December 2012 and 18 January 2013 with minimum 1.0 m and 0.5% SnEq.

[a] SnEq% = Sn% + (Cu% x 0.359) + (Zn% x 0.0927).
[b] Lode interpretations by WUM/Celeste as reported in Celeste press releases.

10.2 Cornish Metals 2020 drilling

In 2020, Cornish Metals conducted additional diamond drilling from surface during a "Proof of Concept" drill programme designed to test down-dip extensions of lodes No.4 and No.8. Additionally, the programme was designed to test the suitability of directional drilling combined with wedges to produce multiple intersections of vein structures from a single surface or underground parent drillhole. A total of 1,694 m was drilled from one parent hole and two daughter holes (Figure 10.1). The parent hole was started at PQ diameter to keep the hole as straight as possible and switched to HQ diameter rods at 251.86 m. NQ rods were used from 725.58 m as the directional equipment was configured for NQ diameter holes. The drillhole collar and azimuth were surveyed using a Leica GS08 GNSS rover tool, for the parent hole oriented at 63° dip towards 331°.

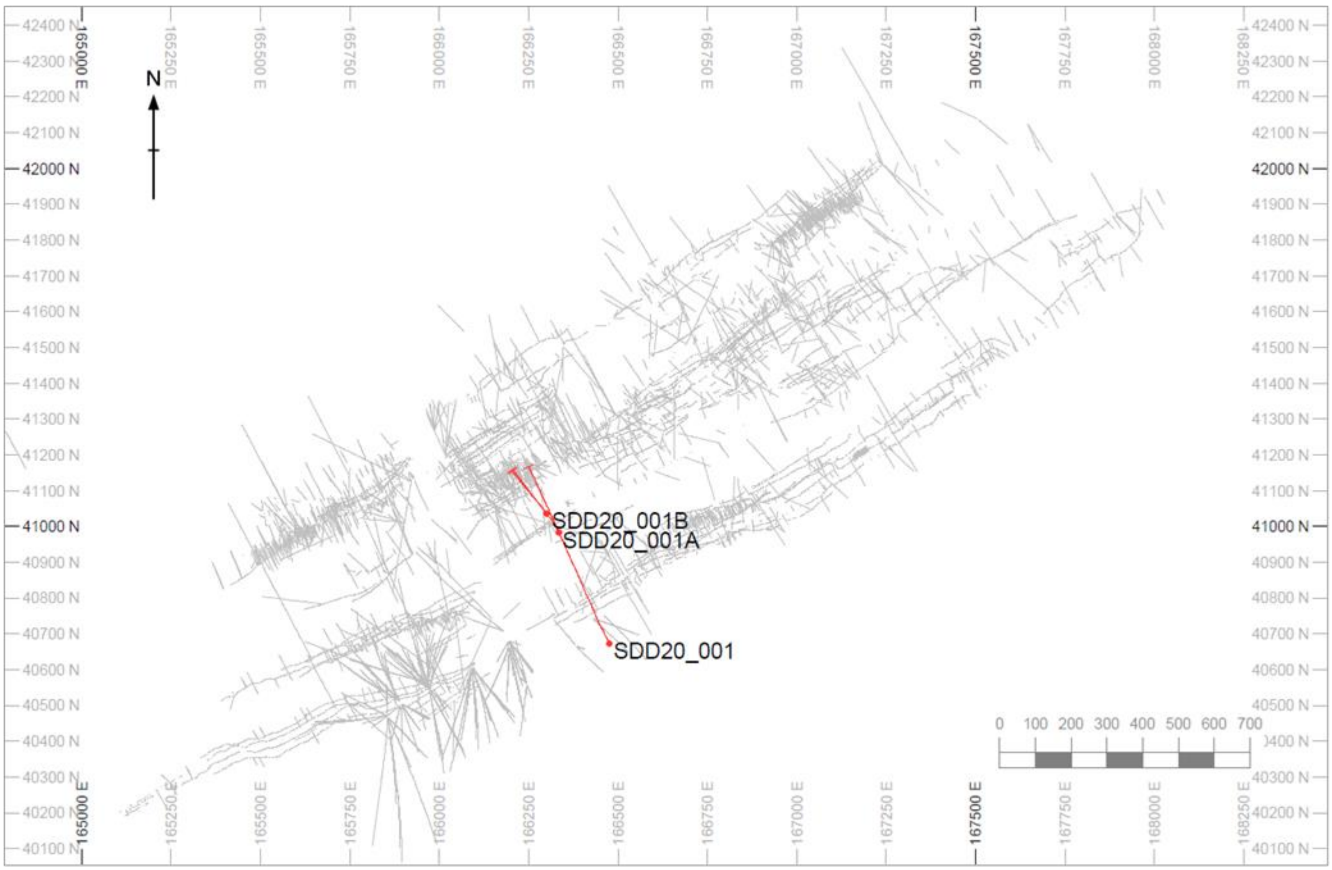
During standard diamond drilling, single-shot surveys were carried out at the end of every shift with Reflex downhole survey tools. Once directional drilling started, surveys were carried out every 3 m to ensure the hole path did not deviate from the planned path through historical workings.

Core recoveries ranged from 30% to 100% with one interval erroneously logged with a recovery of 113% in drillhole SDD020_001. Average core recovery was good with parent and daughter drillhole recovery averages of >99%. Mineralized intervals used in the Mineral Resource estimates all have good core recoveries of 100%.

Figure 10.2 presents a cross-section of parent drillhole SDD20-01 and daughter holes SDD20-01a and SDD20-01b. Significant intersections annotated on this figure are summarized in Table 10.2.

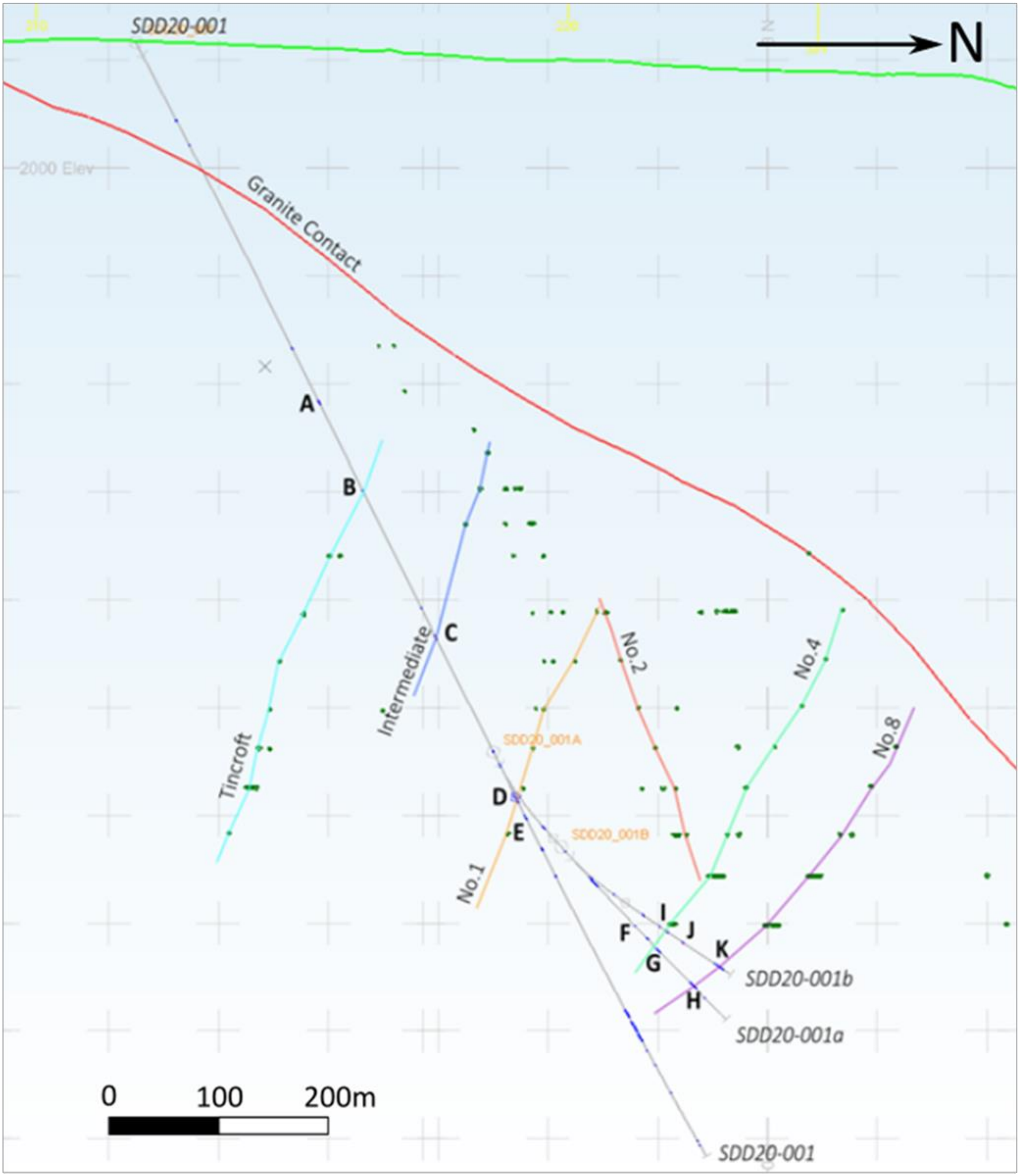
The QP is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

Figure 10.1 Drillhole plan showing location of Cornish Metals 2020 drilling



Source: Cornish Metals, 2021.

Figure 10.2 Cross-section view looking west of drillhole trace of SDD20



Source: Cornish Metals, 2021.

Table 10.2 Highlights from the SDD20 drilling programme

Hole ID	Lode name	From (m)	To (m)	Length (m)	True width (m)	Grade			Ref.
						(Sn %)	(Cu%)	(W %)	
SDD20_001	**South Tincroft**	376.55	378.77	2.22	1.15	0.77	2.69	1.73	A
	including	*378.04*	*378.77*	*0.73*	*0.38*	*1.58*	*5.16*	*3.43*	
	Tincroft	470.35	472.52	2.17	1.66	1.34	-	-	B
	including	*471.79*	*472.52*	*0.73*	*0.56*	*2.5*	-	-	
	Intermediate	620.6	623.26	2.66	1.85	2.19	-	-	C
	No. 1	788.87	789.89	1.02	0.72	1.87	-	-	D
	No. 1 FW	810.59	811.15	0.56	0.4	1.08	-	-	E
SDD20_001A	**New Wolfram Lode**	949.58	950.68	1.1	0.76	-	-	0.26	F
	Including	*950.34*	*950.68*	*0.34*	*0.19*	-	-	*1.07*	
	No. 4	976.52	977.82	1.3	1.27	0.39	-	-	G
	Including	*976.52*	*976.87*	*0.35*	*0.34*	*1.06*	-	-	
	No. 8	1,028.76	1,029.96	1.2	1.19	0.92	-	-	H
	Including	*1,029.10*	*1,029.48*	*0.38*	*0.38*	*2.77*	-	-	
SDD20_001B	**No. 4**	974.2	976.8	2.6	2.6	10.33	-	-	I
	Including	*975.38*	*976.23*	*0.85*	*0.85*	*30.35*	-	-	
	No.4 Footwall	993.8	996.06	2.26	2.25	1.26	-	-	J
	No. 8	1,034.38	1,035.59	1.21	1.16	1.78	-	-	K
	Including	*1,034.38*	*1,035.21*	*0.83*	*0.8*	*2.48*	-	-	

Note: Drillholes are shown in plan view on Figure 10.1 and interval locations are shown in cross-section on Figure 10.2.

10.3 Cornish Metals 2022–2023 metallurgical drilling

In 2022, South Crofty Ltd (SCL) commenced drilling in order to collect samples for a metallurgical testwork programme. A sample mass of 750 kg of material was required for X-ray transmission (XRT) ore sorting, processing, and paste backfill testwork. The planned drilling included directional drilling from three new surface parent holes, one existing surface parent hole (SDD20_001), and two new parent holes drilled from underground. These parent holes then had multiple daughter holes drilled in "clusters" in order to collect enough sample mass for the testwork. This involved wedging and directional drilling to get a spread of samples with enough variability for the process testwork.

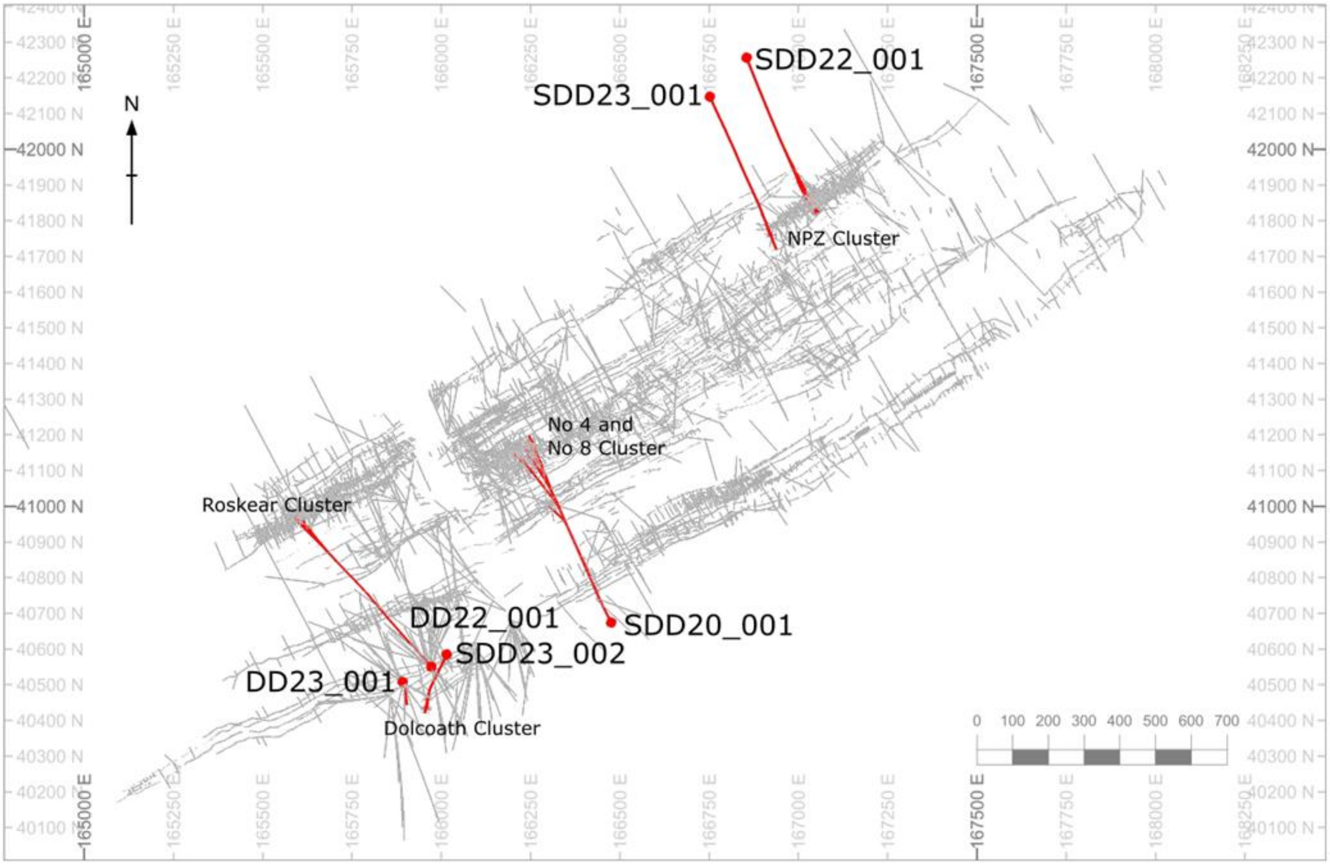
A total of 10,312 m were drilled in order to complete the programme which resulted in the collection of 1,162 kg of material for testing. In addition to this approximately 1-in-5 drillholes were assayed to give an indication of likely grades in that "cluster" of drillholes.

All samples were obtained using NQ size core and drillholes were surveyed with EZ-TRAC single-shot surveys every shift, with a multi-shot survey carried out at drillhole completion. IMDEXHUB-IQ was used to directly upload surveys from the drill site. Drilling was carried out by the contractor Priority Drilling Ltd of Killimor, Ireland.

A total of 13 intervals from drillholes SDD22_001 and SDD23_002 have recovered zero recovery. In the case of drillhole SDD23_002 the intervals with zero recovery are at the drillhole collar. For drillhole SDD22_001 the zero recovery intervals are within the first 54 m of the drillhole collar. Intervals with zero recoveries are not associated with mineralized intervals used within the Mineral Resource estimates. Excluding the zero recoveries, the core recoveries ranged from 5% to 100%. Average core recovery was good with average recoveries ranging between 74% and 100%, with an overall average recovery of >99%. Mineralized intervals used in the Mineral Resource estimates all have good core recoveries of 100%.

A plan showing the locations of the metallurgical drillholes is provided in Figure 10.3 below.

Figure 10.3 Plan View of 2022 metallurgical drilling programme



Source: Cornish Metals, 2023.

The metallurgical drillholes were planned to target the down-dip extensions of known lodes. The completed drillholes showed mineralized intercepts close (<5 m) to the planned intercept depths supporting the geological interpretation of the lodes.

Intervals logged as mineralized lodes have been used to guide and refine the lode interpretation wireframes. Assays for lodes No. 1, No. 4, No. 8, Roskear B FW, and the North Pool Zone have been used in the Mineral Resource estimates. At this time, assays were still outstanding for the Dolcoath South and Dolcoath South-South Branch areas lodes. The total number of assays outstanding is 46, which equates to approximately 2% of the total number of samples used in the Mineral Resource estimates for the Dolcoath South and Dolcoath South-South Branch areas lodes.

A summary of mineralized intercepts from the 2020–2023 drilling, which have been assayed and subsequently used in the Mineral Resource estimates is provided in Table 10.3.

Table 10.3 Summary of 2020–2023 assayed intervals used in the Mineral Resource estimates

Parent Hole ID	Daughter Hole ID	Lode	From (m)	To (m)	Azimuth (Degrees)	Dip (Degrees)	Sn (%)
SDD22_001	SDD22_001B1B	North Pool Zone- NPB	844.61	844.92	154	57	2.31
SDD22_001	SDD22_001B1B6	North Pool Zone- NPB	844.87	845.87	156	60	0.95
SDD23_001	SDD23_001D	North Pool Zone- PEGW	750.57	752.85	160	52	1.33
SDD23_001	SDD23_001	North Pool Zone- PEGW	752.33	755.86	159	54	0.02
DD22_001	DD22_001	Roskear B FW	917.78	921.00	317	50	0.01
DD22_001	DD22_001C1	Roskear B FW	920.11	921.73	322	48	4.66
DD22_001	DD22_001C1F	Roskear B FW	920.21	924.08	324	49	2.06
SDD20_001	SDD20_001C1	No 8	1039.07	1040.68	316	34	1.01
SDD20_001	SDD20_001B	No 8	1034.38	1035.59	321	34	1.78
SDD20_001	SDD20_001E	No 8	1030.95	1031.50	327	35	0.11
SDD20_001	SDD20_001D	No 8	1031.15	1033.97	339	28	1.09
SDD20_001	SDD20_001D	No 4	982.28	982.56	338	32	7.37
SDD20_001	SDD20_001E	No 4	980.44	982.74	328	37	3.24
SDD20_001	SDD20_001B	No 4	974.20	976.80	321	34	10.33
SDD20_001	SDD20_001C1	No 4	977.19	978.28	316	35	0.01
SDD20_001	SDD20_001A	No 4	976.52	977.82	323	46	0.39
SDD20_001	SDD20_001	No 1	788.87	790.86	336	43	0.96
SDD20_001	SDD20_001F	No 1	796.85	797.99	311	64	0.31

Note: Collar locations are shown on Figure 10.3.

10.4 Conclusions

The QP is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results.

11 Sample preparation, analyses, and security

11.1 Pre-mine-closure (pre-1998)

The following information regarding the sampling and assaying methodology at South Crofty prior to closure, has been obtained via a mixture of historical mine reports and personal communications provided to Cornish Metals from personnel working at South Crofty during operations, namely: Mark Owen, Chief Geologist, Allan Reynolds, Mine Surveyor, and Clifford Rice, Senior Chemist.

11.1.1 Sample preparation

Sample preparation was conducted in a dedicated building with appropriate lighting and dust extraction to reduce sample contamination. Core and face samples were prepared for assay in the same manner.

The sample flowsheet was as follows:

- Samples are logged in onto a daily log sheet by the laboratory technician and assigned a dedicated laboratory sample number.
- Samples were then placed into stainless-steel trays and dried at 105°C for two hours.
- Each sample (3 kg–5 kg for drill core and 1 kg–1.5 kg for individual face samples) in turn was then crushed to <10 mm in a jaw crusher and returned to the stainless-steel tray.
- Each sample was split into two using a Johnsons splitter.
- One half of the sample was then cone crushed in a Sala Mill to 2 mm.
- This sample was then split again in a smaller Johnsons splitter prior to being reduced down to a pulp with 80% passing 75 µm in a Tema Mill.
- Approximately 100 g was then split out again using a smaller Johnsons splitter and placed in a seal-easy bag with the appropriate dedicated laboratory sample number.
- The batch of samples were placed into a stainless-steel tray and sent to a dedicated assay room for analysis.

11.1.2 Sample analysis

11.1.2.1 Vanning assay

Until the advent of reliable X-ray fluorescence spectroscopy (XRF) assay methods during the late 1960s, the principal method of determining lode value in the Cornish mines was the vanning assay.

From the face sheets and contract sample sheets the approximate date/year that assaying at South Crofty turned over from vanning to XRF assay is 1974. Relative proportions of each analysis type vary between lodes and the database does not contain complete information for the channels on each lode. From the existing data it is estimated that approximately 60% of channel assays are vanning assays and 40% XRF assays. Approximately 93% of drillholes were assayed using XRF, but it is worth noting that most of the drilling carried out in the 1980s and 1990s were short production drillholes carried out to define lode boundaries.

The vanning assay depended on the mechanical separation of the heavy, valuable minerals from the waste and was carried out on a “vanning shovel” normally manufactured from light sheet iron.

A carefully weighed amount of prepared sample is placed on the shovel and covered with water, the shovel is then swirled round and the lighter material is allowed to run off with the water, more water is scooped with the hand onto the shovel and the process repeated until the sample is clean, most of the water is allowed to trickle off the edge of the shovel, and after a few further swirls to bring the clean material to the centre of the shovel, a few deft forward flicks throws the heavier particles in a crescent further up the blade than the lighter gangue.

Careful manipulation of the lighter material into a pool in the centre of the blade where it is further rubbed over by a light, flat-headed hammer to liberate material still contained within the waste. The sampled is then washed over again, once more a few deft forward flicks concentrating the material into a single head and ensuring that all recoverable ore is present. The remaining waste is then dropped of the shovel with a skillful sideways flip.

The shovel is then dried and the product weighed on a chemical balance, these weights being in direct ratio to the original weighed sample.

Occasionally samples are shown to contain sulphides, usually copper and arsenic, in this case the assayer will carry out the first phase, dry the product and then roast the residue to drive off the sulphides. The sample is then returned to the vanning shovel, and the process quoted above continued until the recoverable head is recognized.

A vanning assay gives recoverable grades using a simplified process that mimics operations in the processing plant.

Following the introduction of chemical assays, a conversion factor was formulated in order to convert recoverable grades (SnO_2 lbs/ton) to percentage grades. This was used following the introduction of chemical assays circa 1975 and historical assays converted to % when required. This conversion was deemed reliable and fit-for-purpose. The conversion equation is given below:

$$\frac{lbs\ \mathrm{SnO2} * 1.1}{22.4} = Sn\%$$

11.1.2.2 XRF assay

Samples assayed during the 1990s was carried out utilizing a bench-top XRF analyzer (namely an Asoma Model No.8620 containing a Cadmium 109 source).

On a daily basis, the XRF was calibrated at the start of the shift using several certified “Standard” pellets of known %Sn concentration, prior to running sample analysis.

Each pulp was pelletized and assayed. The results were then written into a dedicated assay sample sheet for each batch containing the dedicated laboratory sample numbers for that batch.

This sample sheet was then copied, with one copy kept at the laboratory and the other copy sent to the geology department for insertion of grades either onto the core log or face sheet.

11.2 Vanning versus XRF methods

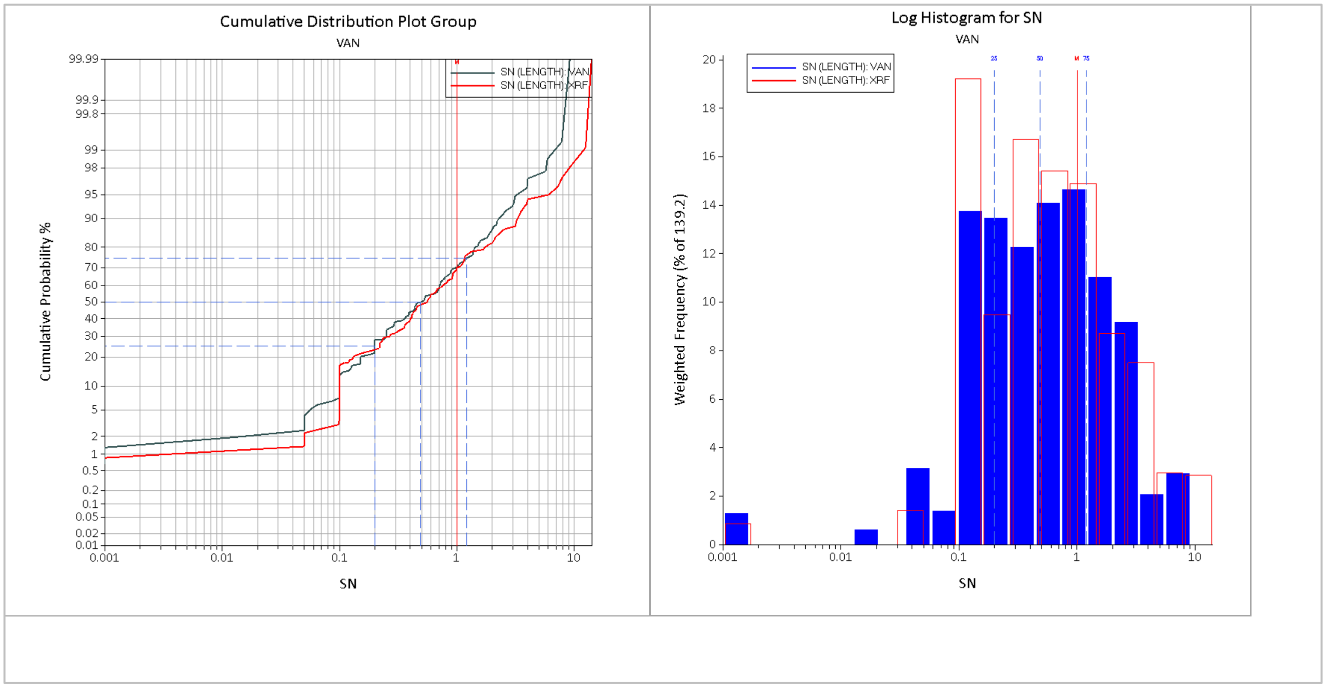
Prior to the use of XRF in 1974 assays for Sn were conducted using the vanning assay method. To check for bias by either assay method, the QP has carried out a vanning versus XRF comparison.

The QP has reviewed the sample data on a lode-by-lode basis to ascertain areas where there are coincident intervals of vanning and XRF assays. The QP has selected areas where samples are situated within discrete pay shoots and therefore less susceptible to bias from the inherent heterogeneity of the mineralization. Areas selected for comparison include lodes 9N, 9S, 2D, and WET.

A direct comparison between individual vanning and XRF assays is not possible due to the samples having been taken in different splays of the main lode structures. Sample population comparisons were therefore undertaken.

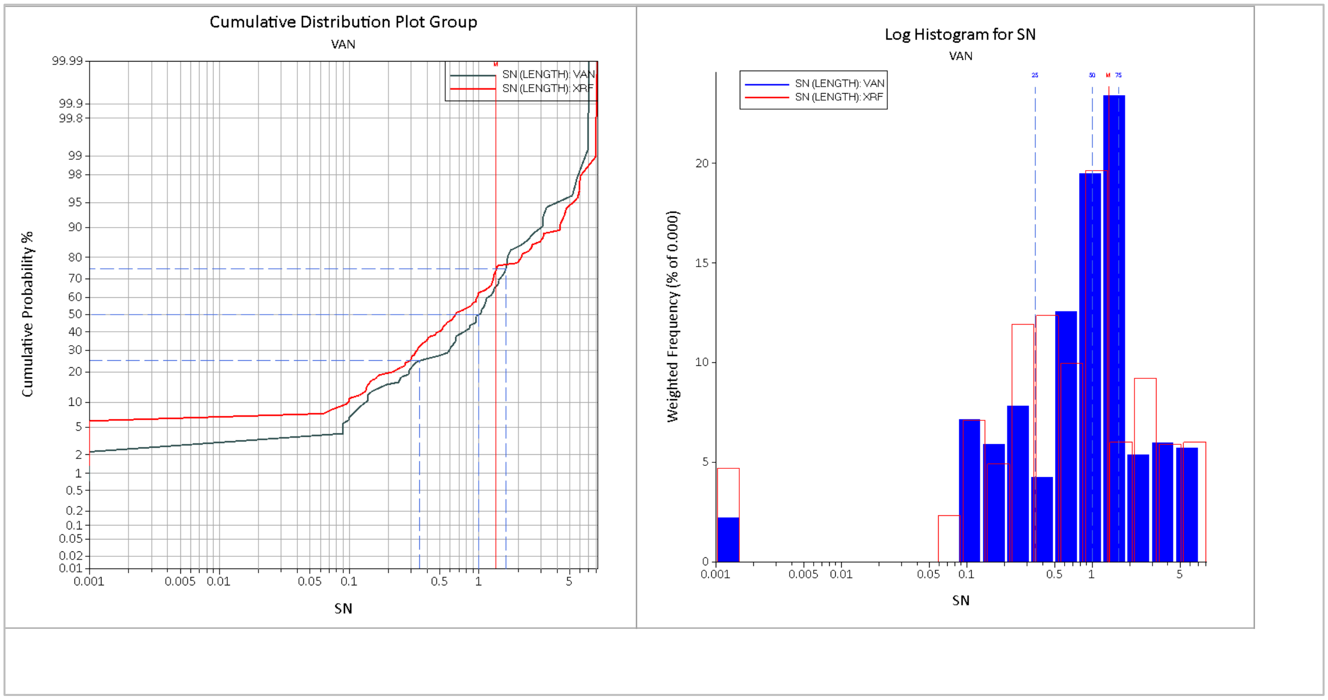
The results for the vanning versus XRF statistical population comparisons are shown in Figure 11.1 to Figure 11.4.

Figure 11.1 Vanning versus XRF comparison for lode 9N



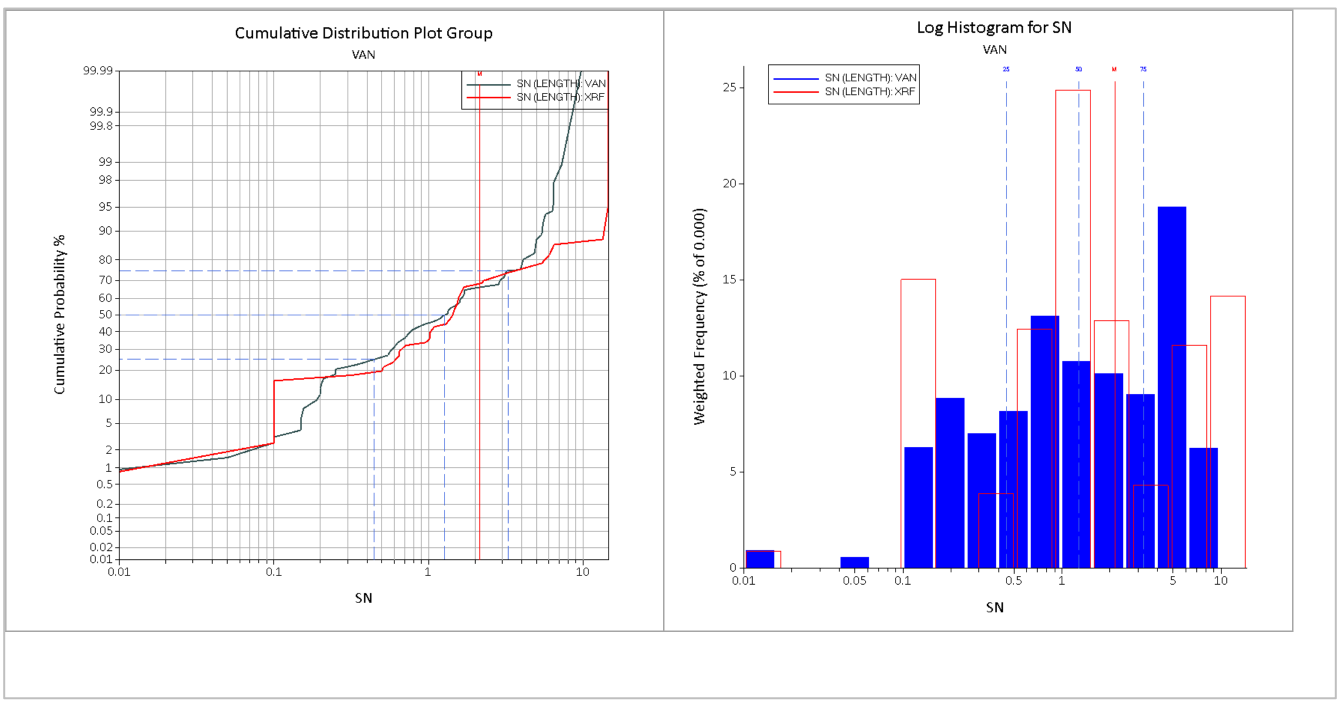
Source: AMC, 2023.

Figure 11.2 Vanning versus XRF comparison for lode 9S



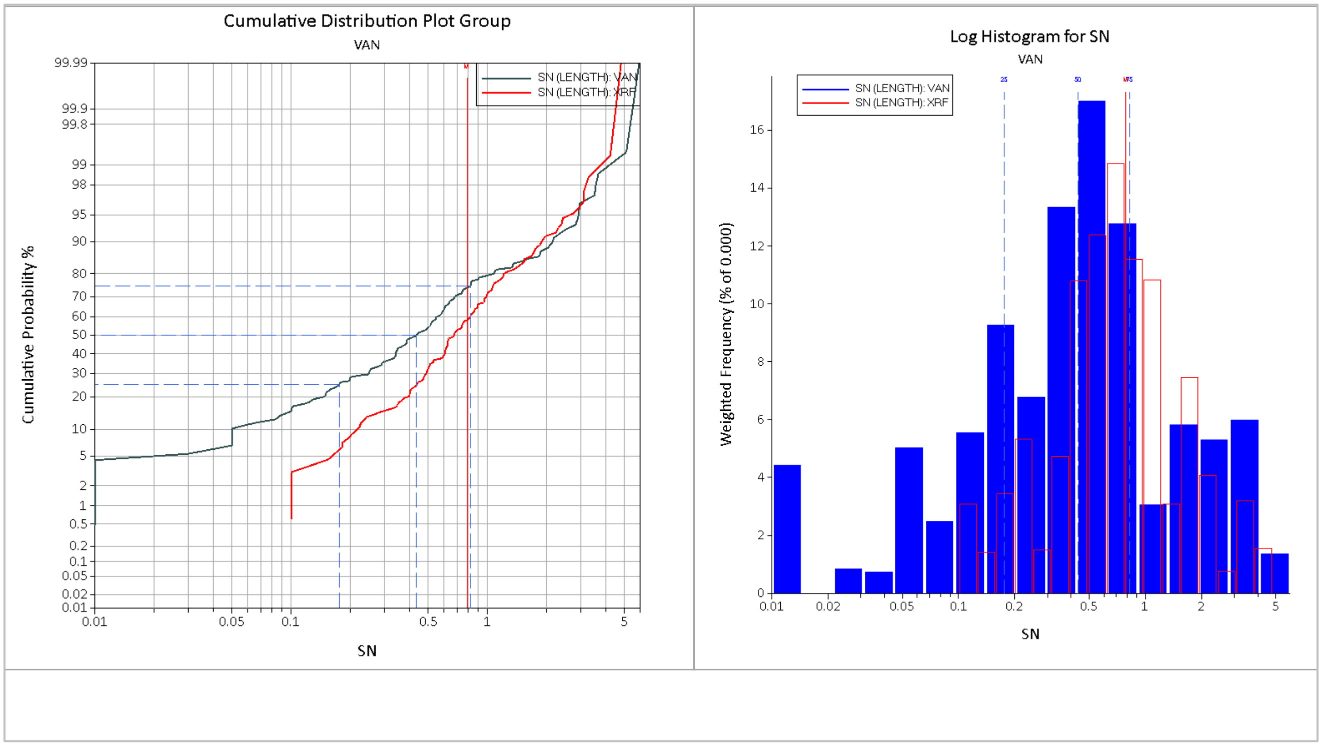
Source: AMC, 2023.

Figure 11.3 Vanning versus XRF comparison for lode 2D



Source: AMC, 2023.

Figure 11.4 Vanning versus XRF comparison for lode WET



Source: AMC, 2023.

The vanning and XRF comparisons show comparable grade populations with no evidence of significant bias noted. The mean grades for the vanning assays are typically slightly lower than the corresponding XRF assays, potentially indicating that the vanning assays are more conservative than the XRF.

11.3 WUM (2008–2014)

11.3.1 Sample preparation and security

The following summary regarding the 2008-2014 sample preparation is taken from the P&E 2016 report (Puritch et al., 2016) which in turn references work of Hirst et al., (Hirst et al., 2014) and Hogg (Hogg, 2012).

The preparation of samples for analysis begins on-site with mark-up of the core and recording of core recovery. During drilling, boxes are marked up by the geologist as the core is recovered for the following:

- Sample From and To
- Lithological breaks
- Natural fractures
- Handling breaks
- Losses.

Care is taken to ensure that the core is inserted the correct way round and all the pieces fit together. The box is marked with depth from and depth to, as well as with a direction of drilling. Wooden blocks are inserted to mark the end of each core run as well as mark any areas of loss, with the estimated loss recorded in these cases. Drill core runs prior to the beginning of 2011; however, were not marked at all. The lithology and mineralization of the core is described. Rock Quality Designation (RQD) and fracture count are recorded in the logs. Logging is entered using a Compaq iPaq directly into Excel™ spreadsheets by the geologist. No paper logs or field books are used.

Core boxes are then brought to surface in batches of eight to ten and delivered under supervision by the geologist to the core shed. Once in the core shed the box marking is checked. An axis perpendicular to the orientation of mineralization is marked on the core ready for sawing. Care is taken to halve the core along the axis of mineralization, to ensure the mineralization in the sample for analysis is representative of the whole.

The core is sawn in half in batches by the geologist, or by a geological technician under the geologist's supervision. The boxes are then marked with the sample identification for the half core to be analysed, so the samples can be traced to their exact location in the boxes.

The saw used is a Vancon core saw. It is water-lubricated during sawing and washed down before and after use. It is washed down thoroughly between samples of different lithology, or different levels of mineralization, but not between samples of the same type, to minimize potential cross contamination. There is no compressed air or ventilation to manage dust, but the area is washed down and swept regularly.

Half core is retained in the boxes and stored in the core shed. The core shed is generally kept locked, with access from a standard door and a large sliding vehicle door.

Before being stored, the core was photographed wet and dry on a photo board.

The half core submitted for analysis is broken to fit in heavy-duty polythene sample bags. The polythene bags are marked with the sample ID, but no other identifying marks. Reconciliation between the sample ID and true information is kept by the geologist so the exact sample location and details can be recalled from the sample ID. The openings in the bags are twisted, taped, folded, then zip-tied over to ensure no spillage during handling or transit.

The samples are then delivered in batches to an independent laboratory for analysis. Once samples had been prepared, the coarse rejects and pulps were returned for storage in the core shed.

Three laboratories were used for the preparation of samples of WUM drillholes as summarized below:

- Initial holes (batches SD01 to 47) were prepared at Wardell Armstrong International Laboratories (WAI), a then unaccredited laboratory (however, now accredited) facility in Cornwall, United Kingdom.
- From January 2012 (SD48 to 104) samples were prepared at AGAT laboratory (AGAT), an accredited laboratory facility in Mississauga, Ontario, Canada.
- The remaining 720 samples (SD105 to 135) were prepared at SGS Cornwall (SGS) and analysed by SGS in either their Toronto or Vancouver facilities.

11.3.2 Sample analysis

11.3.2.1 WAI Laboratory/X-Ray Minerals Laboratory

The WAI sample preparation procedure comprises allocating a unique WAI sample ID before oven drying and weighing the sample. Samples were subsequently crushed using a jaw crusher to 10 mm–12 mm, then crushed to passing -1.0 mm using a balanced roll crusher, and riffle-split to obtain a subsample of approximately 150 g. The 150 g split subsample was then pulverized to 100%

passing 100 µm, with half of this sample dispatched for XRF analyses and the remaining half stored as a reference sample.

The prepared sample pulps were sent to X-Ray Minerals Laboratory, of Colwyn Bay, Wales, United Kingdom for analysis. Upon receipt of samples, X-Ray Minerals Laboratory dried samples (as required) in an oven at 80°C and then milled with an agate ball mill approximately 20 g of the sample at 500 rpm for five minutes in order to produce two pellets for quality-control purposes. Milled samples were then weighed out to 10 g (+/- 0.2 g) and then combined in a plastic beaker with a polyvinyl alcohol (1% Moviol) or wax binder before being pressed at 15 tonnes for two minutes, using polished stainless-steel platens to produce a 32 mm pellet. The pelleted samples were oven-dried at 80°C for at least two hours before being analysed by XRF for a multi-element array, including Sn, Cu, and Zn. XRF analysis was completed using a Spectro X-Lab Energy Dispersive Polarised X Ray Fluorescence (EDPXRF) Analyser. The XRF device is calibrated using International Rock, Soil, Ore, Sediment, Ash, Oil, Plastic, Organic, and Water standards to ensure repeatable and accurate analysis.

Internal laboratory quality-control comprised the use of duplicate samples and internal certified reference materials (CRMs). Duplicate samples at a rate of 1:10 were used to ascertain sample precision. To check for analytical accuracy a CRM was analysed at the beginning of each working day, during active sample analyses, and at the end of each working day. The measured value for each target analyte was targeted to be within +/-5 percent of the true value for the calibration verification check to be considered acceptable. If a measured value falls outside this range, then the CRM was reanalysed. If the value continues to fall outside the acceptance range, the instrument's multi-channel analyser (MCA) is then re-calibrated, and the batch of samples analysed before the unacceptable calibration verification is reanalysed.

11.3.2.2 AGAT Laboratory

Commencing in January 2012, sample preparation and analyses was carried out by AGAT.

Samples received by AGAT were logged into the laboratory information management system (LIMS) and any discrepancies reported to the client. Samples were then dried to 60°C, before crushing to 75 % passing 10 mesh (2 mm) and split to 250 g using a Jones riffle splitter or rotary split. Samples were then pulverized to 85% passing 200 mesh (75 µm), dried, and then shaken on an 80-mesh sieve with the plus fraction stored and the minus fraction sent for analysis.

Equipment was cleaned using quartz blank material and compressed air. Internal QA/QC submissions by AGAT included blanks, duplicates, and internal reference materials (both aqueous and geochemical standards).

Assays were performed using a peroxide fusion followed by an Inductively Coupled Plasma - Optical Emission Spectroscopy (ICP- OES) finish for Sn, and four acid-digest followed by Inductively Coupled Plasma – Mass Spectroscopy (ICP/ICP-MS) finish for multi-elements, including Cu and Zn. Assays were performed using PerkinElmer 7300DV and 8300DV ICP-OES and PerkinElmer Elan9000 and NexION ICP-MS instruments. Inter-Element Correction (IEC) techniques were used to correct for any spectral interferences.

At the time of assaying AGAT maintained ISO registrations (ISO 9001:2000) and accreditations, providing independent verification that they have, and implement, a Quality Management System (QMS).

11.3.2.3 SGS Laboratory

Commencing in August 2012 (batch SD105 onwards), sample preparation and analyses were carried out by SGS Laboratories. Sample preparation was undertaken at SGS Cornwall, and sample pulps shipped to SGS Vancouver or SGS Toronto for analysis.

Samples were delivered via courier, to SGS Cornwall for preparation, where they were received by SGS personnel and samples were then logged into the laboratory's LIMS system. Samples were crushed to a nominal minus 10 mesh (2 mm), before being mechanically split via a riffle splitter to provide a 250 g subsample for analysis. The remainder of the crushed material was stored. The 250 g subsample was pulverized to 85% passing 75 µm (200 mesh) or otherwise specified by client.

After transfer of pulps to the analytical laboratory in Canada, samples were fused by sodium peroxide in graphite crucibles and dissolved using diluted HNO_3. During digestion the sample is split into two; half is submitted for Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES) and the other half is sent for ICP-MS analysis. Samples were analysed against known calibration materials to provide quantitative analysis of the original sample.

At the time of assaying, SGS was ISO 17025 accredited by the Standards Council of Canada. Quality assurance procedures operated by SGS include standard operating procedures for all aspects of the processing and also include protocols for training and monitoring of staff. Online LIMS is used for detailed worksheets, batch and sample tracking, including weights and labelling for all the products from each sample.

11.4 Cornish Metals (2020–2023)

All core was handled on-site at South Crofty following standard operating procedures for processing diamond drill core. A summary of project-specific activities is presented below.

Drill results for the Cornish Minerals drilling programmes are described in Sections 10.2 and Section 0 of this Technical Report. Assay results received up to 30 July 2023 have been included in the Mineral Resource estimate described in Section 14. This includes assays for No. 1, No. 4, No. 8, Roskear B FW, and the North Pool Zone. At this time, assays were still outstanding for the Dolcoath South and Dolcoath South-South Branch lodes. A total of 46 assays are outstanding, equating to approximately 2% of the total number of assays used in the current Mineral Resource estimates for the Dolcoath South and Dolcoath South-South Branch lodes.

11.4.1 Core logging

Core was transported directly from the drill site to the core logging shed using a utility vehicle, and either loaded directly onto the logging tables or stacked ready for logging. The following logging process was then carried out:

- Core box mark-up checked, and any mistakes reported to the drillers.
- Photography (wet and dry).
- Logged for core recovery, geotechnics, lithology, alteration, mineralization, and structural measurements.
- Specific gravity measurements.
- Sample mark-up.

All data was entered into MX Deposit logging system. MX Deposit is a cloud-based drillhole and sample data-management platform which uses advanced industry-recognized security protocols to ensure privacy and confidentiality.

11.4.2 Sample cut sheet and core cutting (2020)

After core was marked up, geotechnical data gathered, and the hole geologically logged, a sample cut sheet was prepared and the core marked for sampling. Samples were marked up based on expected mineralization content, respecting lithological or alteration boundaries, with shoulder samples of non-mineralized core added.

The sample cut sheet documents all sample intervals and lengths to be cut. The geologist pre-assigned which samples should have twin duplicates created, and where to insert standards and blanks for QA/QC purposes.

All samples were submitted as half core with any duplicates being quarter-core cut from the retained half. The remaining core is retained on-site. Cutting was carried out using a manual diamond core saw which was cleaned regularly. A total of 209 samples were taken for assay purposes. The minimum sample length was 0.20 m and the maximum sample length was 1.62 m, with an average of 0.78 m. Sample intervals were recorded in a ticket book with tear-off tabs recording the sample number. The original sample ticket books are stored at Cornish Metals' South Crofty Project offices.

11.4.3 Sampling and core cutting (2022–2023)

The primary focus of the 2022-2023 drilling programme was to obtain samples for metallurgical testwork, whole core samples were taken from the five targeted lodes (No.4, No. 8, Roskear, NPZ, Dolcoath). Samples sent for metallurgical testing were recorded in a separate table on MX Deposit database, to distinguish the samples from standard assay data. Each sample was separated into one of six different categories needed for the testwork: Mineralized Lode, Mineralized Hanging Wall, Mineralized Footwall, and their unmineralized variants.

To ensure maximum sample mass from each hole, whole core was taken from the lodes leaving the interval empty in the core box. For every wedge cluster or area of lode targeted by the parent/daughter drillholes, one hole was selected for assay. From the outset, the strategy was to quarter-core assay the centre/parent hole of each cluster and have the wedges providing the majority of the metallurgical samples.

Core was cut into a quarter for assay, and the remaining three quarters bagged for metallurgical testing. The core was placed into a polythene bag with a sample ticket inside and sample number written on the outside.

For sampling core, a cut sheet was prepared that matched the sample intervals marked on the core. Samples were marked up based on expected mineralization content, respecting lithological or alteration boundaries, with shoulder samples of non-mineralized core added. The geologist pre-assigned which samples should have twin duplicates created, and where to insert standards and blanks for QA/QC purposes (often every tenth sample). A total of 708 samples were collected for assay with an average length of 0.78 m, and a minimum and maximum length of 0.27 m and 1.7 m, respectively.

Cutting was carried out using a Vancon diamond core saw which was cleaned regularly, particularly after intervals of intense hematization or sulphide mineralization to reduce the chance of cross-contamination.

For mineralized zones in the metallurgical test areas, the same sampling procedure was followed as per the 2020 drilling campaign as described in Section 11.3.2.

11.4.4 Sample dispatch

Samples were bagged with the sample ticket tear-off tab stapled inside the bags before being stapled closed. Between four and six samples were included in larger poly sacks, which were closed using double cable-ties. The sample sacks were packed into a sealed container before being transported by tracked courier (Pallet Network) to the laboratory. Once dispatched, the samples were placed into the laboratory's chain of custody system.

On site, sample records and dispatch sheets are securely kept digitally in the MX Deposit database system and as paper copies. The dispatch sheets include information on batch numbers, details of the geologist submitting the samples, the number of samples, sample numbers, sample type, and the preparation and analytical codes required.

The 2020 samples for drillhole SDD20 and the 2022-2023 quarter-core assays were submitted to ALS Laboratories in Loughrea, Co. Galway, Ireland. ALS's quality management system (QMS) includes inter-laboratory test programmes and regularly scheduled internal audits that meet all requirements of ISO/IEC 17025:2017 and ISO9001:2015.

Samples were assayed using ALS method ME-XRF15b, where samples are analysed by XRF following a lithium borate fusion with the addition of strong oxidizing agents to decompose sulphide-rich ores. Elements analysed include Cu, Zn, As, Sn, and W for the 2020 programme. A broader ME-ICP61 multi-element analysis was also carried out on all samples comprising 33 elements.

For the 2022-2023 programme, Sn was analysed using ME-XRF15b with the broader ME-ICP61 multi-element analysis also carried out on all samples for 33 elements. Any over-limit Cu, Zn, W samples from the ICP results were re-assayed using the ME-XRF15b technique.

A summary of detection limits is presented in Table 11.1. Any samples assaying over upper detection limits for Sn were re-assayed using analytical code ME-XRF15c, which has an upper detection limit of 79% Sn.

Table 11.1 Summary of detection limits for the main analytical techniques used in the Cornish Metals 2020 programme

Analysis	Cu (%)	Zn (%)	As (%)	Sn (%)	W (%)
ME-XRF15b	0.005-20	0.005-20	0.1-100	0.005-20	0.001-15.9
ME-XRF15c	-	-	-	0.01-79	-

Source: ALS Geochemistry Fee Schedule 2020.

11.4.5 Density procedures

Samples obtained during the 2020 drilling were selected for specific gravity measurements based on a nominal two per tray throughout the entire drillhole. A total of 872 measurements were carried out. The wet density method was used which consists of weighing the dry competent and nonporous core directly on a scale and then weighing the core suspended in a cradle underneath the scales submersed in water. The following formula was used to calculate the specific gravity:

$$Specific\ Gravity = \frac{(Dry\ Weight)}{(Dry\ Weight - Wet\ Weight)}$$

The average from the 814 samples was 2.67 t/m^3, with a maximum value of 3.21 t/m^3. This includes samples from non-mineralized areas as well as sampled mineralized zones.

For the 2022-2023 metallurgical drilling programme, density measurements were carried out on all sections selected for both metallurgical testing and any additional assays. Any sections with vughs or noticeable porosity (particularly Roskear Zone) were waxed and the following calculation has been used to calculate the specific gravity:

$$\rho_d = \frac{M_S}{((M_S + wax) - (M_S + wax\ in\ water)) - \frac{M_{S+wax} - M_S}{\rho_{wax}}}$$

Where Pd is sample density, Pwax is density of wax, Ms is dry weight. The density of wax (paraffin) used is 0.845 t/m^3.

11.5 Quality assurance/quality control (QA/QC

The following section describes the QA/QC procedures implemented by previous and current operators at the South Crofty Project.

11.5.1 WUM (2010–2012) Upper Mine

Note that for WUM, drilling started in 2008, but samples were not assayed until 2010.

WUM's QA/QC programme included the use of CRM and locally sourced blanks material. The blank material used was from a local granite source, initially thought to be barren but subsequently identified as part of the mineralized system.

QA/QC procedures are summarized below by sample submission:

- SD01-28: Only internal laboratory blank and duplicates were submitted. WAI inserted one blank and one pulp duplicate sample into sample stream of each batch.
- SD29-104: WUM inserted two blanks, one CRM and one field, coarse reject, and pulp duplicate into sample stream of each batch.
- SD105-135: WUM inserted two blanks, two CRMs and one field, coarse reject, and pulp duplicate into sample stream of each batch.
- Batch sizes ranged from 28 to 91 samples, averaging 46 samples.

11.5.1.1 Blanks (WAI 2010–2011)

Blank material comprised locally sourced granite, which was subsequently noted to be from the same mineralized system and containing some elevated low grades. The average grades of the blank material submitted during this period based on the 88 submissions comprised:

- Sn = 25 ppm
- Cu = 27 ppm
- Zn = 60 ppm.

The blank assay results were compared against the average blank grades noted above with the majority of results falling close to the average blank grade. The maximum returned blank assays were 117.7 ppm Sn, 379.6 ppm Cu, and 360 ppm Zn.

Given the lack of true blank material, and the relatively low grades returned, the QP is of the opinion that there is no evidence of significant sample contamination that might impact the Mineral Resource estimate.

11.5.1.2 Blanks (AGAT, 2012)

The same blank granite material as used by WUM in 2010–2011 was used for checking sample contamination at AGAT in 2012. The average grades of the 102-granite blank submissions for this period comprised:

- Sn = 185 ppm
- Cu = 11 ppm
- Zn = 41 ppm.

The majority of blank assay results fall close to the average grades stated above for the granite blank. The maximum returned blank assays were 420 ppm Sn, 67 ppm Cu, and 181 ppm Zn.

Given the lack of true blank material, and the relatively low grades returned, the QP is of the opinion that there is no evidence of significant sample contamination that might impact the Mineral Resource estimate.

11.5.1.3 Blanks (SGS, 2012)

The same blank granite material as used by WUM in 2010–2011 was used for checking sample contamination at the SGS laboratory in 2012. The average grade of the 102-granite blank submissions for this period comprised:

- Sn = 46 ppm
- Cu = 55 ppm
- Zn = 123 ppm.

Overall, four results returned elevated grade values, which were noted by P&E (Puritch et al., 2016) as being:

- Cu sample C1215105 from batch SD118, at 830 ppm, which was located in a relatively low-grade interval and there were also nine other non-problematic blanks in this batch and no follow-up was considered necessary.
- Sn sample C1222009 from batch SD126, at 4,210 ppm, which followed a very high-grade sample and showed high contamination. No follow-up was considered necessary.
- Zn samples C1304162 and C1304174 from batch SD134, at 2,980 ppm Zn and 2,530 ppm Zn respectively, were positioned in relatively low-grade intervals and there were also four other non-problematic blanks in this batch. No follow-up action was considered necessary.

11.5.1.4 CRMs (WAI 2010–2011)

Prior to sample batch SD29, CRMs only comprised internal submissions by WAI. From batch SD29 WUM inserted its own CRM submissions to check analytical accuracy. Two CRMs were submitted by WUM, both sourced from Ore Research and Exploration Pty. Ltd. (ORE):

- OREAS-140 (5 submissions)
- OREAS-141 (14 submissions).

The results for CRM OREAS-140 show reasonable levels of accuracy for Sn, Cu, and Zn, with Cu showing a slight high-bias and Zn a slight low-bias.

The results for CRM OREAS-141 show reasonable accuracy for Sn and Cu. CRM results for Zn show assay results under-reporting relative to the target value.

11.5.1.5 CRMs (AGAT, 2012)

As part of the QA/QC submissions to AGAT in 2012, a further 27 OREAS-140, and 29 OREAS-141 CRMs were inserted into the sample stream.

Three OREAS-140 CRM samples failed low for Sn with results below 3 standard deviations. OREAS-141 submissions returned one failure for Sn, one failure for Cu, and four failures for Zn, all failures falling just below (outside) the 3 standard deviation threshold.

11.5.1.6 CRMs (SGS, 2012)

As part of the sample submissions to SGS in 2012, a range of CRMs were used, supplied by ORE:

- OREAS-36: Certified for Cu and Zn (13 submissions).
- OREAS-111: Certified for Cu and Zn (19 submissions).
- OREAS-140: Certified for Sn, Cu, and Zn (12 submissions).
- OREAS-141: Certified for Sn, Cu, and Zn (20 submissions).
- OREAS-142: Certified for Sn, Cu, and Zn (7 submissions).

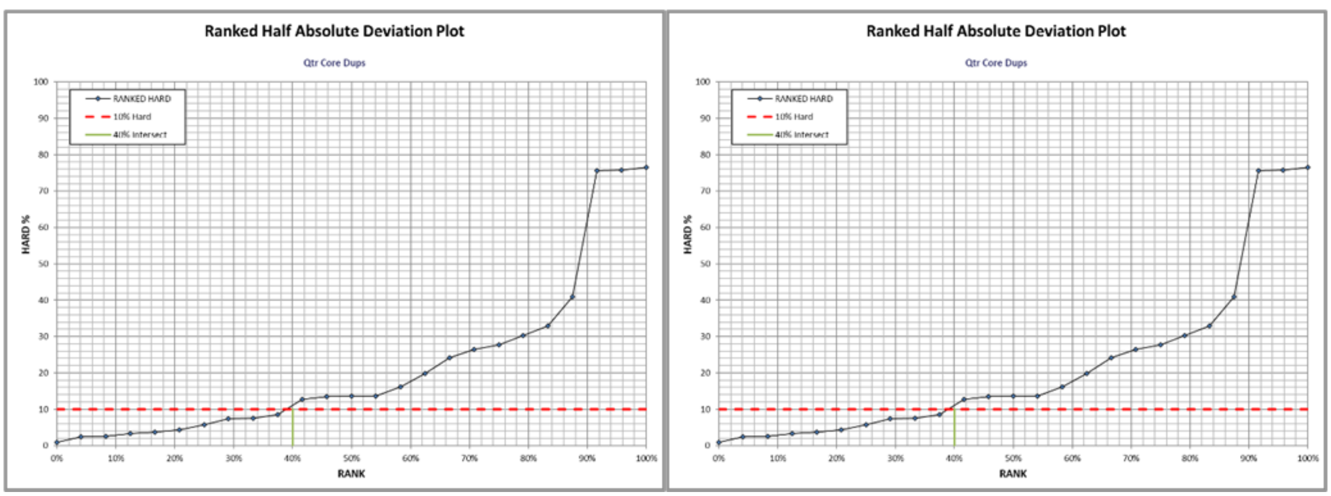
Overall, the SGS CRM submissions show reasonable levels of analytical accuracy with only two Zn assays falling below 3 standard deviations for OREAS 36. All other CRM results were returned within 3 standard deviations of the target value.

11.5.1.7 Field duplicates

As part of the 2008–2013 drilling works, field duplicates comprising quarter core were submitted into the sample stream. The QP has been provided with the results for 43 field duplicates.

The field duplicate results have been correlated against the original assay results. The scatter plot and rank half absolute relative difference (HARD) plot results shown in Figure 11.5 show the moderate to low levels of repeatability associated with the field duplicates.

Figure 11.5 Field duplicate scatter and rank HARD plot results for Sn



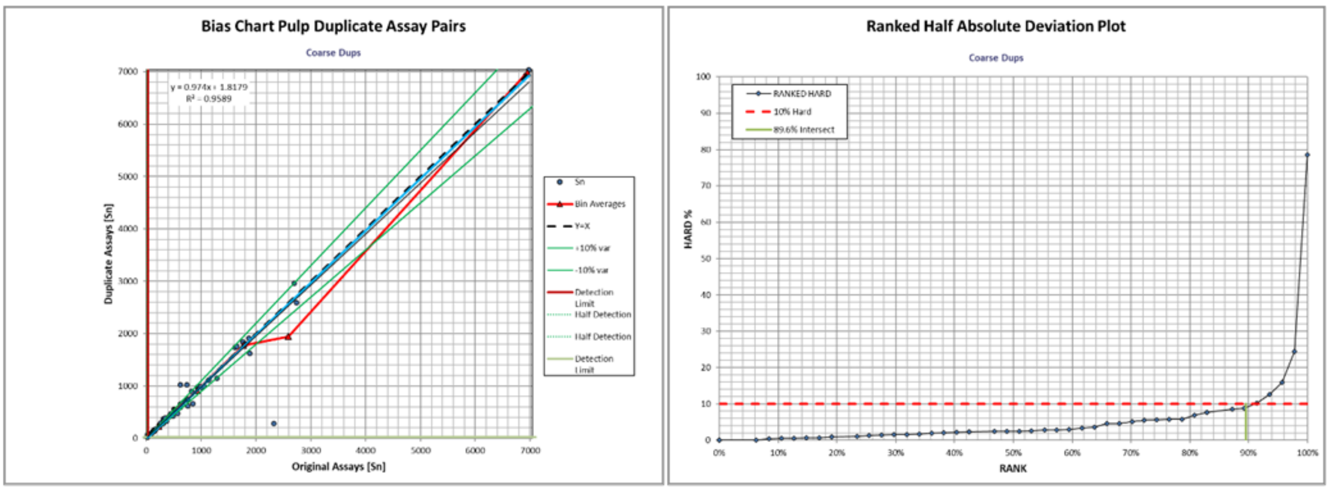
Source: AMC, 2021.

11.5.1.8 Coarse duplicates

Coarse duplicates taken following the crushing stages of the sample preparation process, and prior to pulverization were also submitted as part of the QA/QC procedures. The QP has been provided with results for 92 coarse duplicate submissions.

The results of the comparison between the coarse duplicates and original assays are shown in Figure 11.6. The analysis shows there is a marked improvement in sample precision compared to the field duplicates, indicating that the sample material during the initial crushing stages is being sufficiently homogenized to provide representative subsamples.

Figure 11.6 Coarse duplicate scatter and rank HARD plot results for Sn



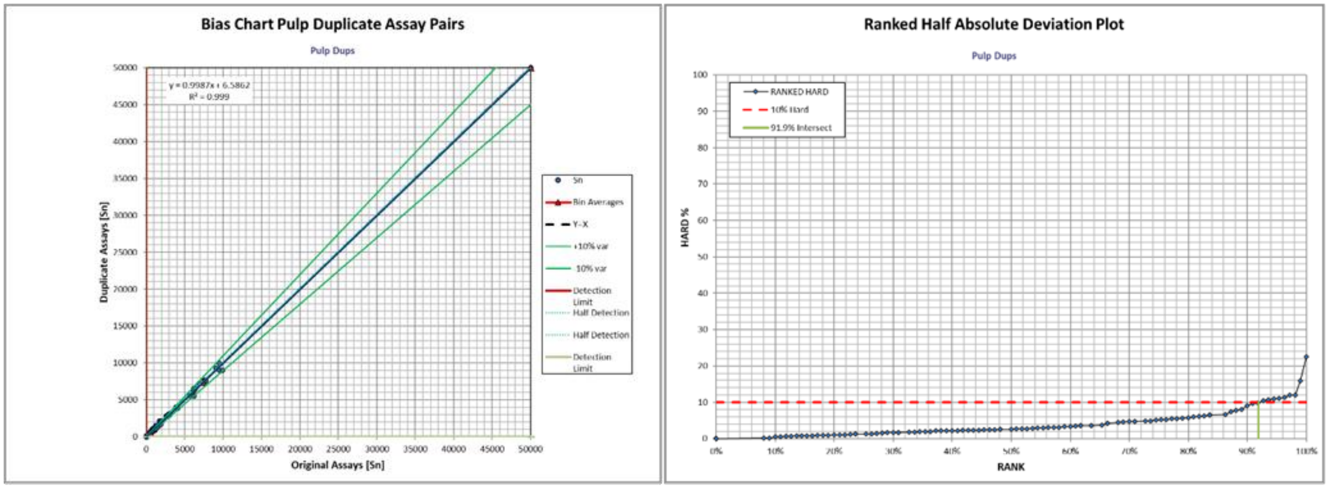
Source: AMC, 2021.

11.5.1.9 Pulp duplicates

A total of 234 pulp duplicate results from the 2008–2013 QA/QC submissions have been provided to the QP. Pulp duplicate samples were taken following the crushing and pulverization stages of sample preparation.

The pulp duplicate results compared to the original assays are shown in Figure 11.7. The analysis shows good repeatability and a slight improvement in precision relative to the coarse duplicates, indicating further homogenization of the samples.

Figure 11.7 Pulp duplicate scatter and rank HARD plot results for Sn



Source: AMC, 2021.

11.5.1.10 Check samples

Various check analyses have been carried out by external laboratories to evaluate the accuracy of the primary laboratories.

A total of 142 samples were analysed in 2012 by Activation Laboratories for Sn, Cu, and Zn to check the accuracy of the WAI assays. A good correlation between the primary and external duplicate results is noted.

In September of 2012, a total of 204 WUM drillhole samples were submitted to AGAT for Sn, Cu, and Zn. A good correlation to the original primary assays is recorded.

Check analyses of randomly selected samples for Sn, Cu, and Zn were undertaken in 2012 at the OMAC laboratory, Ireland. A total of 40 samples were sent for analysis and, aside from one Sn result, all other results showed a good correlation.

11.5.2 Cornish Metals (2020)

A total of 241 samples were submitted from Cornish Metals 2020 drilling project, including 32 QA/QC samples comprising CRMs, blank material, and twin core duplicates. CRMs and blanks were generally inserted every ten samples to ensure enough QA/QC was obtained from the small batch size.

11.5.2.1 CRMs

Two different CRMs were included in the sample batches: OREAS-141 and OREAS-142. Both OREAS-141 and OREAS-142 are high-grade Sn oxide ore CRMs prepared by ORE. The material was sourced from the Doradilla Project located in north central NSW, Australia. The Project area consists of a large Sn laterite deposit underlain by Sn silicate skarn with potential for copper, nickel, indium, and zinc mineralization.

Table 11.2 summarizes the certified values and standard deviations for OREAS-141 and OREAS 142.

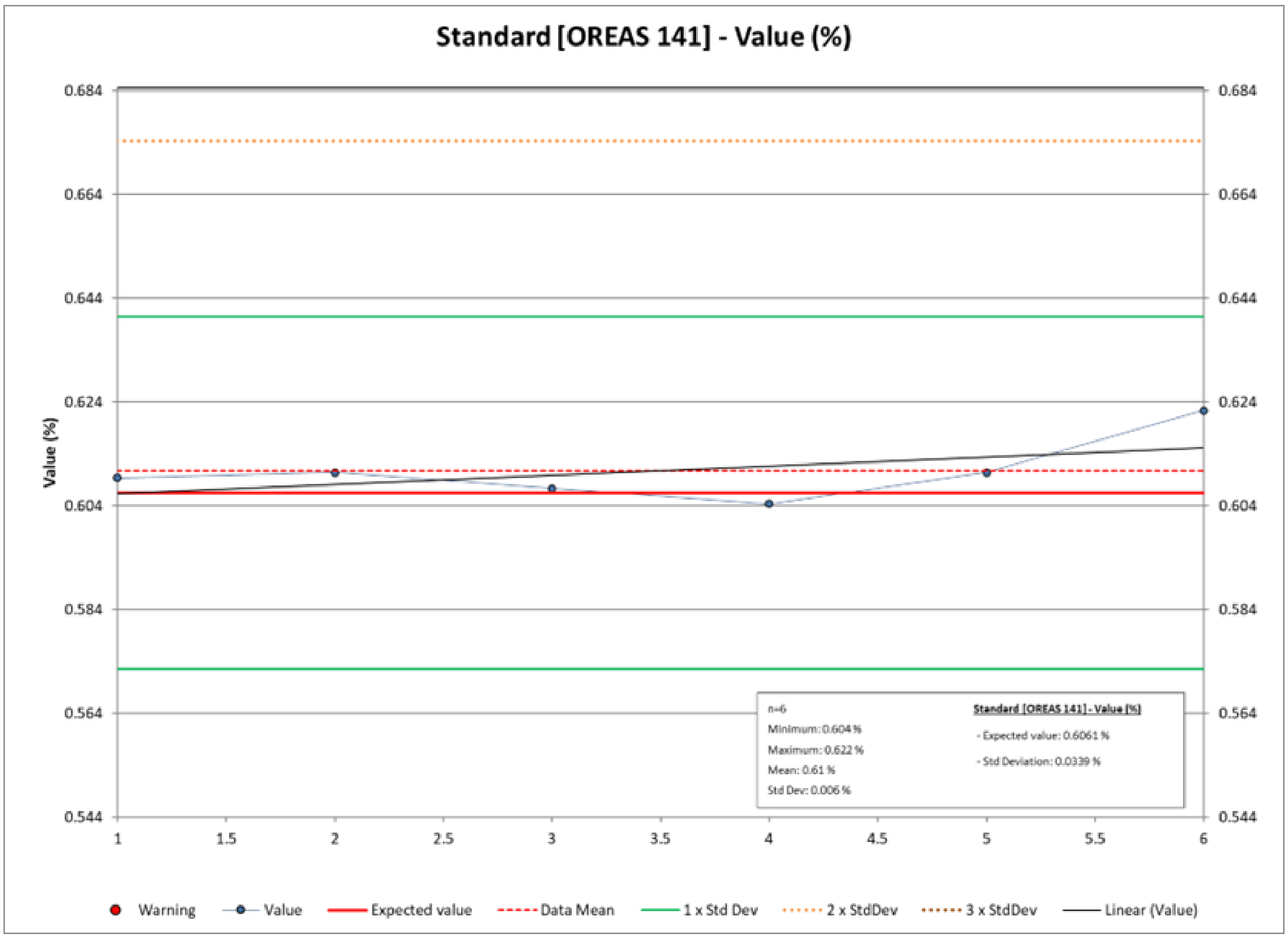
Table 11.2 Certified values and standard deviations for OREAS-141 and OREAS-142 using XRF analysis

CRM	Analyte	Certified Value	1 S.D.	95% Confidence Interval Low	95% Confidence Interval High
OREAS-141	Cu (ppm)	2453	98	2387	2518
	Sn (wt. %)	6.31	0.26	5.94	6.68
OREAS-142	Cu (ppm)	1466	65	1420	1512
	Sn (wt. %)	1.04	0.05	1.01	1.07

Source: OREAS website ore.com.au accessed November 2020.

OREAS-141 was used six times, and OREAS-142 was used four times for this programme. All results passed QA/QC checks, the Sn results for OREAS-141 can be seen in Figure 11.8.

Figure 11.8 OREAS 141 CRM results chart for Sn (2020)



Source: AMC, 2023.

11.5.2.2 Blank material

Blank material was obtained from Carnsew Quarry near Falmouth and consists of barren tourmaline granite. A total of six field blanks were submitted with the Cornish Metals 2020 samples to assess cross-contamination during preparation. These were generally inserted every ten samples; however, some discretion was used in order to place blanks after suspected high-grade samples.

The returned XRF values of the blank assays are as follows:

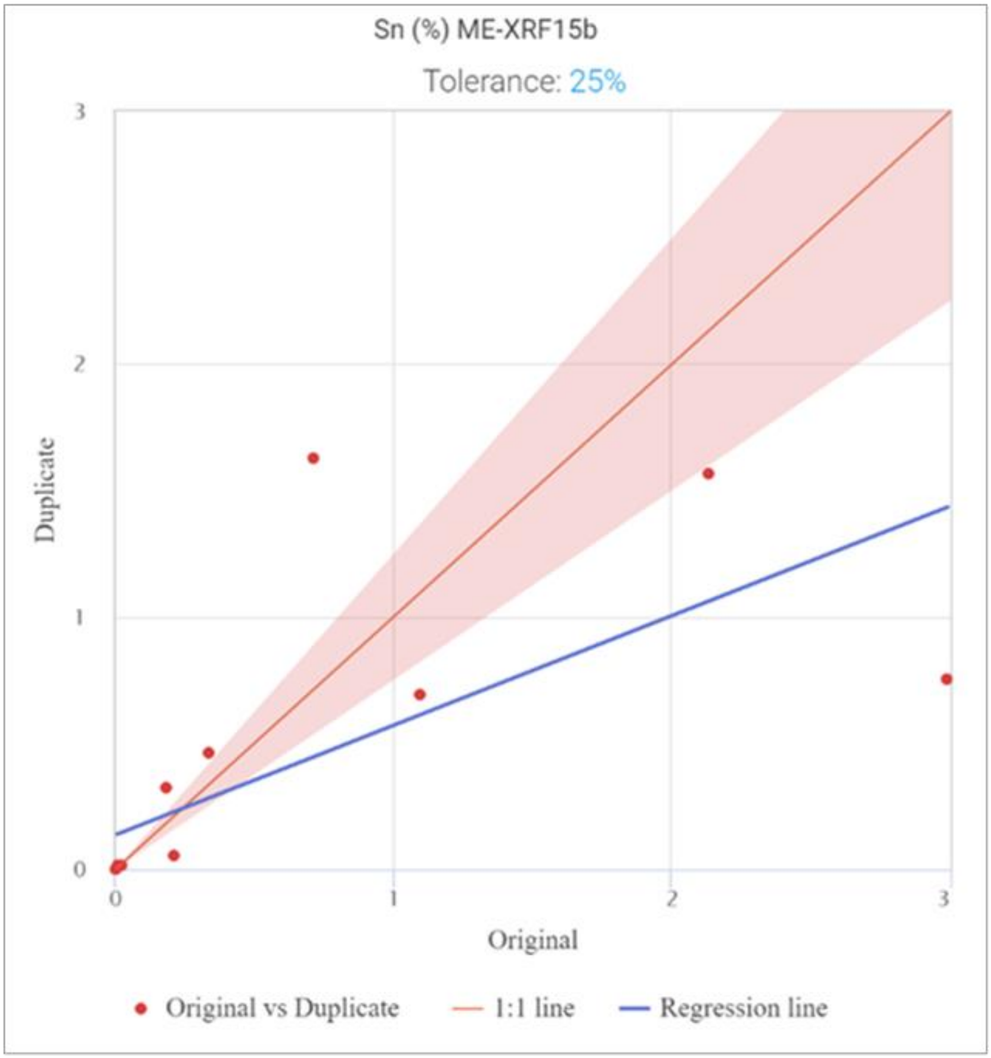
- All Sn values below ten times the detection limit of 0.005% Sn.
- All Cu values below the detection limit of 0.005% Cu.
- All Zn values below ten times the detection limit of 0.005% Zn.

Two of the blanks were placed after samples with Sn grades of 1.12% and 0.19%, both returned Sn assays of 0.005%. An anomalous value is considered above ten times the detection limit of the analytical technique.

11.5.2.3 Duplicates

Sixteen (16) twin samples were submitted during the Cornish Metals 2020 project. These were quarter-core samples corresponding to half-core original samples. Charts for Sn and Zn comparisons can be seen in Figure 11.9 and Figure 11.10. Intervals for duplicate analysis were based on estimated moderate levels of mineralization. Particularly friable sections were not selected for duplicate samples due to the difficulty in cutting an accurate quarter-core.

Figure 11.9 Scatter chart for Sn twin duplicate samples

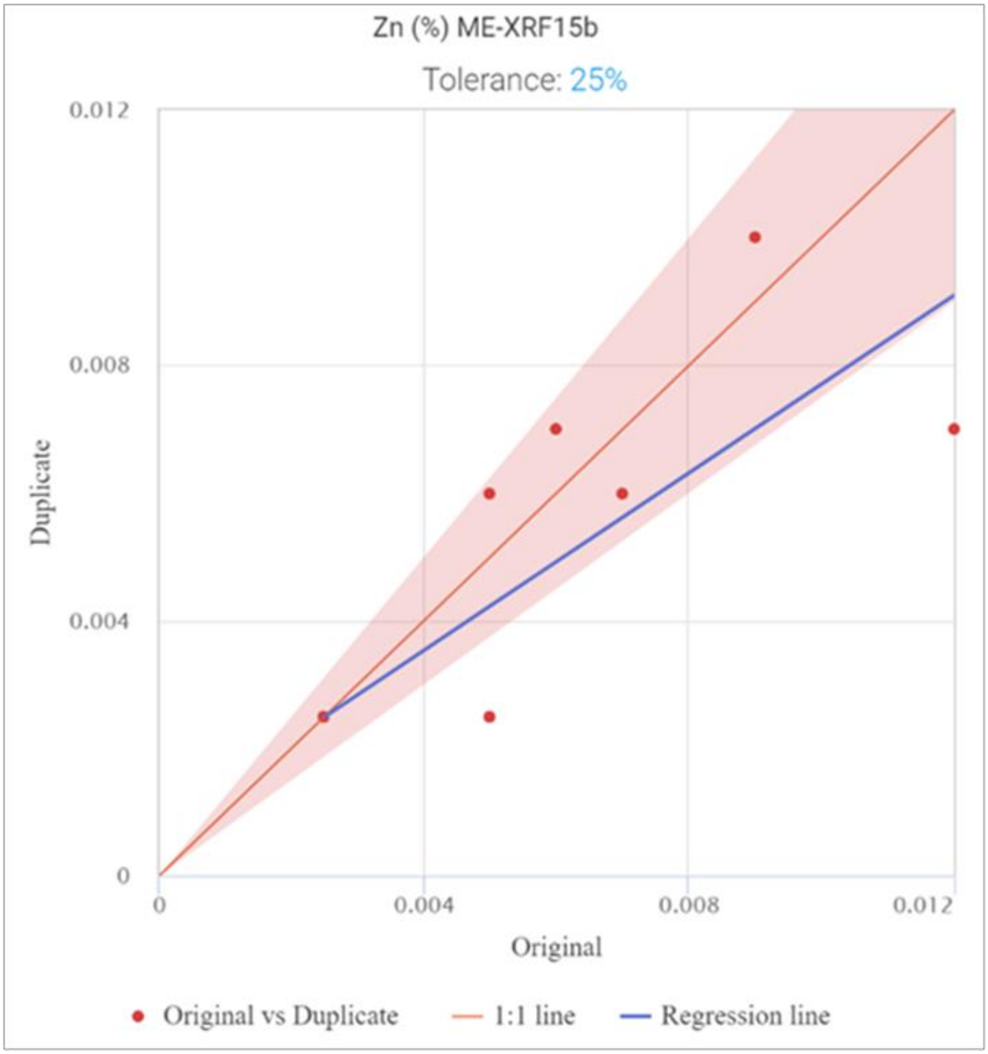


Source: Cornish Metals, 2021.

The Sn chart shows a generally poor correlation which is expected due to the heterogeneity of mineralization (relatively high nugget). Visible cassiterite distribution in the core confirms this analysis as distribution can be patchy and occur in clusters.

The Zn chart shows a better correlation although it is worth taking into account the low levels of Zn content in general.

Figure 11.10 Scatter chart for Zn twin duplicate samples



Source: Cornish Metals, 2021.

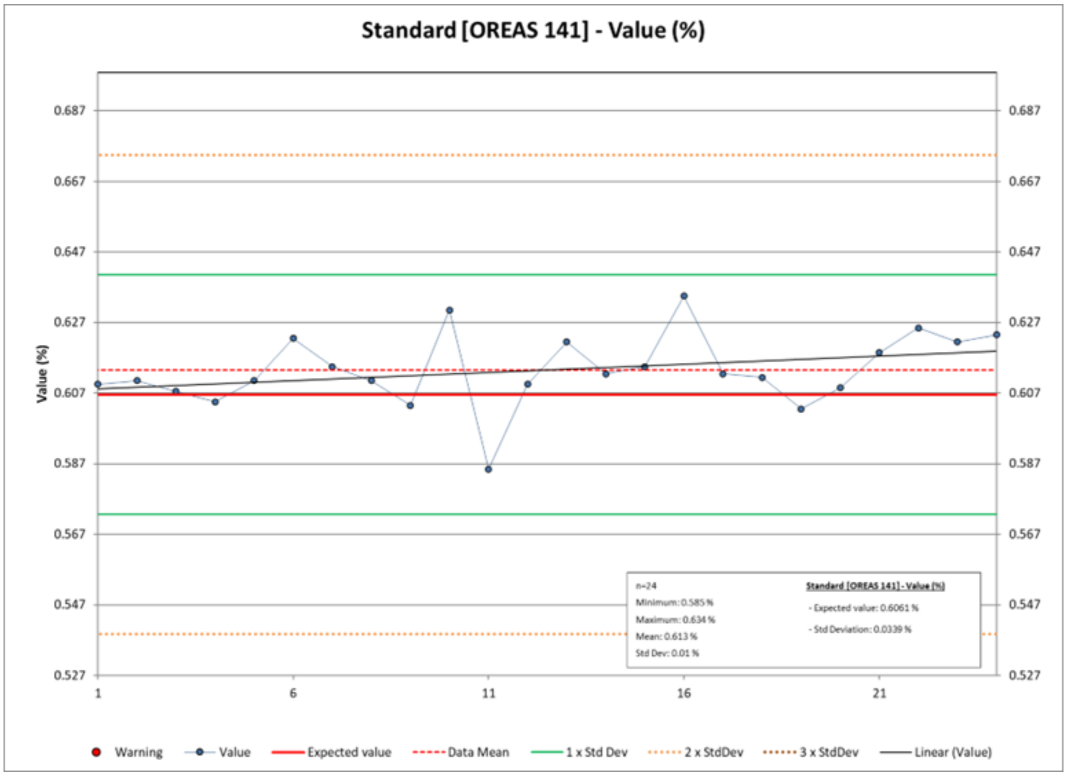
11.5.3 Cornish Metals (2022–2023)

A total of 789 samples were submitted from the Cornish Metals 2022–2023 metallurgical drilling project, including 132 QA/QC samples comprising CRMs, blank material, and quarter-core duplicates. This excludes the samples taken from the Dolcoath Zone which remain outstanding at the time of writing. CRMs and blanks were generally inserted at a rate of 1:20 samples respectively, to ensure enough QA/QC was obtained from the small batch size.

11.5.3.1 CRMs

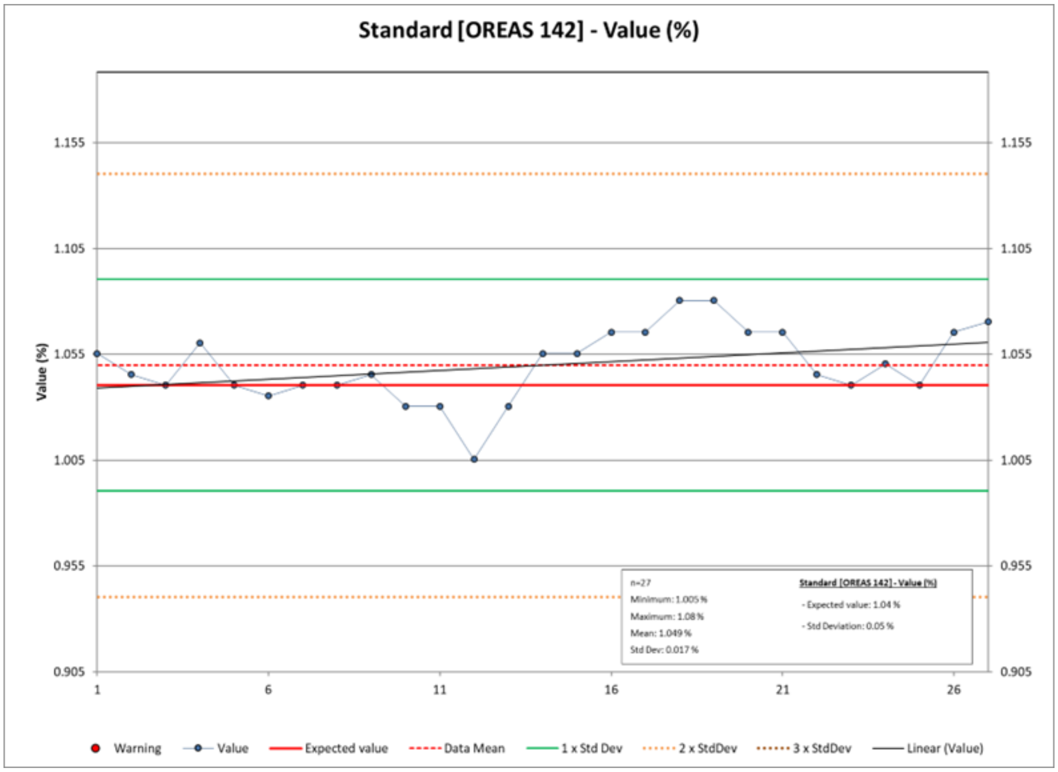
A total of 41 CRM samples were submitted during the 2022–2023 programme. These comprised a mixture of tin ores OREAS 141 and OREAS 142. No sulphide CRM was used as the mineralization at the South Crofty Lower Mine area is known to be predominately cassiterite. All CRM samples for Sn showed results falling within ± 1 standard deviation of the target value using the primary assay method ME-XRF15b (Figure 11.11 and Figure 11.12). Cu and Zn performed adequately considering they used an ICP assay technique. Zn had two samples with warnings outside 2 standard deviations namely: AA-03940 and AB-03620. Both samples were OREAS 142 (2,436 ppm) and were undermeasured (2,240 ppm and 2,270 ppm).

Figure 11.11 Sn CRM results for OREAS-141 (2022/2023)



Source: AMC, 2023.

Figure 11.12 Sn CRM results for OREAS-142 (2022/2023)

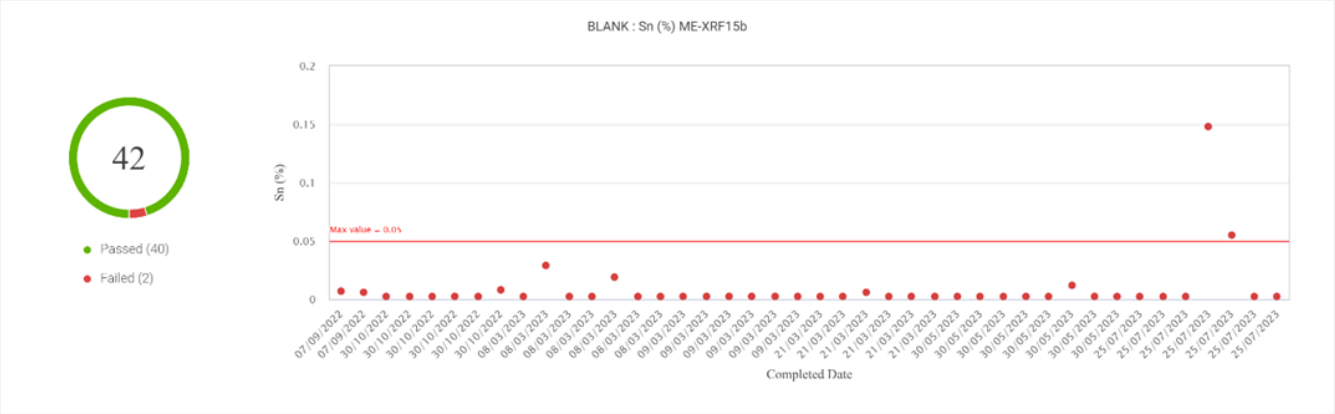


Source: AMC, 2023.

11.5.3.2 Blanks

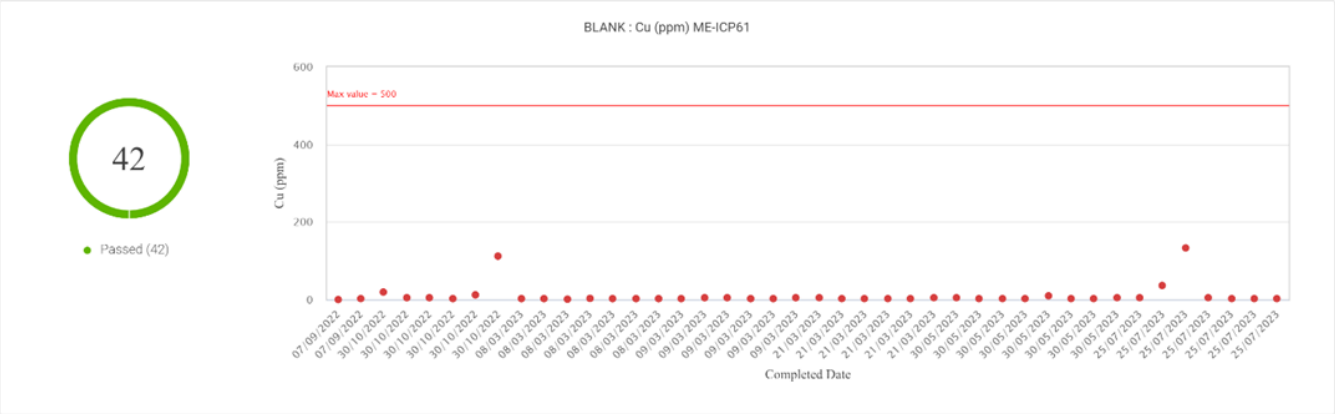
Blanks comprising 42 samples of a crushed granite aggregate from a local quarry were used during the drill programme. Analysis for Cu passed on all 42 samples (Figure 11.14) but Zn and Sn had failures (values above 500 ppm). Zn had one failure in sample AA-03885 (Figure 11.15), and Sn had two in samples AB-04650 and AB-04670 (Figure 11.13).

Figure 11.13 Sn (%) in blank material using ME-XRF15b



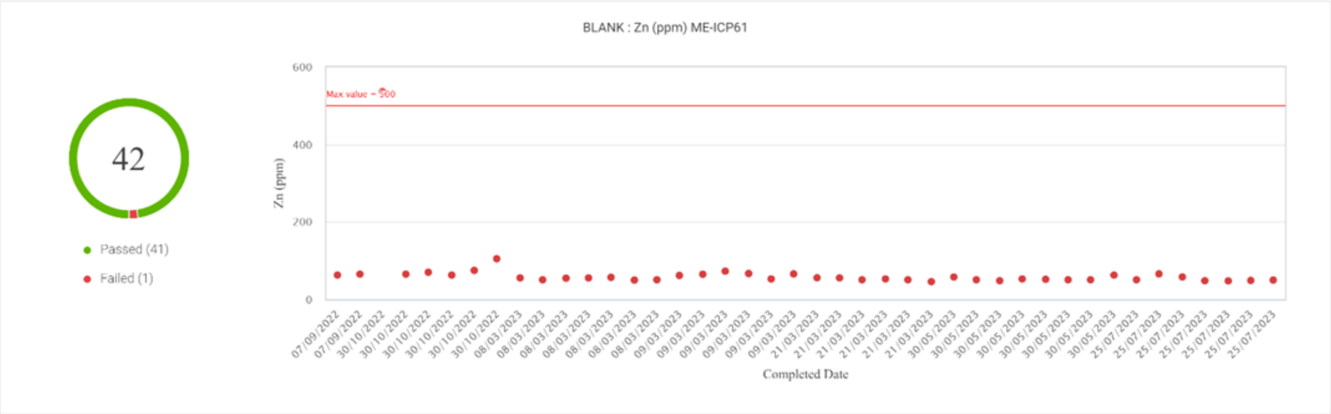
Source: Cornish Metals, 2023.

Figure 11.14 Cu (ppm) in blank material using ME-ICP61



Source: Cornish Metals, 2023.

Figure 11.15 Zn (ppm) in blank material using ME-ICP61



Source: Cornish Metals, 2023.

For the Sn failures, the blank sample followed two very high-grade samples (31.4% and 23% Sn). ALS internal procedure dictates that <1% sample carryover post-cleaning between samples, is acceptable and so does not fail ALS internal QA/QC procedures. Though they aim for 0.1% carryover. In the two blank samples above, there is no carryover above 0.6% across the pulverizing and crushing process so they deem it a successful clean. This is the first instance of failed blanks in the QA/QC programme and as such the cleaning process with ALS is currently under review.

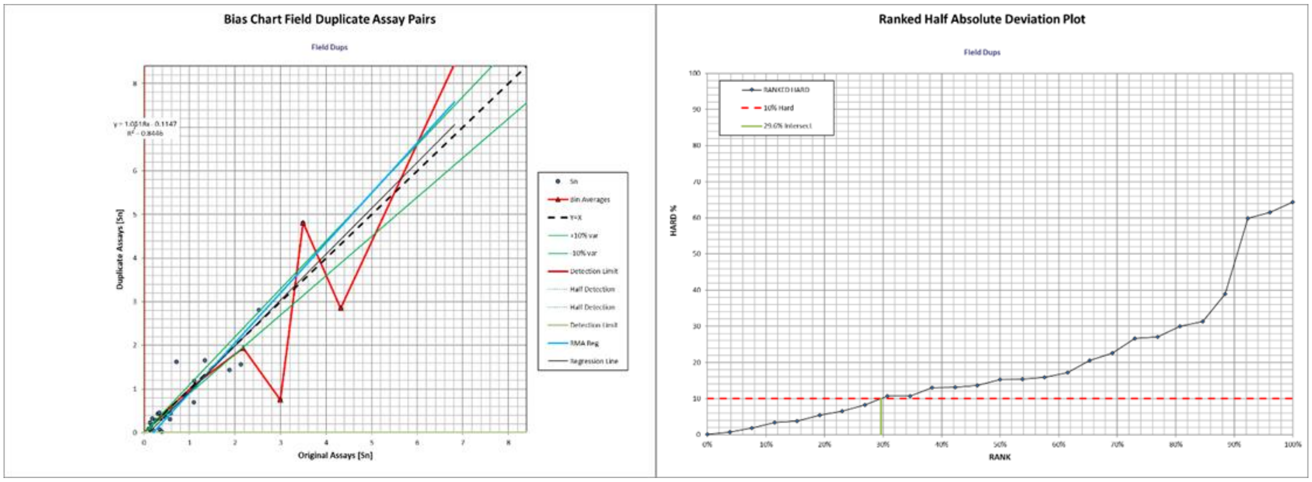
Similarly for the Zn failure, there were several high-grade zinc assays around AA-03885 that were likely pulverized in the same bowl, leading to a carryover/smearing affect into the blank material.

11.5.3.3 Field duplicates

The QP has been provided with results for 29 quarter-core duplicate samples that were taken over the duration of the metallurgical drilling programme.

Overall the field duplicates show poor precision (Figure 11.16) comparable to the field duplicate results from 2008-2013 (Section 11.5.1.7) particularly for higher grades.

Figure 11.16 Field duplicate scatter and rank HARD plot results for Sn (2023)



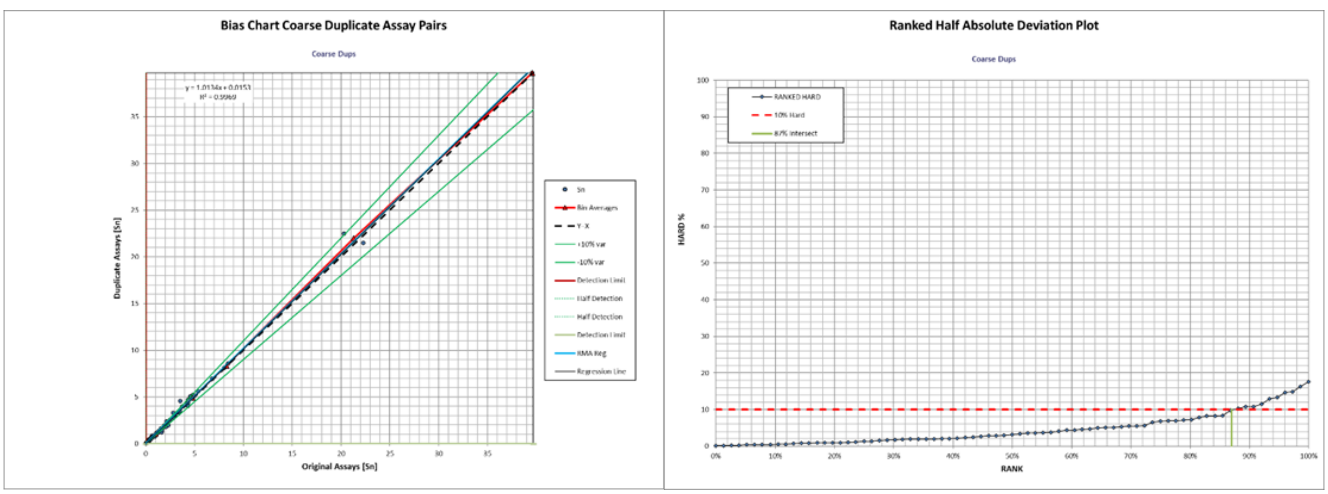
Source: AMC, 2023.

11.5.3.4 Coarse reject duplicates

Seventy-nine (79) coarse rejects were selected for duplicate analysis in order to identify the inherent variability in the mineralization. Correlation of these to the original assays was excellent, with an R2 value of 0.9969 as shown in Figure 11.17.

The 79 coarse rejects comprised material crushed splits of the sample material from the original half-core assays as well as the corresponding quarter-core field duplicates (Figure 11.16). The results indicate that at the crushing stage of sample preparation process, the sample material becomes homogenized, enabling representative splits to be obtained.

Figure 11.17 Coarse duplicate scatter and rank HARD plot results for Sn (2023)

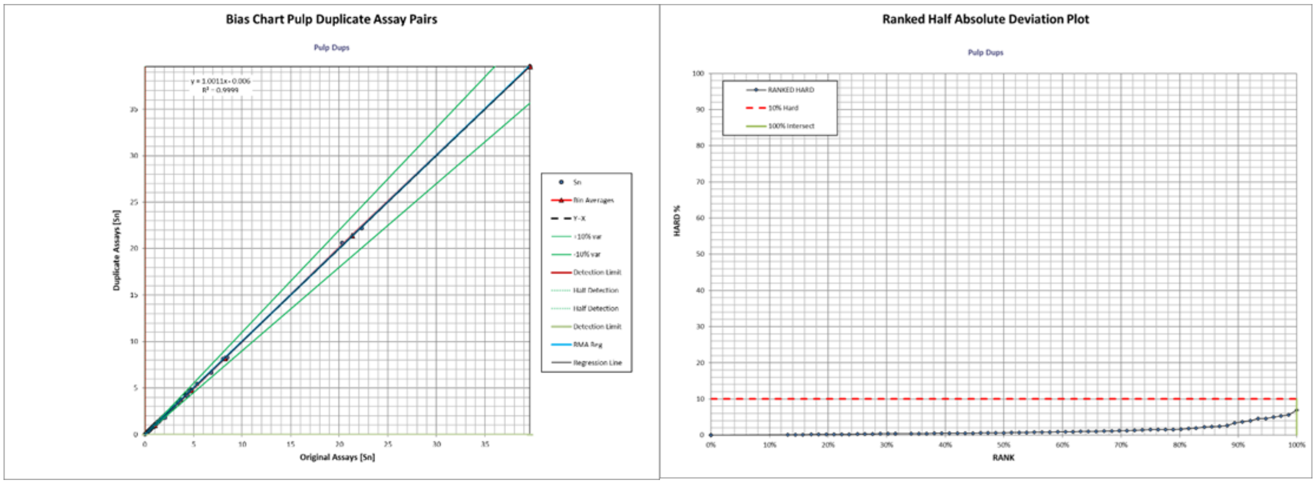


Source: AMC, 2023.

11.5.3.5 Pulp duplicates

A total of 79 sample pulps, corresponding to the same sample intervals for the coarse duplicates discussed previously (Section 11.5.3.4) were selected for analysis. The correlation of pulp duplicates was excellent, with an R2 value of 0.999 as shown in Figure 11.18.

Figure 11.18 Pulp duplicate scatter and rank HARD plot results for Sn (2023)



Source: AMC, 2023.

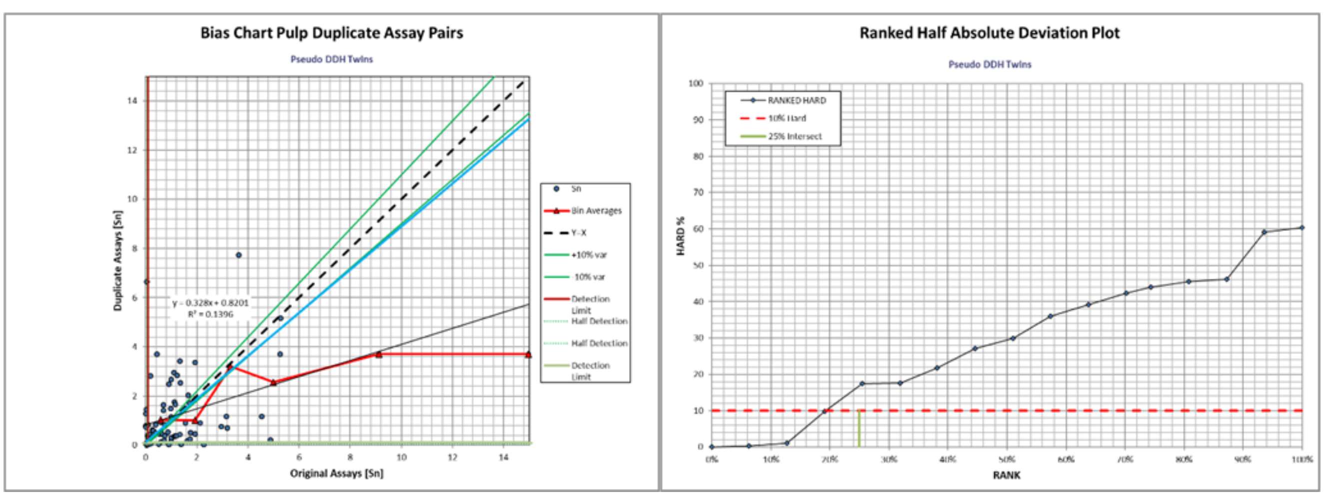
11.6 Twinning analysis (Upper and Lower Mine)

Due to a lack of QA/QC submissions for the Lower Mine the QP opted to assess grade variability at a small-scale between drillholes, and between drillholes and channel samples. Whilst no dedicated twin sampling has been reported at the Project, a pseudo-twinning approach was taken.

Initially a comparison was undertaken comparing adjacent drillholes with sample spacings of <5 m. A total of 216 sample pairs were identified with spacings of <5 m.

A scatter plot and rank HARD plot of the twinning results is shown in Figure 11.19. Based on the results there is a high variability and poor repeatability between the twinned samples. The degree of variability is greater than that achieved by the 2008–2013 field duplicates (Figure 11.5).

Figure 11.19 Pseudo drillhole-to-drillhole twinning analysis, Sn



Source: AMC, 2021.

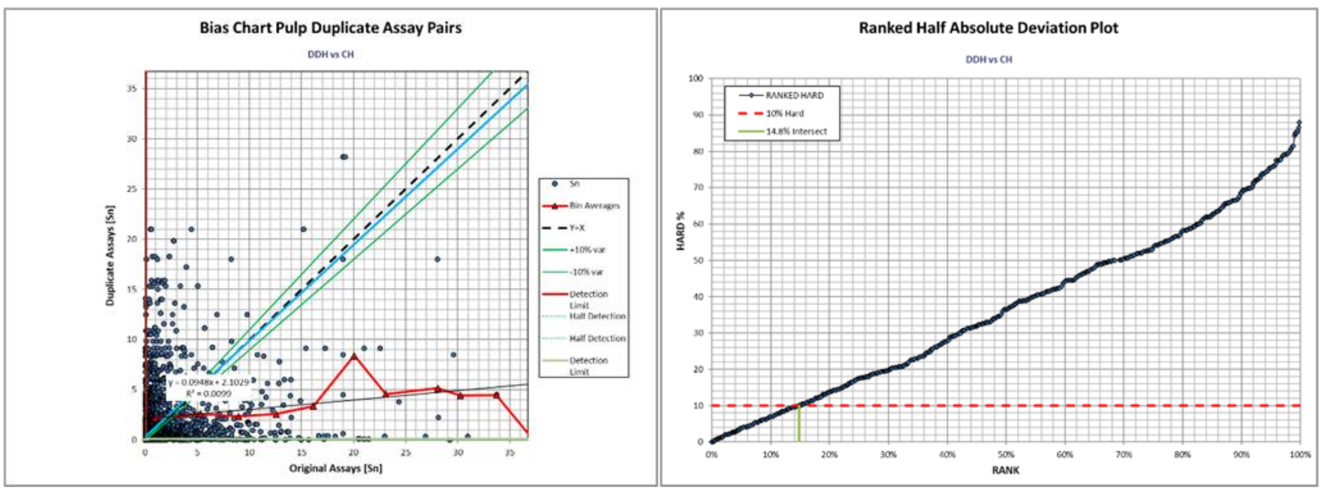
A second pseudo-twinning analysis was undertaken comparing drillholes to channel samples, with sample pairs selected on a spacing of <5 m. This comparison was undertaken to ascertain if any bias is present between the channel and drillhole sampling methods. A total of 3,474 sample pairs with a sample spacing of <5 m was identified for the analysis.

Results of the pseudo-twinning analysis are provided in Figure 11.20.

The QP has considered the poor repeatability of the pseudo-twinning in relation to the field, crushed, and pulverized sample duplicates. Taken in conjunction with one another the results indicate that there is significant small-scale variability within the deposit at both the pseudo twin hole, and field duplicate scales. Following crushing sample precision and repeatability increases significantly, with further slight improvements following pulverization. The results are comparable with other nuggety styles of mineralization (narrow-vein gold deposits, etc.) that the QP has worked on.

The QP is of the opinion that the poor repeatability of the pseudo-twinning reflects the inherent compositional and distributional heterogeneity of the mineralization rather than a sampling error. The QP therefore considers the historical sample data suitable for use in a Mineral Resource estimate.

Figure 11.20 Pseudo drillhole-to-channel twinning analysis, Sn



Source: AMC, 2021.

11.7 Conclusions

A review of the duplicate assay results for both the Upper Mine (2008–2013 drilling) and the Lower Mine (2020, and 2022–2023 drilling) show comparable results. Field duplicates show a poor level of precision which is markedly improved following the crushing and pulverization stages of sample preparation. The results indicate that mineralization is inherently nuggety and homogenization of the samples is achieved only following the crushing stage.

Based on the pseudo-twinning analysis, and the review of duplicate assay results, the QP is of the opinion that grade variability is likely a function of the inherent compositional and distributional heterogeneity of mineralization rather than a sampling issue. The pseudo twin hole results show variability that would be anticipated from a nuggety deposit with corresponding increases in precision as the sample is subjected to crushing and pulverization. The improvement in precision post-crushing is in line with the QPs experience of other nuggety styles of mineralization.

The inherent compositional and distributional heterogeneity of the mineralization is further supported by the metallurgical drilling conducted by Cornish Metals in 2022–2023. The use of directional and wedge drilling to provide clusters of drillholes intercepting the lodes, provides further examples of grade variability at a short spatial scale. Table 10.3 summarizes some of the 2022–2023 mineralized intercepts that were assayed and used in the Mineral Resource estimates. The results show that even between close-spaced holes assays can be highly variable. In lode No. 4 drillhole SDD20_001B has a composite length weighted grade of 10.33% Sn, with individual interval grades ranging from 0.178% Sn to 39.60% Sn. In contrast, drillhole SDD20_001C1 located 4 m from drillhole SDD20_001B has a grade of 0.01% Sn.

Where blank samples have been submitted for the 2008–2013 drilling works and the Cornish Metals 2020 and 2022–2023 drilling, no evidence of significant sample contamination has been identified. There are a few instances identified in 2023 which show potential low-level contamination in sample preparation of very high-grade Sn samples; however, this fits in acceptable limits for ALS internal QA/QC checks. The sample equipment cleaning procedure is currently under review by Cornish Metals.

CRM submissions for the 2008–2013 drilling and the Cornish Metals 2020 and 2022–2023 drilling show good levels of analytical accuracy.

The digitization of historical sample and survey data by Cornish Metals has been undertaken in a diligent manner with no evidence of significant transcription of digitization errors noted.

The QP has reviewed sample preparation, analysis, security protocols, and QA/QC employed at the South Crofty Project by previous and present operators. Based on this work the QP is of the opinion that the sample data is suitable for use in the Mineral Resource estimation.

12 Data verification

12.1 Introduction

The sample data used in the current Mineral Resource estimate is reliant on a significant portion of historical data obtained prior to the mine closure in 1998, and a lesser amount of sample data obtained from the 2008–2013 drilling for the Upper Mine, and drilling from 2020–2023 for the Lower Mine.

The QP has focused on verifying the exploration data available and ascertaining the support as to the validity and suitability of the data for use in a Mineral Resource estimate. The QP has therefore undertaken the following verification checks:

- Site visit.
- Review of assay certificates against the sample database.

12.2 Site visit

Site visits have been completed to the Property on 14 July 2023, and 4 February 2020 by AMC Principal Geologist, Mr Nick Szebor, MCSM, MSc, BSc, CGeol, EurGeol, FGS, to undertake the following:

- Discussions with the site geologists regarding:
  - The data digitization and verification works undertaken to digitize the sample data.
  - Review of a selection of historical documentation.
  - The availability of QA/QC data.
  - Geological setting of the Project.
  - Geological modelling and interpretation works.
  - Block modelling and grade estimation activities.
- Visit to the mine offices, mine archive, core yard, water treatment plant, and NCK shaft and headframe.
- Due to flooding of the mine workings, access to the underground development was not possible.

12.3 Core review

No core was available at the time of the site visit for correlation against assay certificates owing to the submission of the whole core for the metallurgical testwork programme. Whilst the QP was able to observe recovered drill core for drillhole TN21-001, the drillhole was awaiting logging and therefore no detailed log sheets or assays were available. Other drillholes completed at the time of the site visit as part of the 2022–2023 metallurgical drilling had already been logged and split into sample bags for submission to the laboratory for the metallurgical testwork.

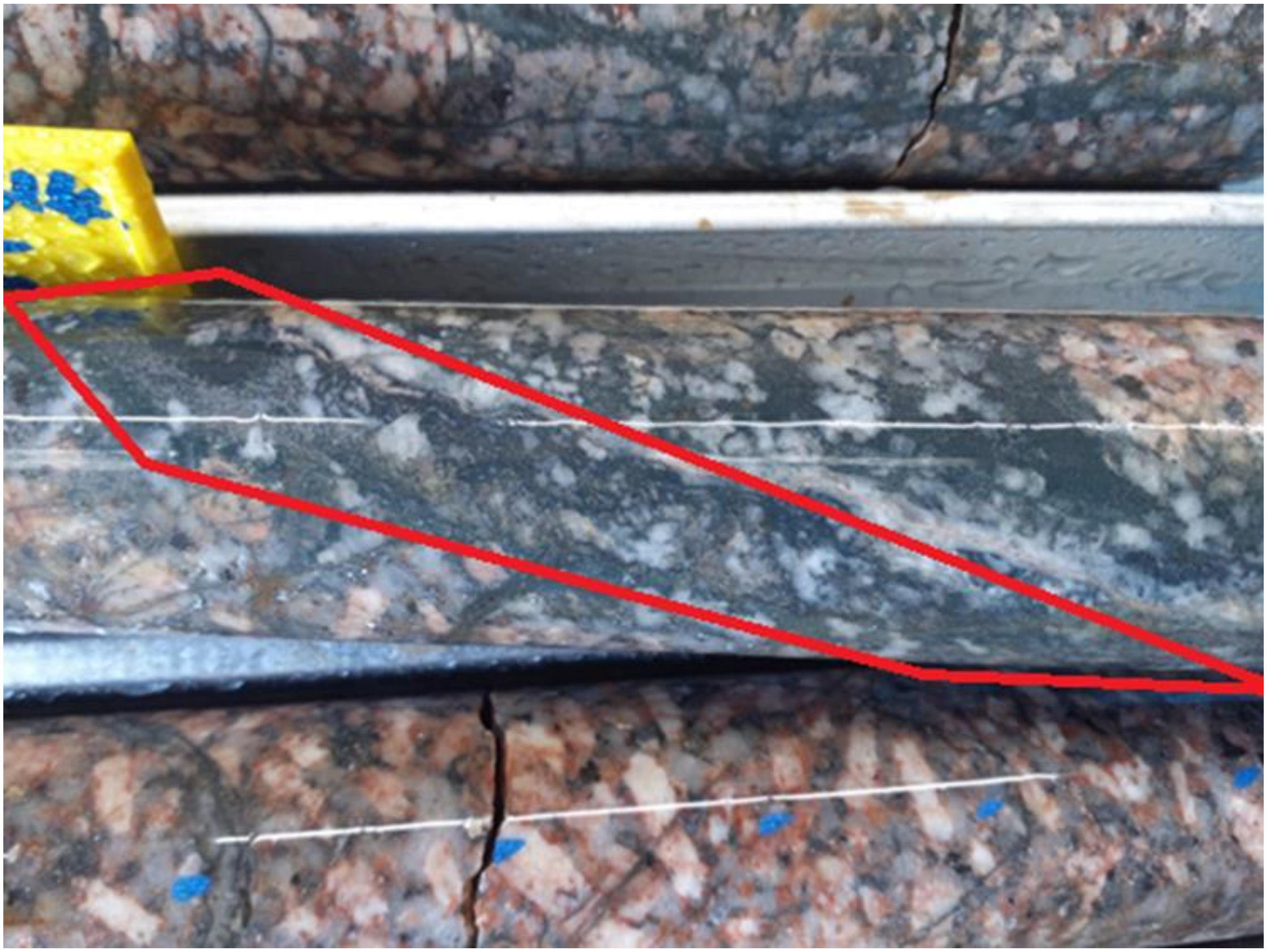
Samples bagged and awaiting shipment to the laboratories for testing comprised samples for drillholes:

- SDD23_001
- SDD22_001B1B
- SDD22_001B1B4
- SDD22_001B1B5
- SDD22_001B1B8
- DD22_001C1F.

Core photos (wet and dry) were provided to the QP for the completed 2022–2023 metallurgical drillholes. The QP has reviewed the core photos against the mineralized intercepts informing the Mineral Resource estimates, as summarized in Table 10.3.

Assay results were checked against the core photos, and for the key mineralized intercepts visible cassiterite mineralization was noted in the core photos (Figure 12.1).

Figure 12.1 Tin mineralization in drillhole SDD22_001B1B at 844.75 m



Source: Cornish Metals, 2023.

12.4 Assay certificate checks

The QP has independently completed assay certificate checks against the sample database used in the Mineral Resource estimate. Checks have been carried out on a selection of drillhole and channel samples for several lode areas.

Assay certificates for a total of 70 drillholes were compared against the sample database used in the Mineral Resource estimate. The selected drillholes included seven holes drilled between 2008 and 2013, with the remaining holes drilled prior to the mine closure in 1998. Assay certificates from the external laboratories were supplied by Cornish Metals as scanned PDF documents.

In reviewing the drillhole assay data the QP noted the following:

- Hole 85/E1, 7.7 m to 8.5 m a value of 7.95% Sn is recorded in the sample database compared to 1.95% Sn in the original assay certificates, reflecting a data transcription error.
- In holes 86E/197 and 85E/303 not all data at the end of holes has been digitized.
- Data for hole 86E/168 has been entered twice for both hole 86E/168 and hole 86E/169.
- Hole 86E/17a is missing a value for the interval 28.9 m to 29.6 m (0.06% Sn).
- Some inconsistent use of 0.01% Sn and 0% Sn to denote assays below detection limits.

For the channel sample assays the QP was supplied with scanned copies of the mine ledgers. The mine ledgers comprise level plans of the mine development, showing the spatial position of each channel sample. The ledgers also record the tin assay grade and the channel length. Ledgers for those channel samples assayed using the vanning method record the assay results in SnO_2 lbs/ton, and the channel length in feet (Figure 12.2). Ledgers recording assays using the XRF method disclose assays in Sn% and channel lengths in metres (Figure 12.3).

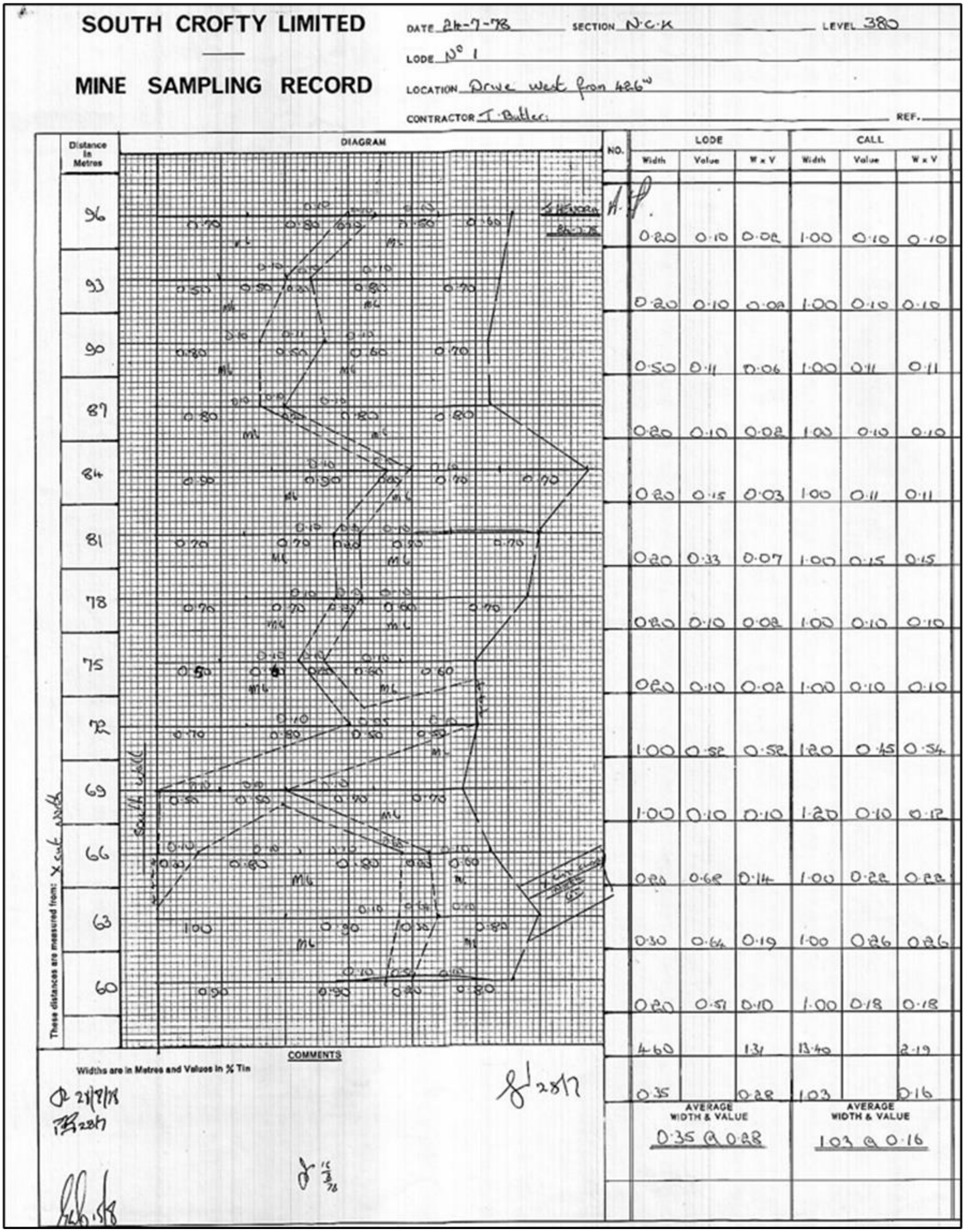
The QP reviewed a total of 416 channel sample assays from the original mine ledgers against the sample database for lodes No. 1 & 2, No.3, and Main, Intermediate, North and Great. Each ledger clearly states the lode and level where the channel samples are situated. The QP spatially located the channel samples in Datamine Studio RM, and correlated the position to that shown in the ledgers. Each channel sample assay and channel length in the ledgers was then compared against the records within the sample database. For those ledgers containing vanning assay results the QP carried out a conversion of SnO_2 lbs/ton to Sn%, as well as conversion of sample length from feet to metres.

A total of 99% of the ledger results checked correspond to the channel sample intervals recorded in the sample database used in the Mineral Resource estimates. The QP notes the following:

- Main lode (Main, Intermediate, North and Great lode area), channel sample M/CH/195/354W, interval 0 m–0.4 m, appears to be from a different lode or sub load relative to samples further along-strike.
- Main lode (Main, Intermediate, North and Great lode area), channel sample M/CH/290/390W, interval 2.3 m–2.8 m, recorded as trace value but database shows a grade of 0.5% Sn.
- Lode 2E (No. 1 and No. 2 lode area), channel sample 2/CH/290/306.5E, interval 1.16 m–1.52 m, database records an assay of 0.59% Sn but ledger shows it should be 0.39% Sn.
- WET lode (No. 1 and No. 2 lode area): One interval illegible in the ledger.

A summary of the ledger review for the Lower Mine is provided in Table 12.1.

Figure 12.2 Example channel sample ledger for vanning assays, No.1 lode, Level 380



SOUTH CROFTY LIMITED

MINE SAMPLING RECORD

DATE 24-7-78 SECTION N.C.K LEVEL 380

LODE No 1

LOCATION Drive west from 426W

CONTRACTOR T. Butler REF.

Distance in Metres	DIAGRAM	NO.	LODE Width	LODE Value	LODE W x V	CALL Width	CALL Value	CALL W x V
96			0.20	0.10	0.02	1.00	0.10	0.10
93			0.20	0.10	0.02	1.00	0.10	0.10
90			0.50	0.11	0.06	1.00	0.11	0.11
87			0.20	0.10	0.02	1.00	0.10	0.10
84			0.20	0.15	0.03	1.00	0.11	0.11
81			0.20	0.33	0.07	1.00	0.15	0.15
78			0.20	0.10	0.02	1.00	0.10	0.10
75			0.20	0.10	0.02	1.00	0.10	0.10
72			1.00	0.52	0.52	1.20	0.45	0.54
69			1.00	0.10	0.10	1.20	0.10	0.12
66			0.20	0.62	0.14	1.00	0.22	0.22
63			0.30	0.64	0.19	1.00	0.26	0.26
60			0.20	0.51	0.10	1.00	0.18	0.18
			4.60		1.31	13.40		2.19
			0.35		0.28	1.03		0.16

AVERAGE WIDTH & VALUE: 0.35 @ 0.28 (Lode); 1.03 @ 0.16 (Call)

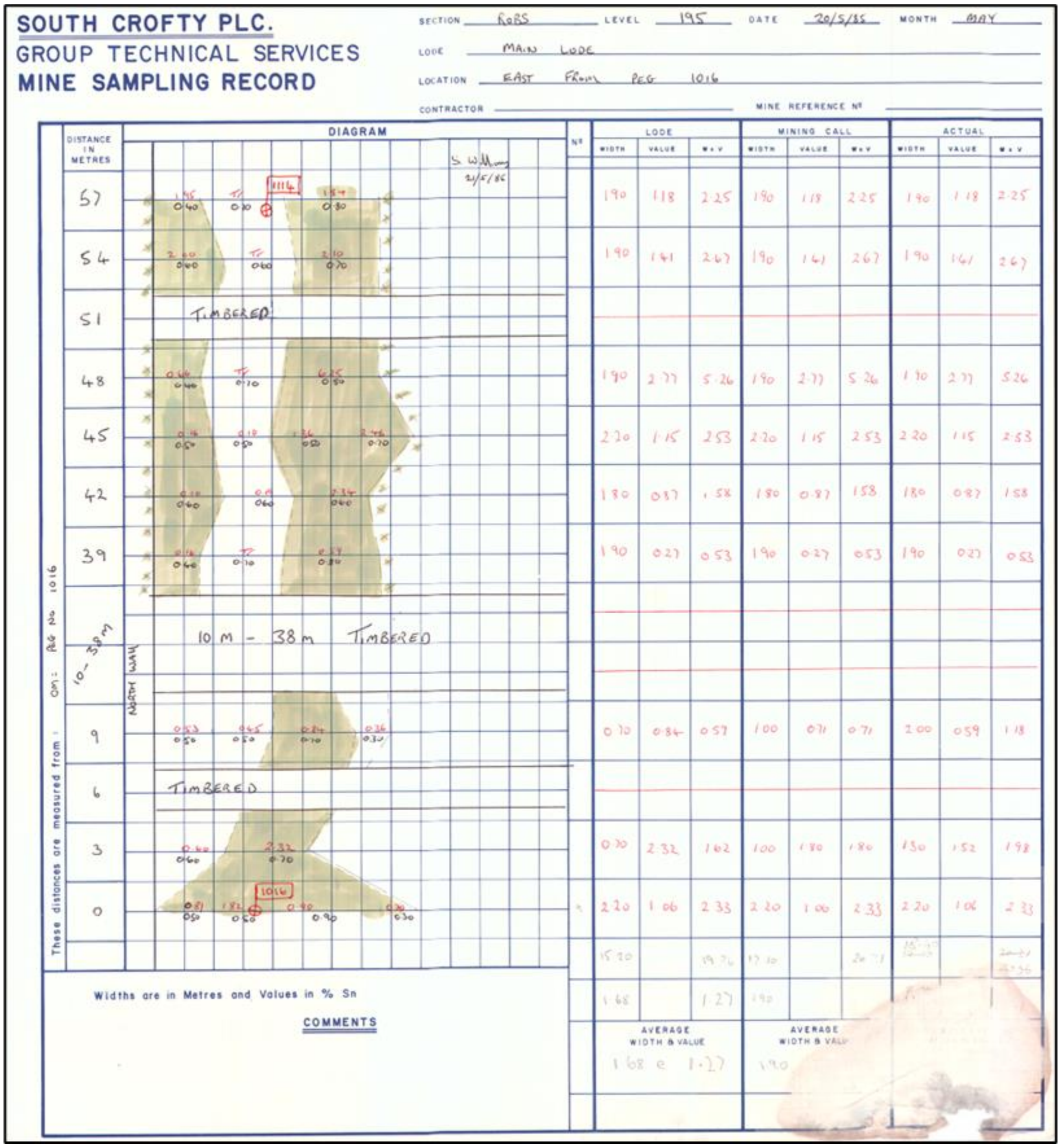
These distances are measured from: X cut west

Widths are in Metres and Values in % Tin

COMMENTS

Source: South Crofty Ltd., 1978.

Figure 12.3 Example channel sample ledger for XRF assays, Main lode, Level 195



SOUTH CROFTY PLC.
GROUP TECHNICAL SERVICES
MINE SAMPLING RECORD

SECTION: RoBS LEVEL: 195 DATE: 20/5/85 MONTH: MAY
LODE: MAIN LODE
LOCATION: EAST FROM PEG 1016
CONTRACTOR:
MINE REFERENCE Nº:

Distance in metres	Diagram	Lode Width	Lode Value	Lode W x V	Mining Call Width	Mining Call Value	Mining Call W x V	Actual Width	Actual Value	Actual W x V
57		1.90	1.18	2.25	1.90	1.18	2.25	1.90	1.18	2.25
54		1.90	1.41	2.67	1.90	1.41	2.67	1.90	1.41	2.67
51	TIMBERED									
48		1.90	2.77	5.26	1.90	2.77	5.26	1.90	2.77	5.26
45		2.20	1.15	2.53	2.20	1.15	2.53	2.20	1.15	2.53
42		1.80	0.87	1.58	1.80	0.87	1.58	1.80	0.87	1.58
39		1.90	0.27	0.53	1.90	0.27	0.53	1.90	0.27	0.53
10–38 m	10 m – 38 m TIMBERED									
9		0.70	0.84	0.57	1.00	0.71	0.71	2.00	0.59	1.18
6	TIMBERED									
3		0.70	2.32	1.62	1.00	1.80	1.80	1.30	1.52	1.98
0		2.20	1.06	2.33	2.20	1.06	2.33	2.20	1.06	2.33

These distances are measured from: PEG No 1016

Widths are in Metres and Values in % Sn

COMMENTS

AVERAGE WIDTH & VALUE: 1.68 @ 1.27

Source: South Crofty Plc, 1985.

During the ledgers review the QP identified that in some areas a number of channels samples have not been incorporated into the sample database. In discussion, with Cornish Metals, the QP has been advised that this is due to the extensive number of historical channel samples, with Cornish Metals choosing to focus on digitizing the principal structures making up the lodes. The omitted channel samples do not appear to show bias, with no preferential treatment of high- or low-grade samples.

Given some of the small-scale complexity of the lodes, including splays in the mineralized structures, the QP recommends further work be undertaken to incorporate more of the channel samples into the Mineral Resource database.

Overall, the QP is of the opinion that the discrepancies noted above would not have a material impact on the Mineral Resource estimate. The sample database is a fair representation of the original assay certificates and ledgers and is suitable for use in the Mineral Resource.

Table 12.1 Lower Mine assay ledger review summary

Lode Area	Lode	Total Samples	# Samples selected for verification	Assays confirmed[f]	Errors noted[g]	Ledger error[h]	% Samples verified
No. 1 & 2	No. 1	1,485	95	95	0	0	6
	No. 2	1,812	67	67	0	0	4
	No. 2e	378	15	14	1	0	4
	WET	722	76	75	0	1	11
No. 3	No. 3	2,603	98	98	1	1	4
Main, Intermediate, North and Great	Main	1,284	19	17	2	0	2
	Intermediate	333	15	15	0	0	9

Notes:

f Assay results match certificate ignoring minor rounding and truncation discrepancies.

g Assay value does not match ledger.

h Ledger reference illegible or number in the database incorrect.

12.5 Database checks

12.5.1 Cornish Metals database checks

The South Crofty pre-closure database has been subject to audit and data validation between the digital database and the original sample logs by Cornish Metals personnel. Locations have been checked for the conversion from mine grid to national grid and sample azimuths and dips checked against original logs and the mine plans. Geological logs were verified to ensure that the geological log and location of the sample corresponded with the interpretation of the geology in that area.

No direct verification of assays can be carried out as all original sample material has been destroyed or lost through the previous operations. Support for the veracity of the sample data, and the estimates on which they are based is provided by the mine production records and monthly reports.

The QP has reviewed the process of data compilation and checking undertaken by Cornish Metals and is of the opinion that the work has been undertaken in a diligent manner.

12.5.2 Mine grid

During operation, the mine operated on a mine grid system. This grid was centered on the collar of Robinsons shaft at the point 166676.611E. 41444.630N. All elevations in the mine are based on mine datum. This is 2,000 m below Ordnance Datum Liverpool.

Since the 1980s all surveys were converted from the mine grid system to the Ordnance Survey National Grid. Cornish Metals has digitized the level plans, sections, and sample locations in the Ordnance Survey National Grid and mine datum elevations, which have been referenced using the original survey peg locations.

Extensive survey records have been maintained throughout the Mine's history, including the original surveyors calculation books, and a digital survey database which was generated in the 1980s–1990s. To ensure the integrity of the surveys at the time, computations were reviewed and verified by another member of the survey team.

Under the UK Mines and Quarries Act 1954 and the Mines Regulations 2014, the mine operator must ensure that there are accurate plans of the workings in the mine (whether abandoned or not), and accurate sections of the veins. The Mines and Quarries Act provides strict guidance regarding the accuracy of the survey information and the safe storage and retention of information.

The QP has visited the Cornish Metals archive and notes the secure storage of the survey, assays, and associated information as part of the statutory requirements under the UK Mines and Quarries Act 1954 and the Mines Regulations 2014.

Due to the current flooding of mine workings, access to conduct additional surveys is not possible. To provide support to the veracity of the surveys, Cornish Metals has undertaken its own review of the computation books and surveys.

Further support is provided from the parent hole and two daughter holes drilled by Cornish Metals in 2020, and the more recent 2022–2023 metallurgical drilling. To prevent the holes collapsing or drill rods getting stuck it was imperative that the planned holes did not intercept any of the extensive historical workings. Based on the digitized surveys, Cornish Metals planned the holes to trace between workings to intercept lodes at depth. The holes successfully avoided key mine workings and intercepted lodes where expected. The success of this drilling was heavily reliant on the accuracy and validity of the mine surveys and provides indirect support to the accuracy of surveys.

The QP is of the opinion that whilst access to independently check the mine surveys is not currently possible, the extensive mine survey records provide a clear audit trail. The checks undertaken by Cornish Metals on the computation books and the digitization of data is reasonable and robust and is suitable for use in a Mineral Resource estimate.

12.6 Conclusions

In the QP’s opinion the data is adequate for the purposes used in this Technical Report.

13 Mineral processing and metallurgical testing

13.1 Historical processing

The South Crofty Mine has had an extensive operation history prior to its closure in 1998, historical mill records support that the mineralization is recoverable through the adoption of a suitable milling and processing route.

Processing of mineralization from South Crofty prior to 1988 was undertaken at the South Crofty mill located on the mine site. From 1988 until the mine closure in 1998, ore was transported and processed at the Wheal Jane process plant, at Baldhu near Truro.

Processing of ore at the South Crofty mill produced two gravity concentrates from an initial head grade of 0.84% Sn:

- Low-grade concentrate grading 26% Sn.
- High-grade concentrate grading 47% Sn.

Overall tin recovery for the South Crofty mill was reported at 73%.

Improved recoveries have been reported for ore processed at the Wheal Jane mill where both gravity and flotation processes permitted recovery of fine Sn particles that would have been lost to tailings in a gravity-only circuit. For production in 1997 an average recovery of 88.5% was reported from a head grade of 1.40% Sn. Gravity and flotation concentrates were produced with a combined recovered grade averaging 58% Sn. This recovery may not be attainable from Upper Mine material which carries significantly lower Sn grade (0.65% versus 1.4%).

Given the challenges faced by the mining operation in 1997 ahead of its closure in 1998, there is the potential that mineralization mined in 1997 represented higher-grade areas that may not be representative of the remaining Mineral Resources to be mined, which could result in recoveries lower than the 88.5% figure reported in 1997 from the Wheal Jane mill.

Production data includes records for ore mined and processed from the Lower Mine, supporting the proposition that this material can be processed, and the minerals economically recovered. No deleterious elements of significance have been observed in any of the past metallurgical testwork or production records.

13.2 Cornish Metals studies

As of the effective date of this Technical Report, 14 September 2023, no metallurgical testwork has been completed by Cornish Metals.

In 2022, Cornish Metals engaged Wardell Armstrong International (WAI), an independent consultancy providing range of minerals-related testing services, to test samples and provide data in support of the South Crofty Project. This testwork is currently ongoing.

Five samples (over 100 kg per sample totalling 1,162 kg) comprised of cut diamond-drill core have been obtained and will be tested by WAI. The samples represent five of the main tin production lodes of the Lower Mine as follows:

- Dolcoath
- No 4
- No 8
- Roskear
- North Pool.

WAI will also conduct pre-concentration testing, bulk shaking table testwork, deslime and tin flotation, and tin dressing of primary and secondary bulk gravity concentrates.

Samples for the current metallurgical programme have been limited to those obtained from surface drilling of the down-dip extents of known lodes. As the mine dewatering progresses further, metallurgical sampling and variability testwork should be completed on the upper parts of the mine and lodes not currently covered by the ongoing metallurgical testing.

Upon completion of the current WAI testwork programme the results should be reviewed and consideration given to the potential recoveries and any impact to the reported Mineral Resources.

14 Mineral Resource estimates

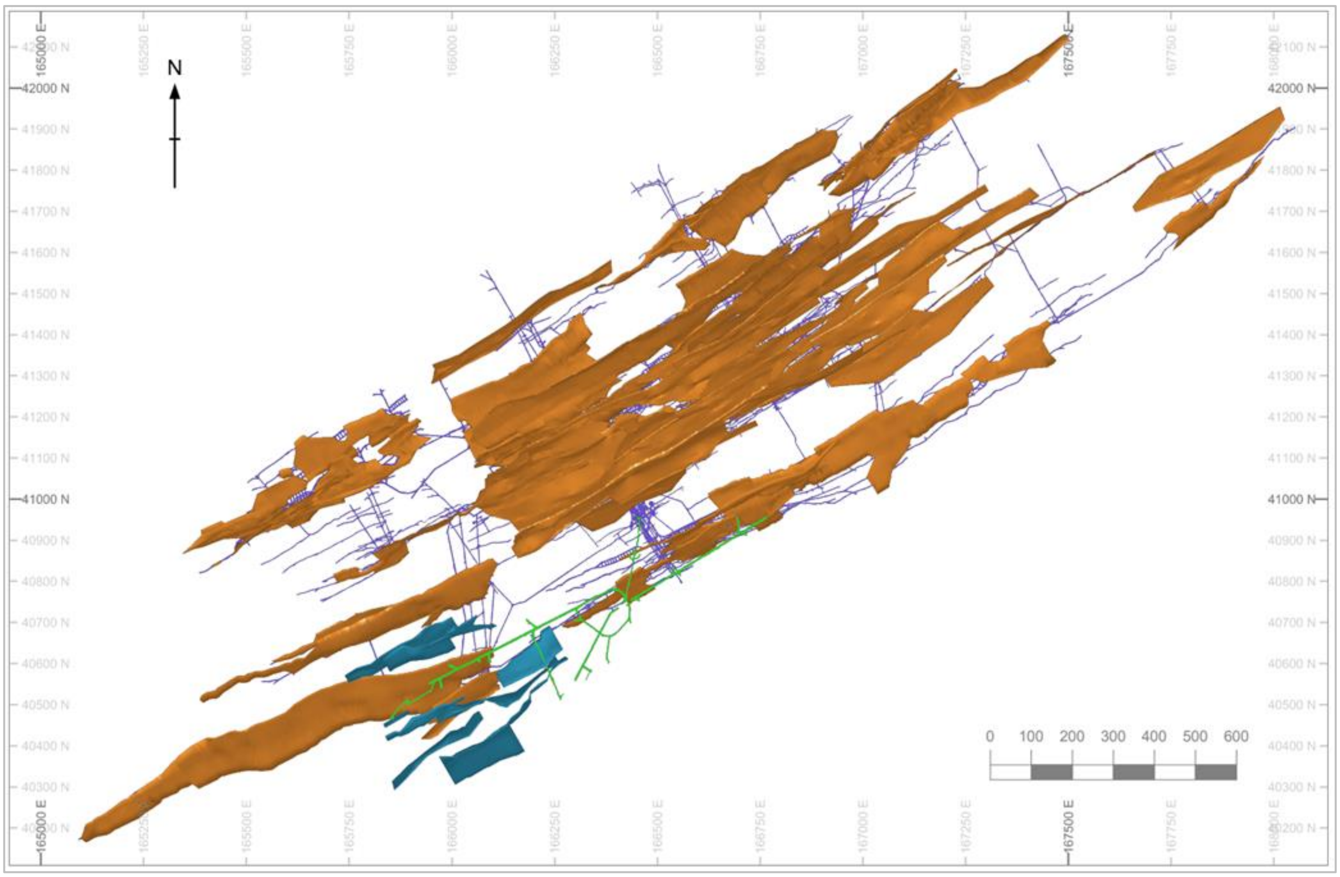
14.1 Introduction

This Technical Report encompasses the updated Mineral Resources for the South Crofty deposit. The deposit can be split into the Upper Mine area and the Lower Mine area with the split based on host lithology along with vein continuity and mineralogy. The use of the term mine area reflects the previous history of mining within the deposit, and does not denote any current mining activity. The Upper Mine area (Upper Mine) consists of polymetallic Cu-Sn-Zn veins hosted in metasediments including one vein, Dolcoath Middle, which extends from the metasediments down into the granite. The Lower Mine area (Lower Mine) consists of tin-only mineralized veins hosted in granite.

Figure 14.1 and Figure 14.2 illustrate the split between the Upper Mine and Lower Mine areas.

The Upper Mine was originally estimated by P&E on 26 February 2016 (Puritch et al., 2016). No material changes have occurred in the Upper Mine since that date. The QP has subsequently reviewed the P&E Mineral Resource estimate and takes responsibility for the Upper Mine Mineral Resources declared within this Technical Report. The Mineral Resources have been restated using a recalculated tin equivalent grade utilizing more recent metal prices.

Figure 14.1 Plan view of the estimated South Crofty Project lodes

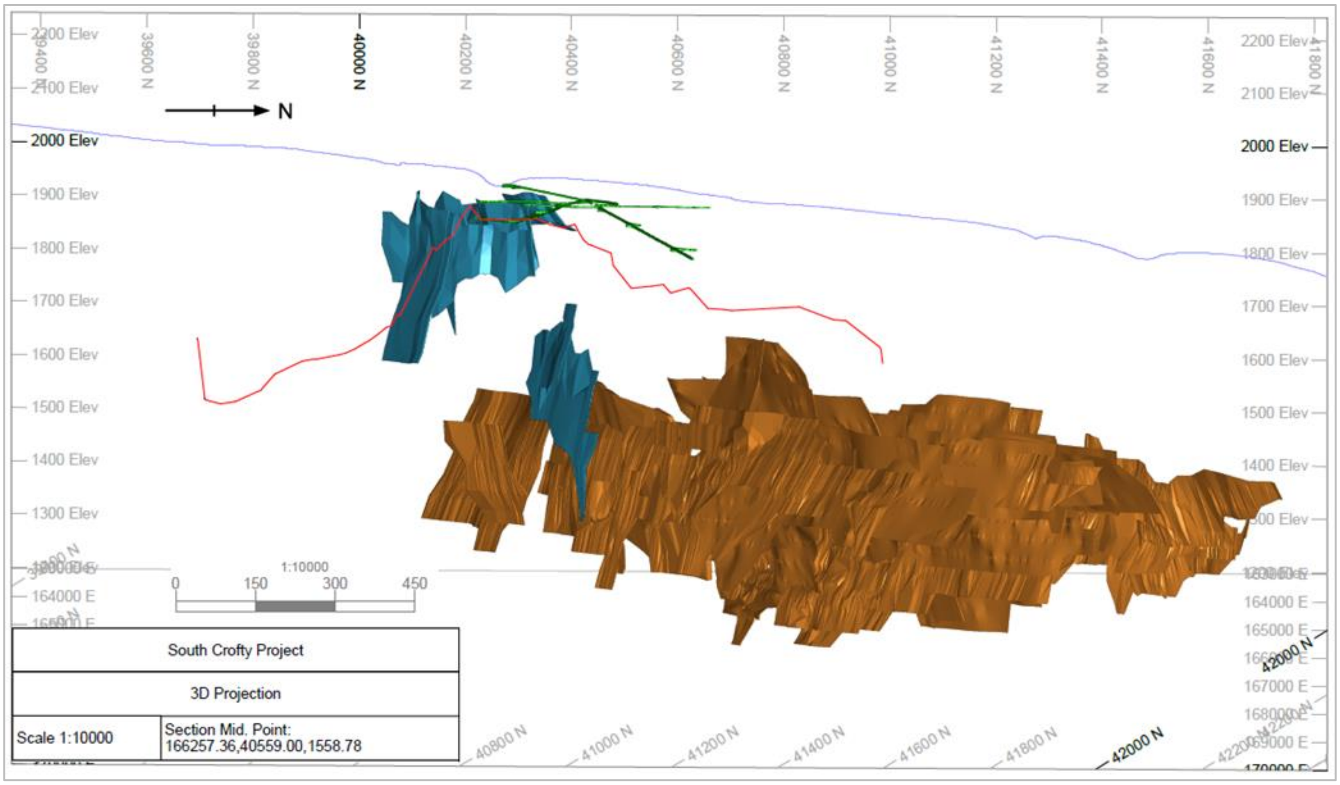


Source: Cornish Metals, 2023.

Notes: Lower Mine lodes (orange), Upper Mine lodes (turquoise), mine development (purple), and the surface decline (green).

Cornish Metals undertook a Mineral Resource estimate on many of the main tin lodes in the Lower Mine at South Crofty in 2021. Since then, it has undertaken to build on that estimate by modelling and estimating the remaining principal lodes in the Lower Mine. This model has been reviewed by the QP who takes responsibility for the estimate. The significant new additions include No. 1 zone, parts of No. 2 zone, No. 3 zone and the Main, Intermediate, North and Great lode areas which are highlighted in Figure 14.3. The recent work has included updating and validating the database in these areas and creating new 3D wireframes which have been created in line with the original mine geologists' interpretations.

Figure 14.2 3D view of the South Crofty Project lodes looking north-east



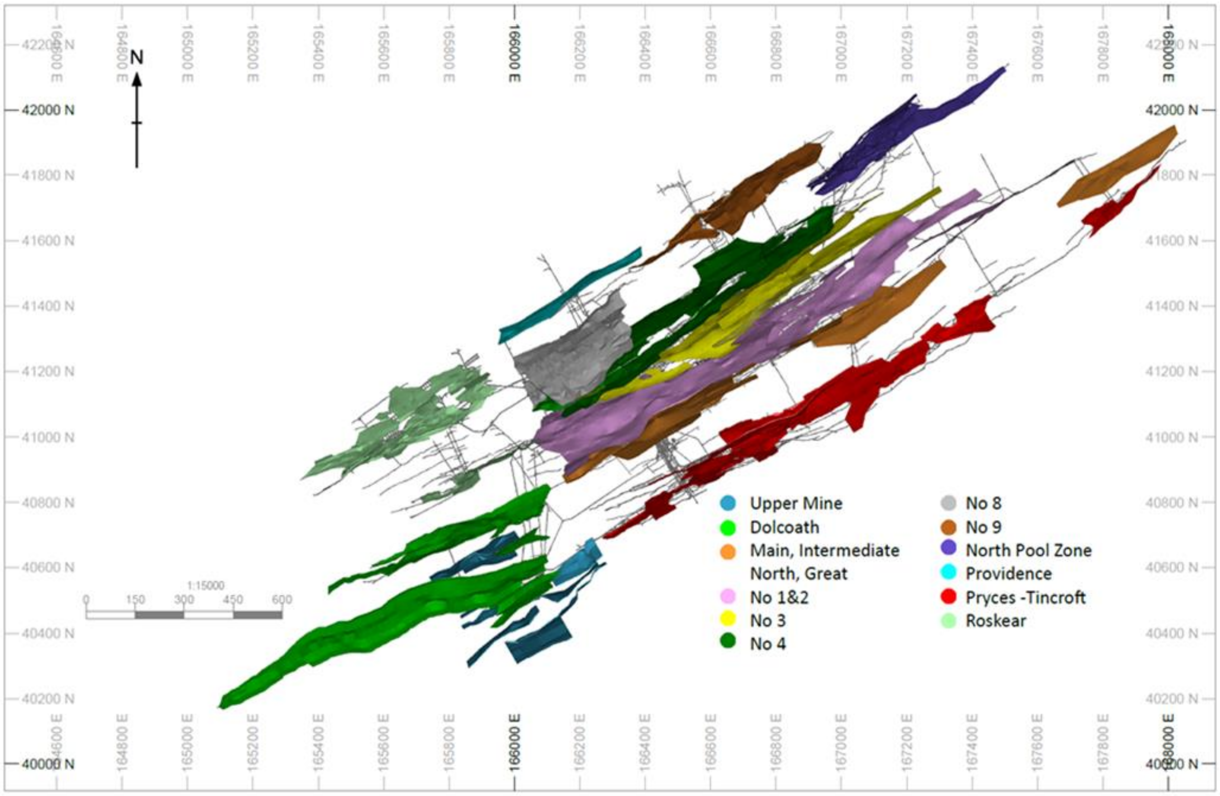
Source: AMC, 2023.

Notes: Lower Mine lodes (orange), Upper Mine lodes (turquoise), surface decline (green), intersection of the granite contact (red), and intersection of topography (purple).

The present Lower Mine lode model now comprises the majority of the lodes that were estimated in the 1998 closure resource for South Crofty, consequently only minor or insignificant lodes remain to be modelled.

Estimation techniques vary between the Upper Mine and Lower Mine and therefore the estimation methodology and findings for both areas are presented in separate sections.

Figure 14.3 Location of modelled Mineral Resource lodes



Source: AMC, 2023.
Notes: Development (grey).

14.2 Upper Mine Mineral Resource estimate

14.2.1 Source of data

Drillhole and channel sampling data was provided to P&E in digital format (Access™ and Excel™) by WUM personnel in 2014. The sample data supplied to P&E comprised two databases. The first database contained the 2008–2013 drilling, historical exploration diamond drillholes, and some channel samples. The second database comprised historical channel samples with some historical drilling data.

During the review of the databases, P&E noted some duplication of sample data, comprising resampled channels which included wall sampling in contrast to the earlier sample data which was for the lode only. P&E subsequently cleaned up the databases, retaining the most appropriate data.

14.2.2 Data validation

P&E used GEMS for modelling. Sample data was imported into GEMS and validated to check for:

- Intervals exceeding the hole length (from-to problem).
- Negative or zero length intervals (from-to problem).
- Inconsistent downhole survey records or lack of zero depth entry at collar as needed by GEMS.
- Duplicate samples or out of sequence and overlapping intervals (from-to problem; additional sampling/check sampling included in the database).
- No interval defined within analysed sequences (not sampled or implicit missing samples/results).

P&E validation included checks for:

- Inconsistent naming conventions and analytical units.
- Transposed assay table columns.
- Erroneous drillhole collar locations.
- Erroneous drillhole traces on screen in 3D.
- Drillhole deviation checks by software or Excel™ graphs.

The P&E validation checks noted 53 discrepancies between laboratory certificates and the assay database. Most of these were found to be incorrectly entered QA/QC results. P&E subsequently rectified the discrepancies in the sample database.

Historical channel samples had been digitized from the mine plans by WUM and supplied to P&E. The channel coordinates were georeferenced digitally from the scanned mine plans with elevation of these channels taken as being a standard 1.5 m above the drive floor. For channels lacking survey plans or those that were partially sampled wall to wall, the starting points have been taken from the log's distances from survey plugs or identifiable workings features, such as crosscuts, and the origin was set at the drive south wall.

Face samples are included in the database with P&E noting that the majority are in fact back-channels. This results in a minor spatial displacement of the channels with respect to their actual locations. The impact of this spatial deviation is negligible and does not materially impact the Mineral Resource estimate.

During the work undertaken by P&E in 2016 some data inconsistencies relating to the digitized channel samples were noted, including:

- Coordinate errors.
- Excessive sample lengths.
- Duplicate records from resampling.
- Duplicate records from geology grid versus mine grid errors.
- Erroneous orientations with regards to the development walls.

Where errors were identified, P&E worked with WUM to rectify the issues.

The final sample database used by P&E comprised data that was acquired between 1917 to 2013.

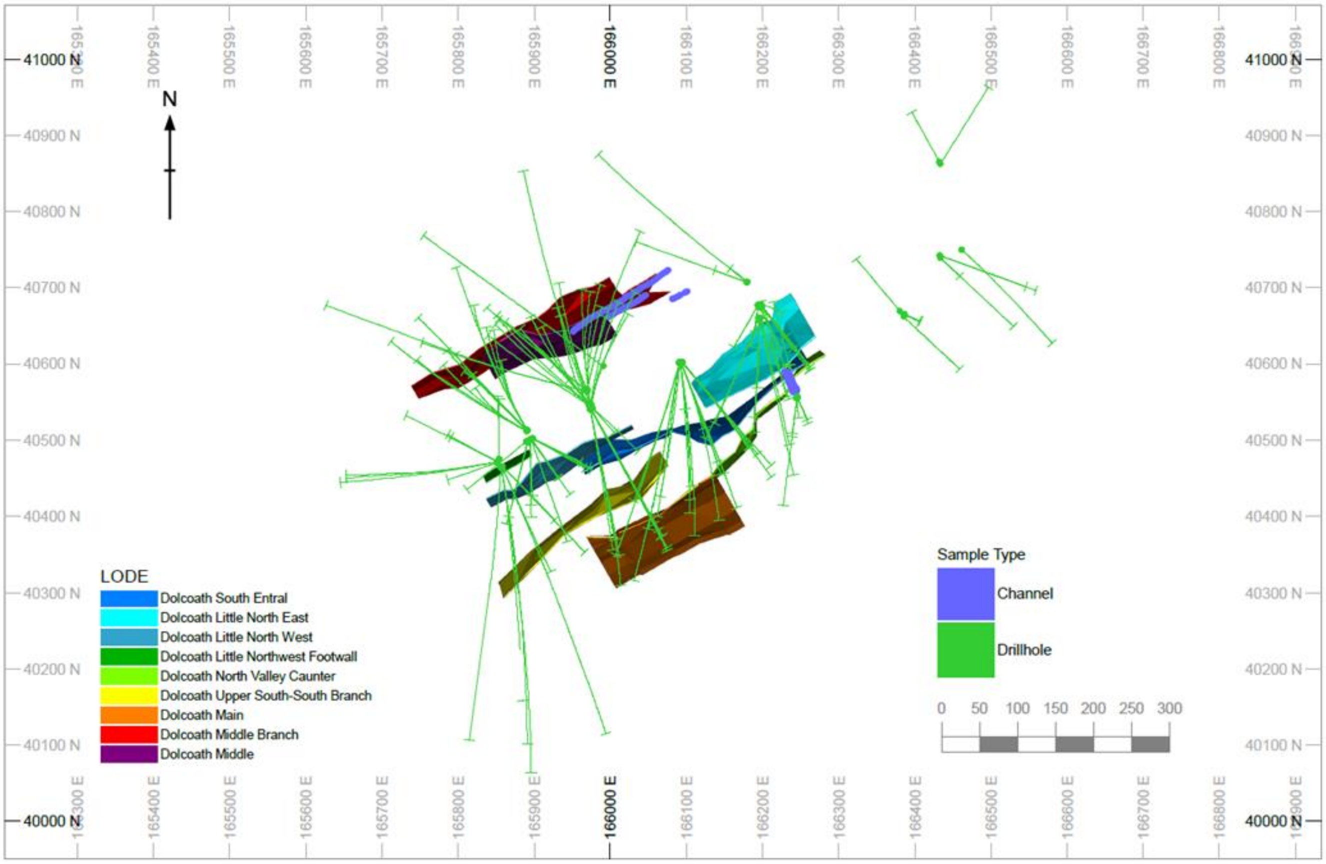
The drilling and channel sampling in the Upper Mine included in the current Mineral Resource estimate spans approximately 500 m along the 60° strike of the mineralized lodes and extends to a depth up to 600 m. Other than bazooka wall drilling, drillholes are fanned or irregularly spaced with variable hole density. The databases are summarized in Table 14.1.

Table 14.1 Summary of diamond drillholes and channels databases

	Count	Length (m)	Minimum (m)	Maximum (m)	Average (m)
Drillholes	157	30,931.82	4.21	450.65	197.02
Channels	132	225.03	1.00	3.90	1.70
Drillholes in resource estimate	96	21,508.90	39.20	450.65	224.05
Channels in resource estimate	64	142.01	1.30	3.90	2.21

A plan of drillhole locations for the Upper Mine area is shown in Figure 14.4 and a 3D perspective view of the Upper Mine lodes is shown in Figure 14.5.

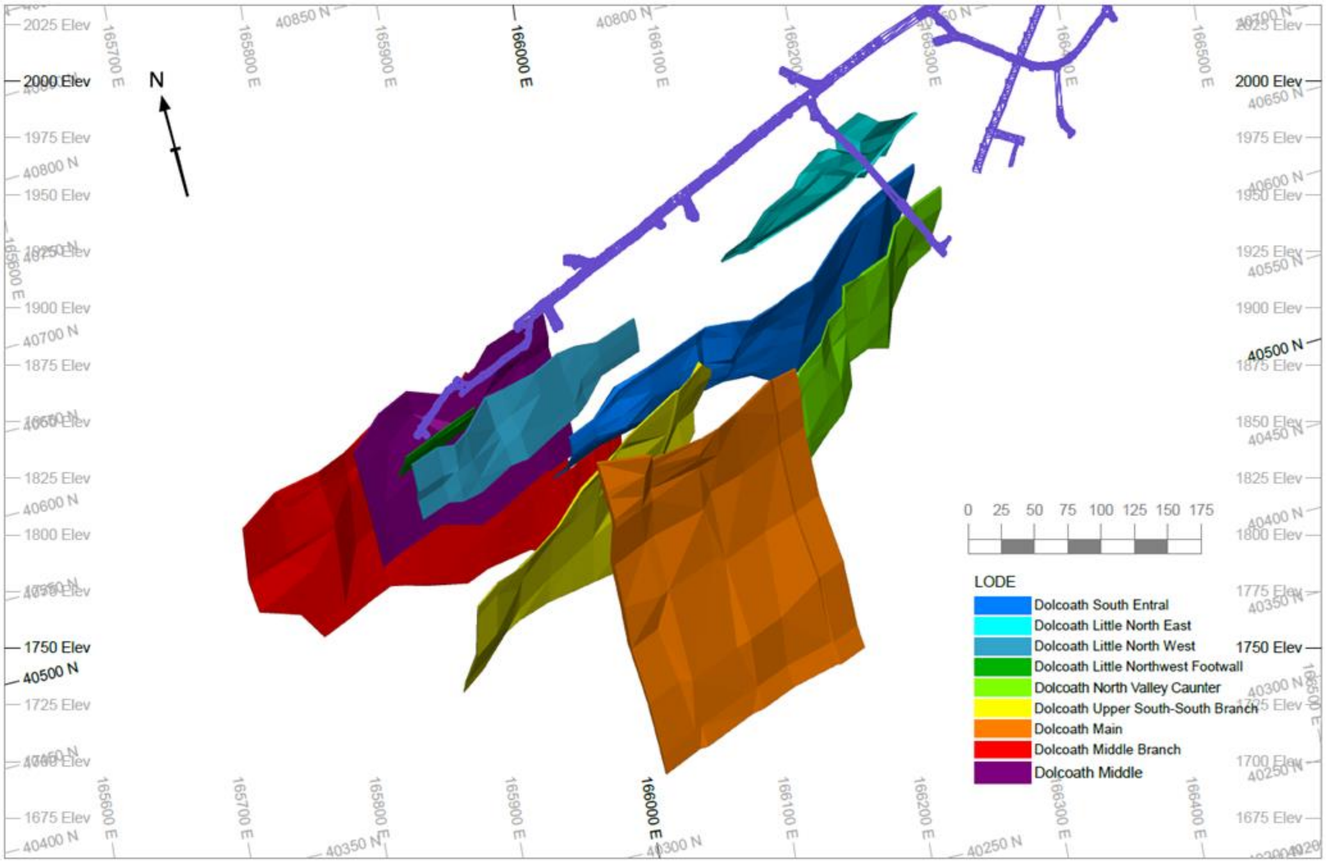
Figure 14.4 Upper Mine drillhole and channel sample location plan



Source: Cornish Metals, 2021.

Notes: Lode wireframes do not show depletion. Not all lode wireframes shown in the legend are visible.

Figure 14.5 3D isometric view of lode wireframes looking NNE



Source: Cornish Metals, 2021.

Notes: Lode wireframes do not show depletion. Not all lode wireframes shown in the legend are visible.

14.2.3 Assay/analytical database

The sample databases supplied to P&E contained 28,030 samples covering 38,386.42 m of drill core, and 35,556 channel samples covering 29,144.82 m of chip sampling covering both the Upper Mine and Lower Mine areas. Table 14.2 and Table 14.3 summarize basic statistics for the channel sample and drill core databases and the various Mineral Resource areas in the Upper Mine lodes that P&E modelled for its Mineral Resource estimate.

A total of 26 holes out of the 157 drilled in 2008–2013 lack assay data and were therefore excluded from the Mineral Resource estimate. Where uncertainty surrounds other sampling data such as potentially erroneous surveys or assays then the samples were excluded from the Mineral Resource estimate.

Table 14.2 Summary statistics for the Upper Mine channel assays database

Domain	Name	Count	Length (m)	Minimum Sn%	Maximum Sn%	Average Sn%	Weighted Sn%	Std. Dev.	Coef. Var.
62	Middle	184	94.71	0.00	9.24	0.85	0.75	1.68	1.96
Totals		**184**	**94.71**						

Table 14.3 Summary statistics for the Upper Mine drill core assays database

Domain	Name	Count	Length (m)	Min Sn%	Max Sn%	Average Grade Sn%	Weighted Grade Sn%	Std. Dev.	Coef. Var.
62	Middle	86	77.54	0.00	6.45	0.56	0.51	0.99	1.78
66	Upper SSB	39	34.34	0.01	2.11	0.41	0.35	0.46	1.14
70	Upper Main	124	94.24	0.00	3.48	0.41	0.43	0.59	1.45
71	S. Entral	129	94.28	0.00	6.20	0.52	0.54	0.84	1.62
72	NVC	52	45.02	0.00	5.27	0.55	0.39	1.09	1.98
73	Middle Branch	37	30.12	0.01	3.99	0.67	0.57	0.96	1.43
74	Little NE	57	36.88	0.00	14.00	1.06	1.22	2.59	2.45
75	Little NW	41	34.74	0.02	2.37	0.28	0.31	0.48	1.70
76	Little NW FW	10	9.69	0.01	6.61	1.05	0.91	2.04	1.95
Totals		**575**	**456.85**						

14.2.4 Cut-off grades and wireframes

For the purpose of modelling the mineralization in the Upper Mine P&E used a tin metal equivalent (SnEq) cut-off grade. An initial assessment of the breakeven SnEq cut-off grade was calculated using the parameters detailed in Table 14.4. The tin concentrate recovery of 85.5% corresponds with the average tin recoveries reported in the pre-1998 geological monthly reports for ore processed at the Wheal Jane mill.

Table 14.4 P&E Upper Mine Mineral Resource cut-off grade parameters

Metal Price: Sn US$/lb	8.50
Concentrate Recovery Sn	85.5%
Smelter Payable Sn	95%
Mining Cost US$/t	55
Process Cost US$/t	27
G&A Cost US$/t	9
Smelting, Refining, Freight Cost US$/t	600
Total Operating Cost US$/t	**91**
Mine Cut-off SnEq%	**0.6%**

P&E opted to use a 0.5% SnEq threshold for wireframing, slightly below the 0.6% SnEq breakeven cut-off grade.

Wireframes were constructed by P&E in GEMS using polylines on vertical cross-sections and snapping to sample intercepts corresponding to the 0.5% SnEq threshold.

To demonstrate reasonable prospects for eventual economic extraction the modelled wireframes were expanded, where required, to a minimum mining width of 1.2 m. If expanded areas lacked sample data, then the additional width was treated as a zero grade.

P&E exercised its professional judgment with regards to maintaining geological continuity.

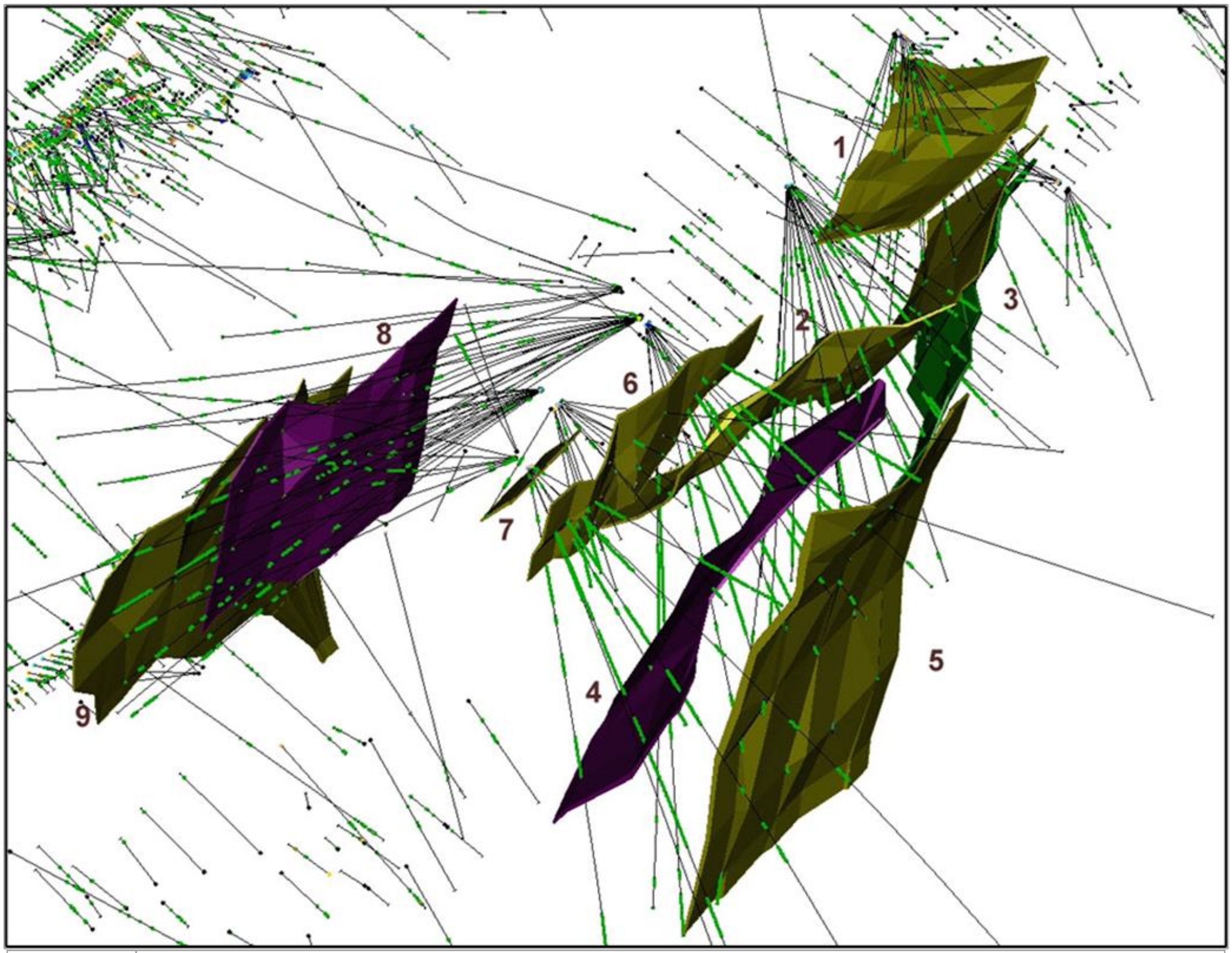
A summary of the P&E modelled Upper Mine wireframes is detailed in Table 14.5.

Table 14.5 Summary of Upper Mine lode wireframes at South Crofty

Lode Name (Wireframes)	Dip/ Dip Direction	Strike Length (m)	Dip Extent (m)	Average Thickness (m)	Volume (m^3)
Dolcoath Little North East	43/330	175	80	2.00	28,358
Dolcoath South Entral	83/330	320	135	2.64	71,606
Dolcoath North Valley Caunter (NVC)	85/125	240	100	2.57	56,149
Dolcoath Upper South-South Branch	85/350	275	175	2.72	73,387
Dolcoath Main	80/150	180	285	3.32	189,223
Dolcoath Little North West	67/150	210	65	1.60	19,380
Dolcoath Little Northwest Footwall	75/330	70	35	1.41	3,668
Dolcoath Middle	75/140	170	135	1.65	90,755
Dolcoath Middle Branch	75/130	300	175	1.36	30,233

An isometric view in Figure 14.6 shows the relative locations of the Upper Mine lodes.

Figure 14.6 Isometric view and relative locations of Upper Mine lodes (looking NNE)



Legend	Lode Name
1	Dolcoath Little North East
2	Dolcoath South Entral
3	Dolcoath North Valley Caunter (NVC)
4	Dolcoath Upper South-South Branch
5	Dolcoath Main
6	Dolcoath Little North West
7	Dolcoath Little Northwest Footwall
8	Dolcoath Middle
9	Dolcoath Middle Branch

Source: Puritch et al., 2016.

14.2.5 Assay grade distributions and grade capping

A statistical analysis was carried out for the Upper Mine for Sn, Cu, and Zn assays. Based on the statistical review, P&E noted that the Sn assays show a positive skew and some bimodality (Figure 14.7). A subsequent review of the sample grade by P&E did not identify any significant high-grade populations that could be modelled separately.

To prevent undue bias by high-grade outliers, P&E applied grade caps to the sample data, with grade capping applied globally to the Upper Mine rather than on a domain basis. Grade caps were selected based on reviewing lognormal probability cumulative frequency plots, as previously documented in the 2021 South Crofty Tin Project Mineral Resource Update, Technical Report (AMC, 2021). A summary of the selected sample statistics for the Upper Mine before and after grade capping is shown in Table 14.6.

Table 14.6 Grade capping statistics

Grade Fields	Count	Max. Value	Raw Average	Raw CV	Cap	No. Values Capped	% Capped	Capped Average	Capped CV
UM Sn%	466	10.56	0.55	1.92	6	4	0.7%	0.53	0.89
UM Cu%	459	11.17	0.77	1.78	4	12	2.5%	0.69	1.41
UM Zn%	459	32.40	0.97	3.24	20	4	0.8%	0.92	2.97

Notes: CV=coefficient variations, Max=maximum.

14.2.6 Compositing

To provide the samples with equal support, drillhole samples were composited to 1.5 m. Channel samples were assigned a composite length of 1.2 m corresponding to the minimum mining width and dynamically adjusted so that all channel samples had the same length.

14.2.7 Bulk density

For granite-hosted Mineral Resources a bulk density of 2.77 t/m^3 has been used corresponding to the historical mining bulk density (Owen et al., 1998). Bulk density testwork was undertaken using the water immersion method on 119 core samples.

In 2010 and 2011, 24 NQ half-core samples were taken for density testwork, and a further 95 samples taken from holes drilled in 2011 and 2012. Samples were taken representing the following lodes:

- Dolcoath South-South branch
- Dolcoath Flat
- Dolcoath Middle
- Dolcoath Main
- Dolcoath South
- Dolcoath South Entral.

Bulk density results ranged from 2.60 t/m^3 to 4.57 t/m^3, averaging 3.09 t/m^3. Based on these results a density of 3.0 t/m^3 was used for the killas-hosted Sn-Cu-Zn bearing Upper Mine lodes. The granite-killas contact was modelled from the 2008–2013 drilling and used to build the bulk density block model.

Drilling works completed in 2020 and 2023 by Cornish Metals included taking density measurements for the Lower Mine of which 354 core samples were mineralized. With the exception of one outlier density measurement (1.01 t/m^3), the density measurements showed results between 2.50 t/m^3 and 3.68 t/m^3, averaging 2.79 t/m^3 and with a median value of 2.76 t/m^3. The recent density measurements provide support and credence to the granite density values used in the Upper Mine Mineral Resource estimate.

14.2.8 Variography

To ascertain the principal directions and ranges of grade continuity, P&E generated variance normalized semi-variograms based on the grade capped and composited sample data. Downhole variograms were used to establish the nugget effect.

The variograms generated for the Upper Mine lodes by P&E show high nugget values, contributing to more than two thirds of the overall variance, and relatively short ranges (20 m–30 m along-strike). In most cases the experimental variograms also display poor variogram structures, precluding the development of a reliable variogram model.

Based on the variogram results, P&E opted to estimate grades using Inverse Distance Weighting Cubed (IDW3) as the principal estimation method.

Whilst the variograms were not used for ordinary kriging (OK) they were used as a guide to the search ellipse parameters.

14.2.9 Block model

A block model prototype was generated for the Upper Mine area in GEMS using the parameters detailed in Table 14.7. The block model is rotated 60° about the Z-axis to align with the overall strike of the lodes.

Table 14.7 Block model parameters

	Dolcoath Model
Eastings Origin	165,225
Northings Origin	39,744
RL Origin	2,100
Rotation (degrees)	60 (about Z-axis)
X Cell Size (m)	5
Y Cell Size (m)	15
Z Cell Size (m)	5
X No. Blocks	272
Y No. Blocks	440
Z No. Blocks	170

14.2.10 Search strategy and grade interpolation

Grade estimation has been carried out using IDW3 as the principal estimation method. Estimates were carried out in a three-pass estimation plan with the second and third passes using progressively larger search radii to enable the estimation of blocks not estimated on the previous pass. Each lode was estimated separately.

The search ellipses were orientated to correspond with the strike and dip of each lode.

Grade estimates for the Upper Mine comprised estimates for Sn, Cu and Zn.

IDW3 was utilized for all wireframes except for the Upper Mine Dolcoath lodes of Middle Branch, Little North East and South Entral, where IDW4 was used to control over-smoothing due to irregular or tight drill intercept spacing.

Table 14.8 summarizes the grade estimation parameters.

Table 14.8 Grade interpolation search criteria (After: Puritch et al., 2016)

Search Axis	Pass 1	Pass 2	Pass 3
Upper Mine			
X (m)	55	110	156
Y (m)	65	130	195
Z (m)	10	20	30
Minimum number of samples	2	2	1
Maximum number of samples	12	12	12

14.2.11 Model validation

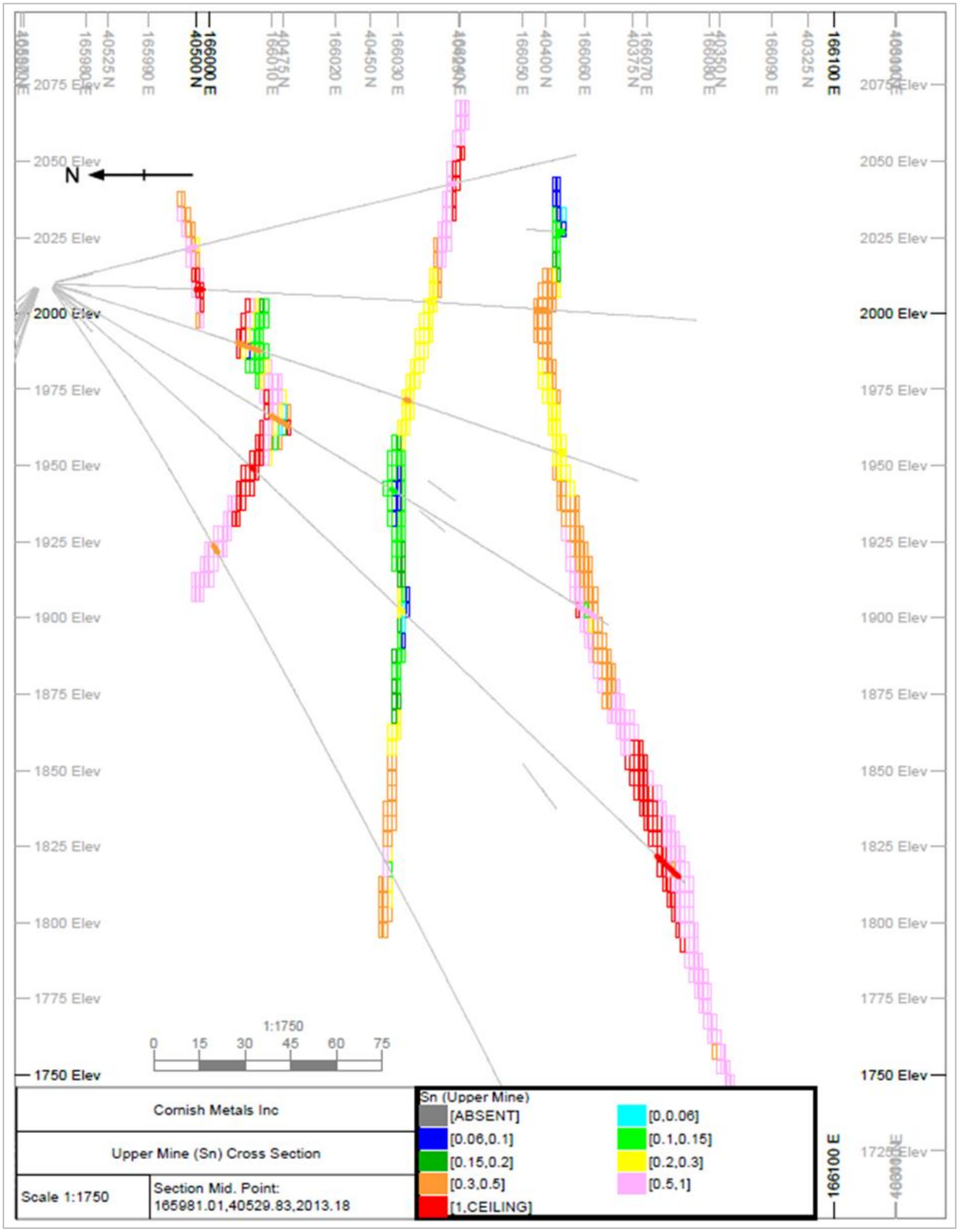
As part of the QP review of the block model, visual and statistical validation checks have been carried out. Validation methods employed includes:

- Visual assessment
- Global statistical grade validation
- Grade profile analysis.

14.2.11.1 Visual validation

Visual checks of the grade estimates were carried out in plan, cross-section, and longitudinal section, correlating the sample composite grades against the block model estimated grades. An example Upper Mine cross-section for Sn is shown in Figure 14.7.

Figure 14.7 Upper Mine cross-section block model versus composite grades (Sn)



Source: AMC, 2023.

Some grade smoothing was noted by the QP; however, overall, the QP is of the opinion that the grade estimates are a fair representation of the sample composite data on which they are based.

14.2.11.2 Statistical grade comparison

A grade comparison (Table 14.9) was carried out on a domain-by-domain basis, comparing the block model estimated grades against the sample composite data. A statistical grade comparison provides a check on the reproduction of the mean grade of the composite data against the model on a domain or global basis. Typically, the mean grade of the block model should not be significantly greater than that of the samples from which it has been derived, subject to the sample clustering and spacing.

The statistical grade comparison results are tabulated in Table 14.9.

Table 14.9 Upper Mine statistical grade comparison of composite and block model grades

Lode ID	Sn (%)		Cu (%)		Zn (%)	
	Mean Composite Grade	Mean Block Model Grade	Mean Composite Grade	Mean Block Model Grade	Mean Composite Grade	Mean Block Model Grade
62	0.64	0.50	0.87	0.42	0.19	0.12
66	0.34	0.32	0.52	0.53	0.59	0.97
70	0.43	0.44	0.58	0.56	0.30	0.34
71	0.53	0.44	0.87	0.68	1.09	0.74
72	0.39	0.29	0.85	0.69	0.17	0.16
73	0.57	0.55	0.41	0.26	0.02	0.02
74	1.20	0.73	0.83	0.38	1.94	1.10
75	0.31	0.30	0.23	0.12	1.06	0.83
76	0.91	0.38	0.03	0.02	0.17	0.14
All	**0.57**	**0.50**	**0.87**	**0.50**	**0.65**	**0.48**

The results in Table 14.9 show a number of lodes with deviations between the average composite grade and the average block model grade. Reviewing the Upper Mine model visually provides context for these average global grade deviations, with the QP noting the following contributing factors:

- Sample data clustering, typically in relation to higher grades.
- Extrapolation of lower grade areas at the peripheral areas of lodes based on limited numbers of low-grade sample intercepts.
- Limited grade smoothing.
- Where isolated high-grade samples are present their influence on the grade estimates has been restricted to prevent undue influence.

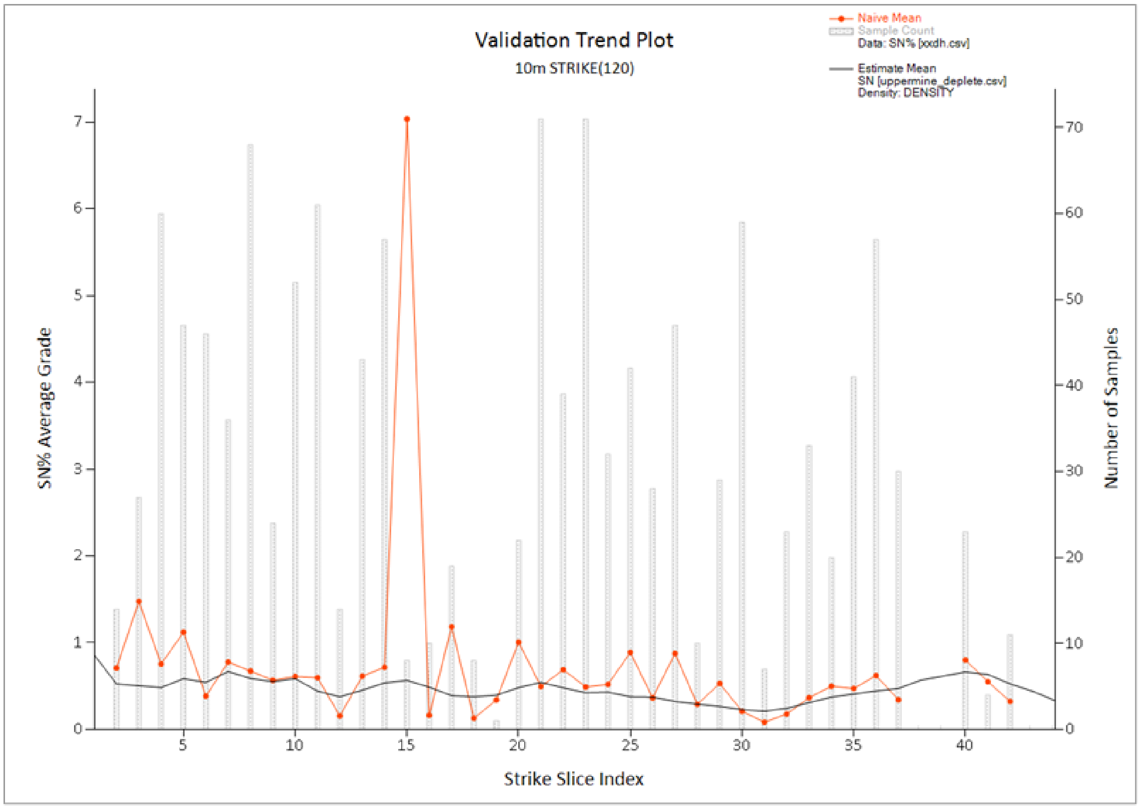
14.2.11.3 Grade profile analysis

To provide a greater resolution of detail than the statistical grade comparison, the QP has carried out a series of local grade profile comparisons, also known as swath plots. A grade profile plot is a graphical representation of the grade distribution through the deposit derived from a series of swaths or bands, orientated along eastings, northings, or vertically as well as along-strike and across-strike. For each swath, the average grade of the composite data and the block model are correlated.

Example grade profile results covering all lodes in the Upper Mine for Sn are provided in Figure 14.8 to Figure 14.10.

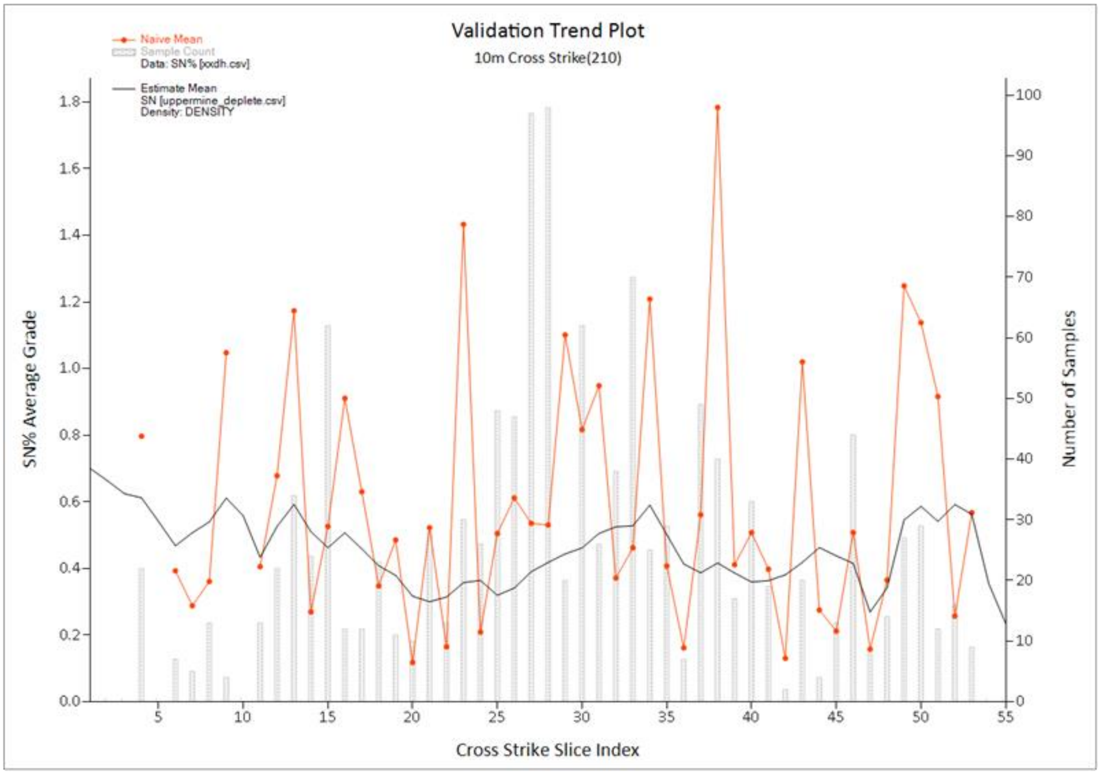
Overall, the grade profile results show a reasonable correlation between the block model estimates and composites. Whilst there is some isolated clustering of high-grade samples as shown by the peaks in the grade profile plots, these high-grade clusters have not biased the estimates.

Figure 14.8 Grade profile plot along-strike for complete Upper Mine – Sn



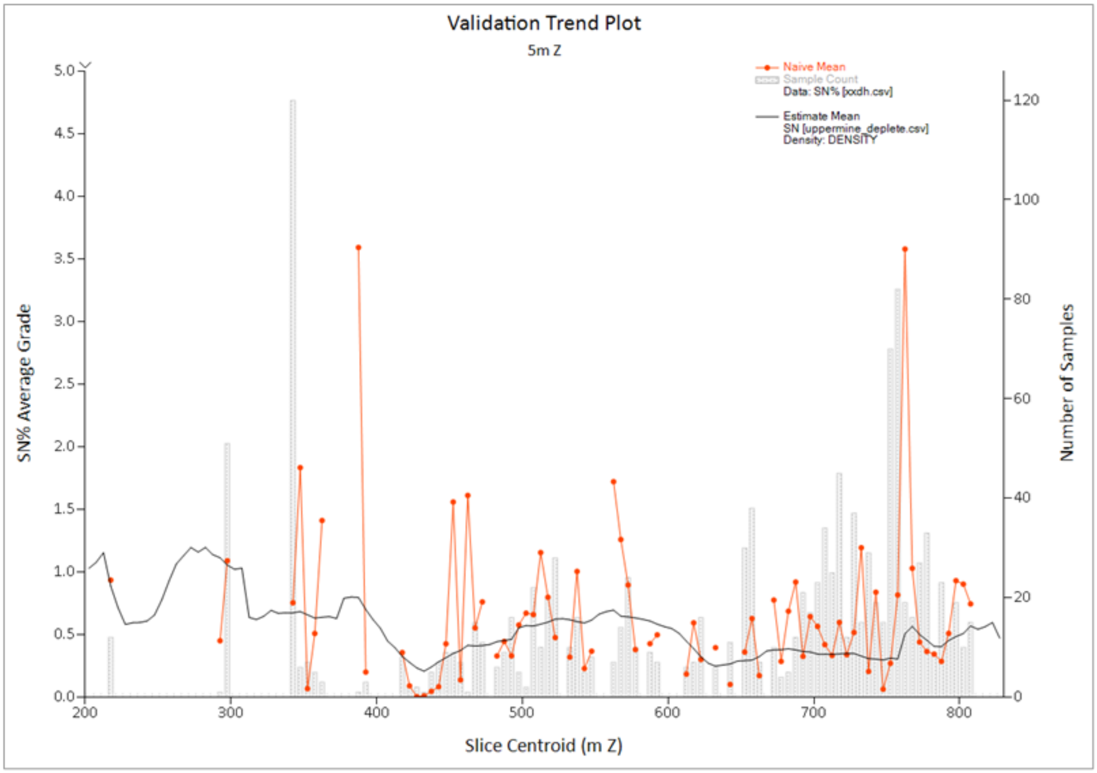
Source: AMC, 2021.

Figure 14.9 Grade profile plot across-strike for complete Upper Mine – Sn



Source: AMC, 2021.

Figure 14.10 Grade profile plot vertical for complete Upper Mine – Sn



Source: AMC, 2021.

14.2.11.4 Validation conclusions

Having visually and statistically reviewed the Upper Mine grade estimates the QP is of the opinion that the estimated grades are representative of the sample composite data on which they are based.

14.2.12 Reasonable prospects for eventual economic extraction

The Upper Mine Mineral Resources meet the requirement of reasonable prospects for eventual economic extraction having been modelled to a minimum mining width of 1.2 m to account for mining selectivity. During the wireframe modelling a minimum thickness for the wireframes was set at 1.2 m with appropriate grade dilution applied.

Mineral Resources are reported at a cut-off grade of 0.6% SnEq. A SnEq grade has been estimated for each block in the Upper Mine block model using the formula:

$$SnEq\% = Sn\% + (Cu\% \times 0.314) + (Zn\% \times 0.087)$$

The SnEq formula is based on the following parameters:

- Sn price: US$24,500/t
- Cu price: US$8,000/t
- Zn price: US$2,700/t
- Sn recovery: 88.5%
- Cu recovery: 85%
- Zn recovery: 70%.

The prices used in the SnEq formula are based on World Bank commodity price forecasts as of 27 April 2023[1]. The QP has reviewed the prices against long-term metal forecasts, as of August 2023. The prices used for Sn, Cu, and Zn fall within the lower and upper price forecast ranges.

The processing recovery for Sn corresponds with the upper end of recoveries recorded in the monthly geological reports for Lower Mine ore processed at the Wheal Jane mill, pre-1998. In the absence of specific metallurgical testwork and documented recoveries for the Upper Mine, the QP has opted to adopt the same Sn recovery of 88.5% for the Upper Mine SnEq estimates.

Recoveries for Cu and Zn are based on the values previously used in the 2016 P&E resource estimate (Puritch et al., 2016). The Cu and Zn recovery values are not based on metallurgical testwork but reflect an opinion of the QP as to the potential recoveries should a differential flotation circuit be adopted.

14.2.13 Mineral Resource classification

Mineral Resources for the Upper Mine are classified in accordance with the JORC Code (2012). The confidence categories assigned under the JORC Code were reconciled to the confidence categories in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards – for Mineral Resources and Mineral Reserves May 2014 (the CIM Definition Standards). Mineral Resource classifications of "Indicated" and "Inferred" have been used in this Technical Report.

[1] https://www.worldbank.org/en/research/commodity-markets

The South Crofty data has been reviewed and verified in relation to CIM best operating practices for reporting and for scope and content of JORC and NI 43-101 reporting through a due diligence conducted by the QP.

The classification of Mineral Resources is based on the QP's opinion in relation to the quality of data, geological and grade continuity, and the quality of the grade estimates.

The Upper Mine Mineral Resources were classified as follows:

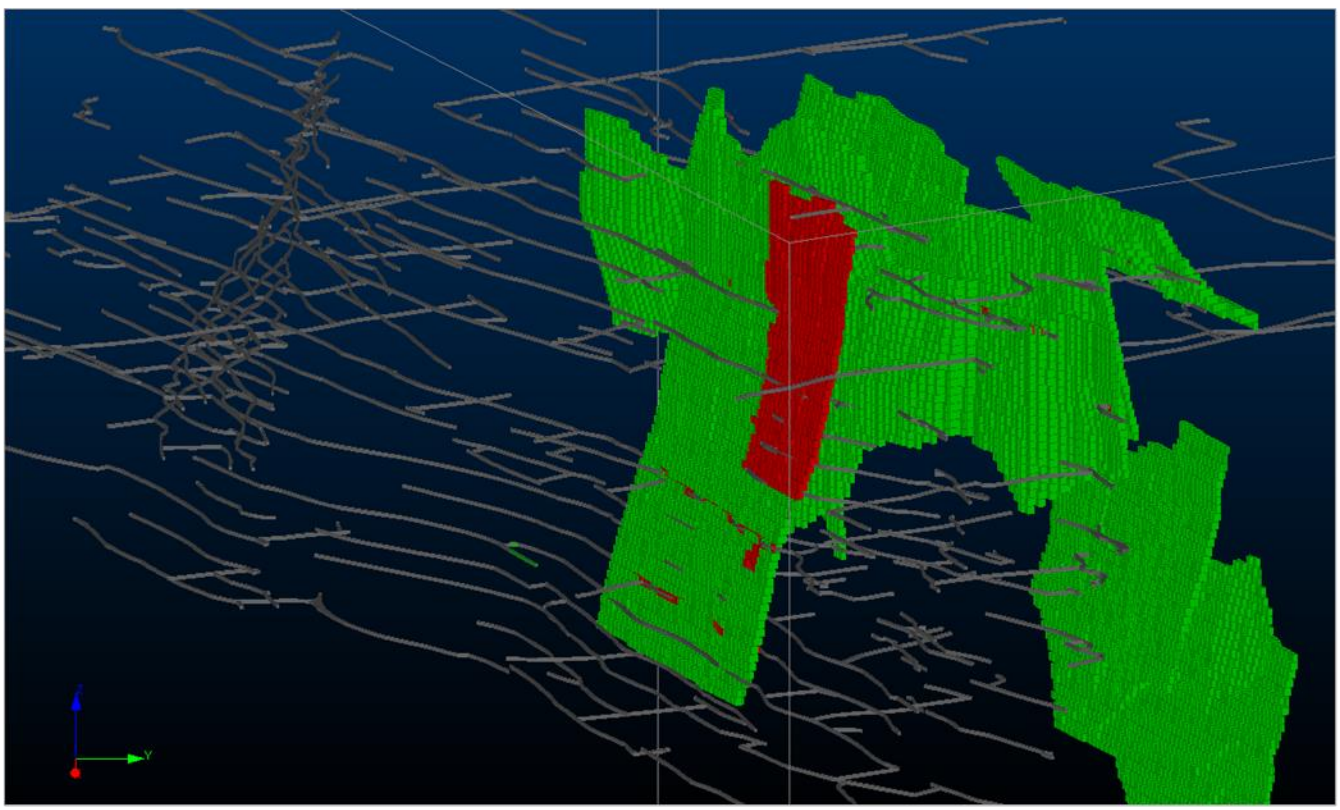
- Indicated Mineral Resources: Resources based on a regular sample spacing of 30 m to 40 m.
- Inferred Mineral Resources: Resources sampled on spacings >40 m and intersected by at least three holes.

14.2.14 Depletion

To account for historical mining activities in the Upper Mine, development and stope wireframes have been digitized from plans and longitudinal sections. Using the digitized mine workings wireframes, depletion coding was assigned to the block model (Figure 14.11). Areas defined as being mined have been excluded from the Mineral Resource.

As part of the review by the QP it was noted that part of the Upper Mine Dolcoath Upper Main lode had been projected along-strike into an area unsupported by sample data. This area of extrapolation has subsequently been excluded from the Mineral Resource.

Figure 14.11 Oblique view looking south of Upper Mine showing depleted blocks in red



Source: AMC, 2021.

Notes: Underground development (grey), mined-out areas (red) depleted from the block model, block model (green).

14.2.15 Mineral Resource reporting

Table 14.10 summarizes the South Crofty Upper Mine Mineral Resources reported in accordance with the JORC Code. Mineral Resources are limited to those parts of the mineralization at a cut-off grade of 0.6% SnEq and a minimum mining width of 1.2 m.

The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The Property is a previously operating mine situated in a mining friendly jurisdiction. The United Kingdom is a politically stable jurisdiction and socio-political factors are unlikely to affect the Mineral Resource. Cornish Metals has underground permissions which include five Mineral Rights, which are registered with the Land Registry, as well as areas of Mineral Rights that are leased or unregistered. Conditional planning permissions for the surface development and underground workings were granted by Cornwall Council, the Local Planning Authority (LPA), in 2011 and 2013 respectively. On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the United Kingdom Environment Agency (EA) allowing the discharge of up to 25,000 m^3 of treated water per day from the South Crofty Mine. In January 2020, abstraction licence SW/049/0026/005 was awarded to the Company by the EA. Cornish Metals has the necessary title arrangements and permits, and has addressed environmental considerations relevant to the reporting of Mineral Resources. The QP is not aware of any factors which would materially affect the Mineral Resource disclosed herein.

Table 14.10 Upper Mine Mineral Resource estimate at 0.6% SnEq cut-off as of 6 September 2023

South Crofty Upper Mine Mineral Resource estimate at 0.6% SnEq Cut-Off Grade ([1-12])						
Lode/Zone	**Mass**	**Grade**				**Contained Tin Equivalent**
	(kt)	**% Sn**	**% Cu**	**% Zn**	**% SnEq.**	**(t)**
Dolcoath Middle	90	0.72	0.88	0.16	1.01	904
Dolcoath Middle Branch	37	0.89	0.34	0.02	1.00	367
Dolcoath Upper Main	-	-	-	-	-	-
Dolcoath Upper South South Branch	-	-	-	-	-	-
Dolcoath NVC	-	-	-	-	-	-
Dolcoath Little NW	12	0.69	0.16	0.87	0.81	99
Dolcoath Little NW FW	-	-	-	-	-	-
Dolcoath Little NE	-	-	-	-	-	-
Dolcoath South Entral	122	0.62	0.91	1.05	1.00	1,213
Total Indicated	**260**	**0.69**	**0.78**	**0.59**	**0.99**	**2,583**
Dolcoath Middle	22	0.75	0.05	0.01	0.77	171
Dolcoath Middle Branch	-	-	-	-	-	-
Dolcoath Upper Main	271	0.61	0.60	0.22	0.82	2,210
Dolcoath Upper South South Branch	88	0.50	0.73	1.83	0.88	778
Dolcoath NVC	36	0.75	1.09	0.15	1.10	395
Dolcoath Little NW	-	-	-	-	-	-
Dolcoath Little NW FW	1	0.81	0.03	0.25	0.84	8
Dolcoath Little NE	47	1.15	0.55	1.43	1.45	677
Dolcoath South Entral	-	-	-	-	-	-
Total Inferred	**465**	**0.66**	**0.63**	**0.63**	**0.91**	**4,239**

1. The Mineral Resource estimate is reported in accordance with the requirements of the Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy, the JORC Code (2012).
2. The Qualified Person for this Mineral Resource estimate is Mr Nicholas Szebor, MCSM, MSc, BSc, CGeol, EurGeol, FGS, of AMC Consultants (UK) Limited.

3. Mineral Resources for the Upper Mine are estimated by conventional 3D block modelling based on wireframing at 0.5% SnEq cut-off grade and a minimum width of 1.2 m and estimated by inverse distance to the power of 3 grade interpolation.
4. SnEq is calculated using the formula: SnEq% = Sn% + (Cu% x 0.314) + (Zn% x 0.087). Cornish Metals has used metal prices of US$24,500/tonne Sn, US$8,000/tonne Cu, and US$2,700/tonne Zn. Assumptions for process recovery are 88.5% for Sn, 85% for Cu, and 70% for Zn.
5. For the purpose of this Mineral Resource estimate, assays were capped by lode for the Upper Mine at 6% for Sn, 4% for Cu, and 20% for Zn.
6. Bulk densities of 2.77 t/m^3 and 3.00 t/m^3 have been applied for ore volume to tonnes conversion for the granite-hosted and killas-hosted Mineral Resources, respectively.
7. Mineral Resources are estimated from near-surface to a depth of approximately 350 m.
8. Mineral Resources are classified as Indicated and Inferred based on drillhole and channel sample distribution and density, interpreted geological continuity, and quality of data.
9. The Mineral Resources have been depleted for past mining; however, they contain portions that may not be recoverable pending further engineering studies.
10. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
11. Effective date 6 September 2023.
12. Totals presented in the table are reported from the resource model are subject to rounding and may not sum exactly.

14.3 Lower Mine Mineral Resource estimate

14.3.1 Source of data

A major audit and verification programme of the Lower Mine database has been undertaken by Cornish Metals since mid-2017 to get more data into a usable secure format for future use. This has involved going back to the original sample ledgers to verify grades, sample widths, collar positions, and orientation of channels and drillholes. Prior to this date the existing data was held in numerous Excel™ spreadsheets and this has all been transferred to a central Access™ database with built-in controls on duplication, deletion, and data entry. Data found to be missing from digital records have been entered into Access™ directly.

The programme of checking individual samples against historical sample sheets is still ongoing; however, this work has been completed for those samples used in the Mineral Resource estimates reported herein. The closure date for data to be included within the Mineral Resource estimates was 29 August 2023.

The database currently comprises more than 30,000 separate sample collars although some sample data is yet to be incorporated into the database. These data are in areas which are yet to be included in the Mineral Resource estimate. Table 14.11 shows the database summary for the Lower Mine samples which have been reviewed and included in this Lower Mine Mineral Resource estimate.

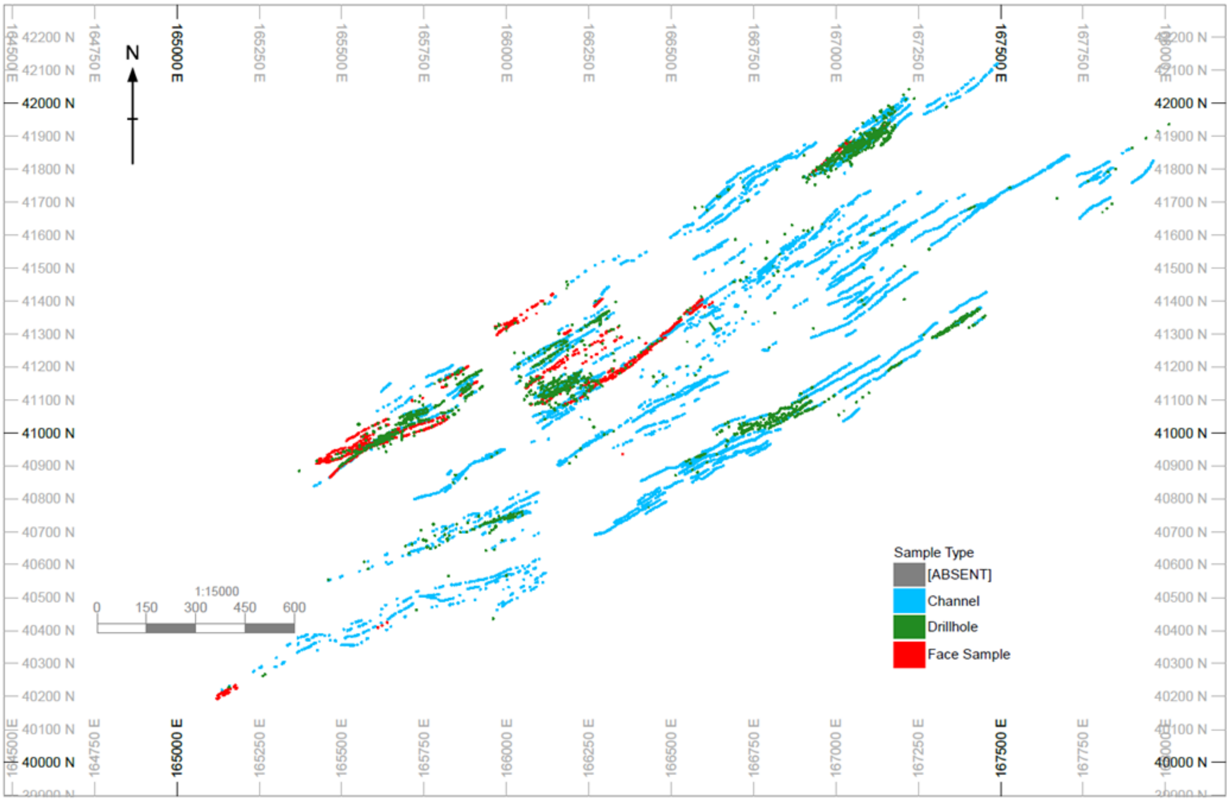
Table 14.11 Lower Mine database summary

Sample Type	Count	Average Length (m)	Total Samples
Channel	35,938	1.69	83,553
Drillhole	3,925	33.72	32,447
Face Sample	1,705	2.74	5,421

Source: Cornish Metals, 2023.

Compared to the database available to P&E for the Mineral Resource estimate published in 2016, some key data have been digitized and added to the database having an impact on the interpretation of mineralized structures. Most notable of these are drillholes drilled below the Roskear B structure, which prove continuity of the structure at depth. A plan view of sample intercepts by sample type in the South Crofty Lower Mine database can be seen in Figure 14.12.

Figure 14.12 Plan view of South Crofty Lower Mine drillhole, channel, and face sample intercepts



Source: AMC, 2023.

14.3.2 Data validation

As the digital mine database used during the final years of operation was lost following the closure of South Crofty, the Lower Mine database has been compiled into an Access™ database. The original data is in the form of log sheets and sample ledgers through to more modern digital computer printouts of sample data and working face sheet records. All records have been stored securely in the mine archive and are in good condition. The mine archive was visited by the QP as part of the July 2023 site visit.

Validation of the data by Cornish Metals comprised visual checks of both assay and survey data in spreadsheet format to check for obvious transcription errors. Sample data was then imported into Access™. The Access™ database was constructed with conditions to avoid duplicate collar entries, and sample/survey entries with no collar information. This served as a further validation exercise. Within Access™, queries were then run to check for absent data for each sample location entry.

The Access™ database was then imported into Datamine Studio RM™ software, during this process further validation checks were made for:

- Intervals exceeding the hole length (from-to problem).
- Negative or zero length intervals (from-to problem).
- Inconsistent downhole survey.
- Duplicate samples or out of sequence and overlapping intervals.
- Additional sampling/check sampling included in the database.
- No interval defined within analysed sequences (not sampled or implicit missing samples/results).

The QP has checked the validation processes, data import, and final data files and is of the opinion that the work completed is robust.

Following import into Datamine Studio RM™ visual checks were carried out by the QP for sample locations and drillhole collar locations. Drillhole locations were cross-checked between the locations recorded in the logs and the locations recorded on the 1:500 geological mine plans. Any errors were corrected.

The majority of the historical drillhole data has limited or no downhole surveys as most holes are short bazooka holes into drift walls. Historical exploration holes testing lower mined lodes are primarily on the fringes of the deposits where Inferred Resources are outlined.

14.3.3 Wireframes

In the previous estimate, the mineralized envelopes were defined using horizontal strings digitized on mine levels using channel sample and drillhole data. Interim strings were digitized where drillhole data was available and/or where intermediate strings were necessary to construct the wireframe envelopes. Interpretation of the structures was based on the sample data, mine plans, and sections produced during the mine's operation.

Definition of wireframe volumes was based on a 0.4% Sn threshold which is broadly consistent with the natural cut-off distinguishing mineralized lodes from barren host rock. Using the 0.4% Sn threshold and considering the structural interpretation, continuity of structure was extrapolated through areas where low-grade was present. Structures were defined across-strike based on structural width, where precedent was given to mineralized structure rather than a set minimum mining width. Wireframe envelopes have been modelled based on available data and structural continuity, and structures have been modelled through the contact between the granite and the overlying metasediments.

Additional lodes have been added to this 2023 Mineral Resource estimate compared to the 2021 estimates. These lodes have been modelled in Leapfrog Geo™ using implicit vein surface modelling which allows for more efficient updates and allows easier definition of cross-cutting relationships. Most notable of these additional lodes is the No. 1, No. 2, and No. 3 zones which consists of a pegmatite body intersected by multiple steeply dipping lodes. The pegmatite zone has formed a locus for the mineralization filled fractures. Whilst localized mining has taken place within the additional lodes, sufficient mineralization remains to add to the Mineral Resource. Some of the No. 2 lodes had previously been modelled but the 2023 interpretation has extended these lodes eastwards and better defined the vein system relationships. The pegmatite body itself was known to have tin and tungsten mineralization but this has not been modelled due to lack of data and inaccurate stope shapes; it is also thought to be largely mined out. Where the pegmatite zone intersects mineralized lodes, these lode areas have been excluded from the Mineral Resource. The Main, Intermediate, North and Great lodes are also newly modelled and occur between the No. 1 zone and the Pryces-Tincroft zone. These were generally mined pre-1980 and generally occur in the upper levels of the Lower Mine.

The Providence Lode has been re-modelled using Leapfrog Geo™ to further define the lode extents and improve the estimate based on recent reconciliation work.

A summary of the Lower Mine lodes modelled as part of the current Mineral Resource are detailed in Table 14.12. A plan of the distribution of modelled lodes is shown in Figure 14.13 with the reference numbers corresponding to Table 14.12.

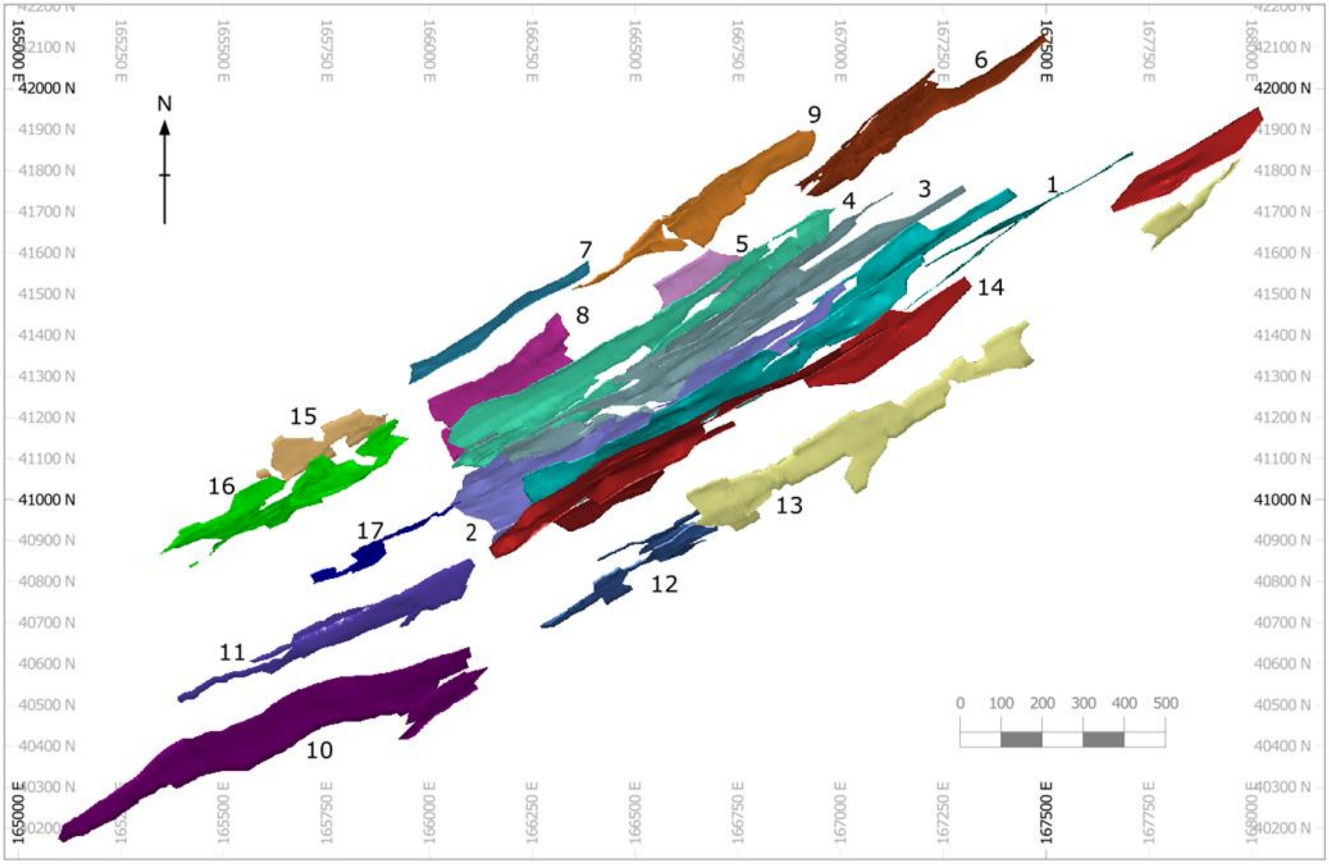
Table 14.12 Summary of Lower Mine lodes

No. Key[c]	Lode Name (Wireframes)	Dip / Dip Direction	Strike Length (m)	Dip Extent (m)	Average Thickness (m)	Volume (m^3)
1	No. 1 (1, 1SB, 2A, WET)	65/145	1,430	350	0.77	266,493
	Other Lodes (NN, LM, 2E)	87/140	850	165	0.87	122,561
2	No. 2 (2, 2NB, 2SB)	65/325	820	435	1.16	307,962
	No. 2 2nd South Dipper	75/160	200	270	1.03	41,170
3	No. 3 (3, 3SB, 3A, 3B, 3B Peg)[c]	70/145	1,285	260	0.47	181,202
4	No. 4	70/145	1,050	400	1.68	592,815
5	No. 5	65/145	210	275	0.85	40,580
6	North Pool Zone No.6	64/322	420	100	1.22	55,968
	North Pool Zone No. 6 North Branch (3)	64/144	360	145	1.16	65,386
	North Pool Zone Pegmatite Lodes (2)	85/160	140	75	1.18	17,507
	North Pool Zone Other Lodes (7)	65/319	400	130	1.82	178,193
7	Providence	80/325	520	27	0.81	208,336
8	No. 8 (2)	55/148	315	275	1.74	197,715
9	No. 9 (3)	70/138	620	195	1.41	151,128
10	Dolcoath South	71/150	1,000	275	0.75	186,012
	Dolcoath South South Branch	73/335	225	185	0.64	27,825
11	Dolcoath North (4)	75/158	770	200	0.96	175,525
12	Tincroft (3)	75/145	700	300	2.35	234,656
13	Pryces (4)	60/150	1,500	320	1.93	323,970
14	Main, Intermediate, North, Great[d]	75/325	2,130	280	0.97	359,545
15	Roskear A	60/140	260	195	1.53	64,980
16	Roskear B (3)	65/152	500	270	2.43	349,787
17	Roskear South	80/140	400	175	1.23	57,487

Source: Cornish Metals, 2023.

[c] No. Key = number key for Figure 14.13; [d] Some minor lodes dip south.

Figure 14.13 Plan showing relative locations of Lower Mine lodes

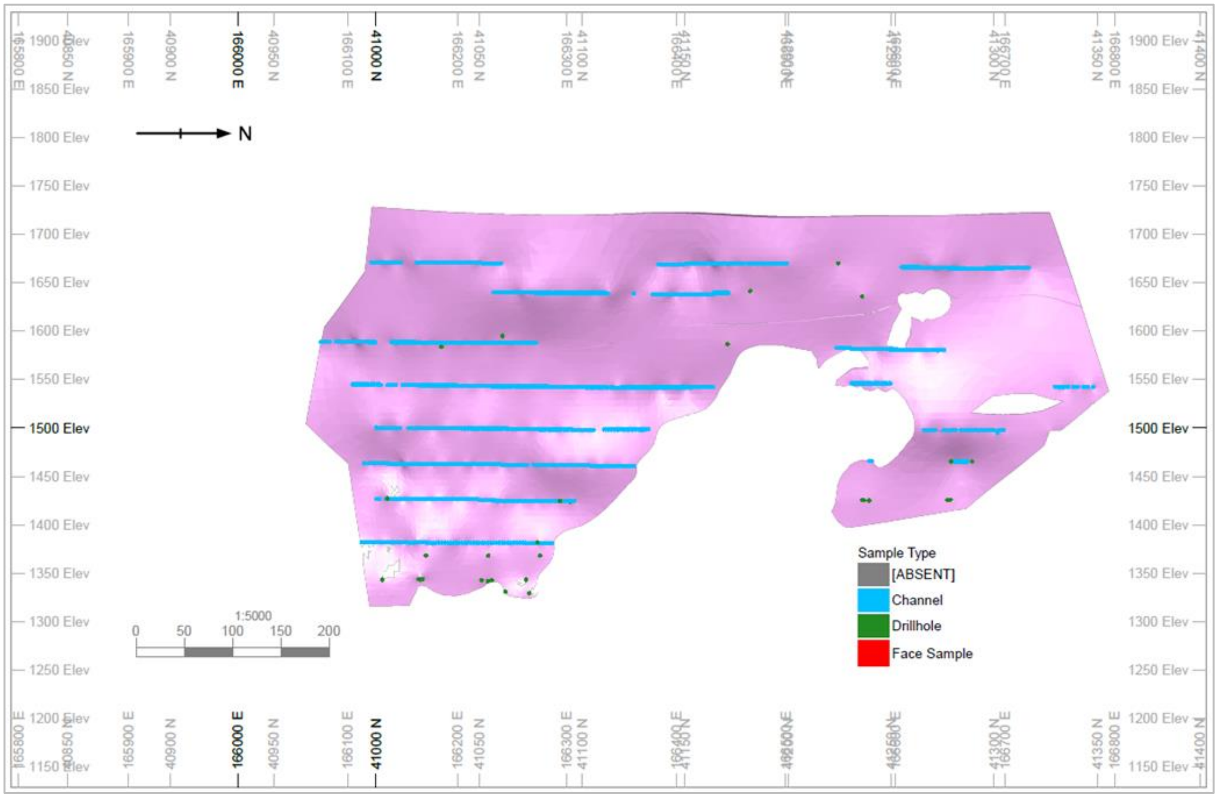


Source: Cornish Metals, 2021.

Notes: Correlation of lode wireframe numbers and names is shown in Table 14.12.

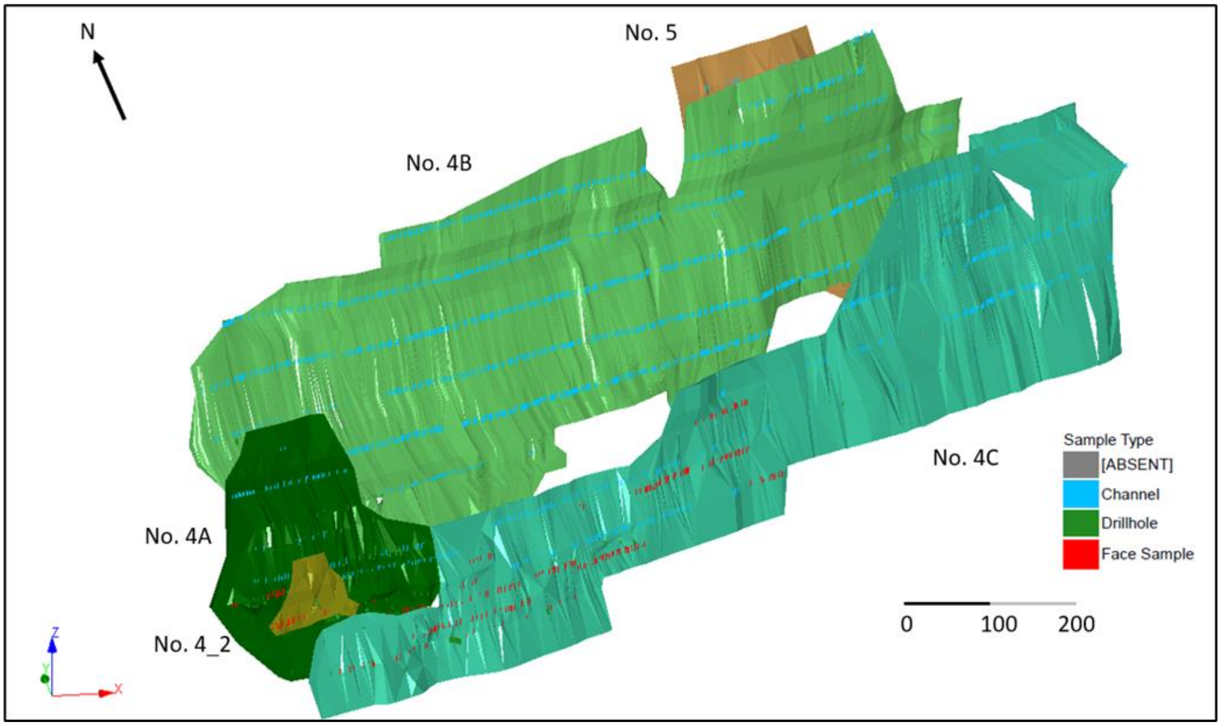
Examples of the modelled lodes are shown in Figure 14.14 to Figure 14.17.

Figure 14.14 Longitudinal section looking north-west of No 2 lode and sample distribution



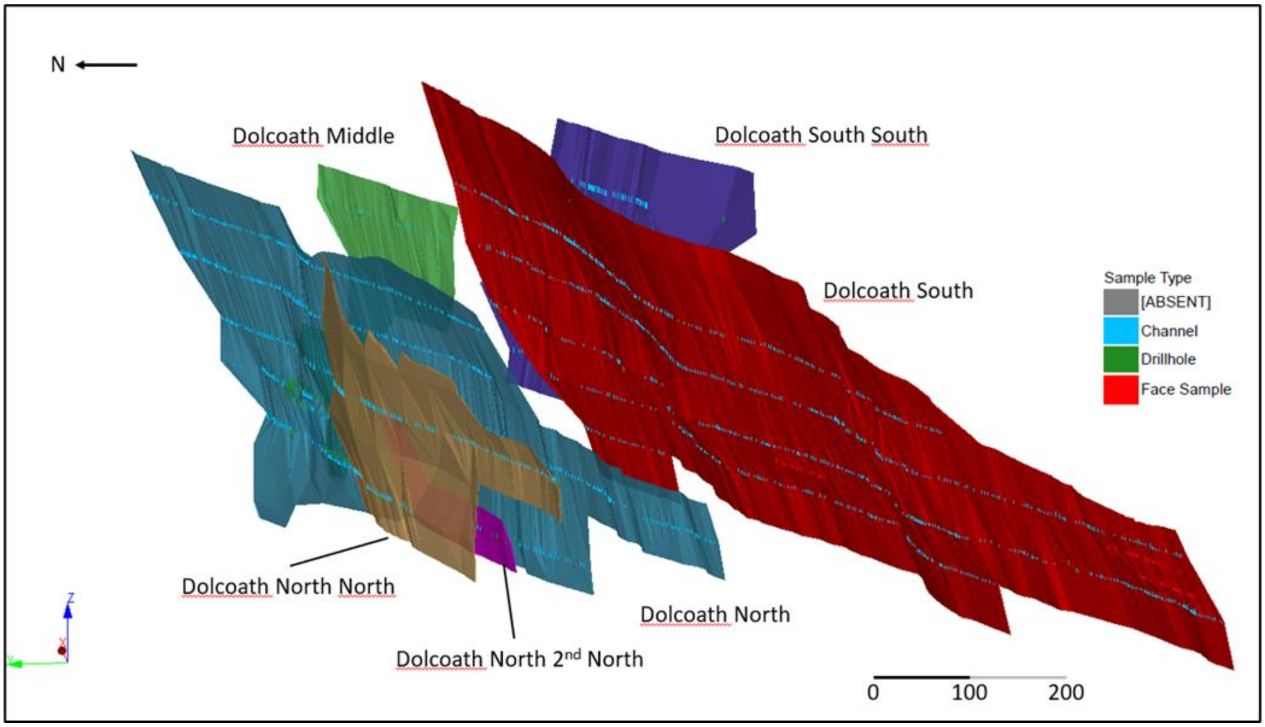
Source: AMC, 2023.

Figure 14.15 View looking north-east of the No 4 lodes



Source: AMC, 2023.

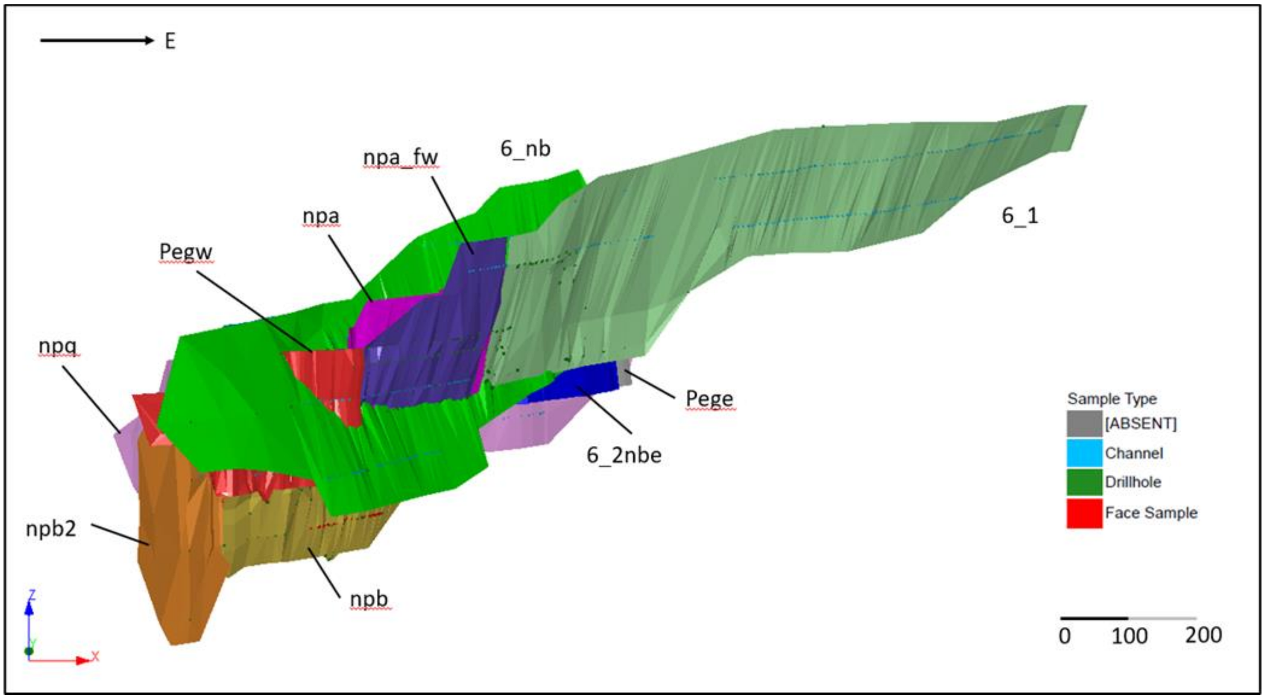
Figure 14.16 3D view looking south-east showing new Dolcoath lode wireframes



Source: AMC, 2023.

Notes: Dolcoath North South lode is situated behind Dolcoath North lode and not shown.

Figure 14.17 3D View looking north showing the North Pool Zone lodes



Source: AMC, 2023.

The granite contact is generally thought to limit mineralization upwards, although this may be biased as much of the historical mining and sampling was stopped at the contact. The contact was constructed using intercept points in drives, underground drilling, and surface drilling. The surface has been used to code the block model but in areas of sparse data on the contacts position, this surface has not been used to truncate or assign differing bulk density values.

Any lodes that cut through each other were truncated or trimmed after the correct relationship had been established.

14.3.4 Statistics

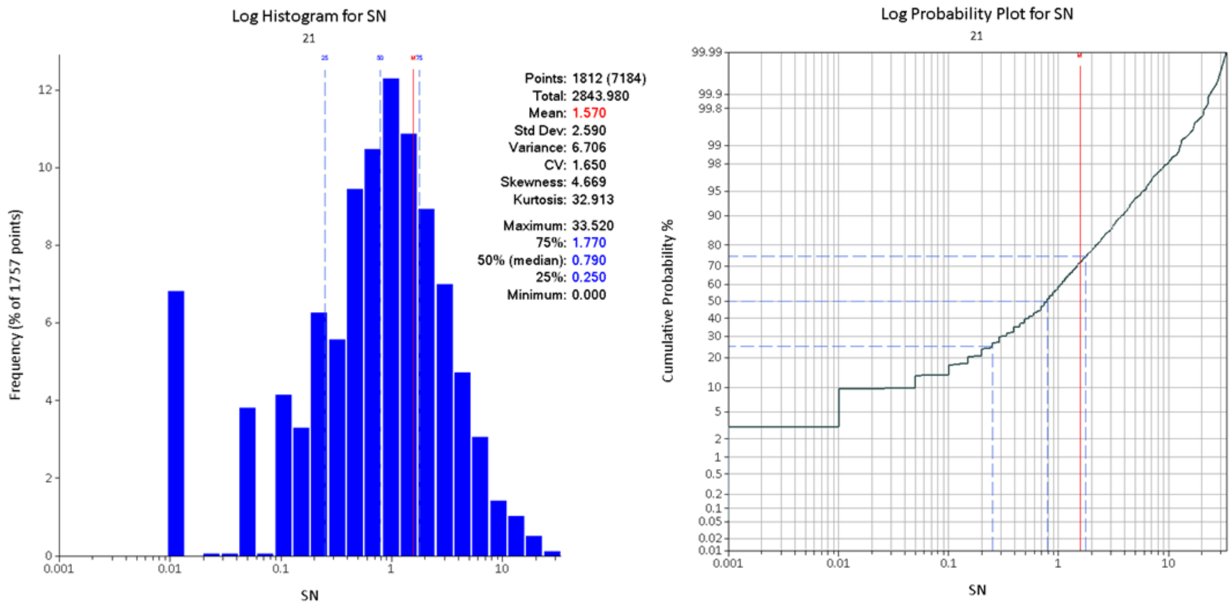
Samples within the wireframe envelopes were selected for further processing prior to grade estimation. Samples were coded according to the lode with both a unique alphanumerical code and a numerical code purely for estimation use. A basic statistical analysis was carried out for each lode and an example of these statistics can be seen in Table 14.13. Sn grade distributions for all lodes display a positive skew with quite different variance and kurtosis values. Example log histogram and probability plots for No. 2 and No. 8A lodes are shown in Figure 14.18 and Figure 14.19 respectively, reflecting some of the more significant lodes in the Lower Mine.

Table 14.13 Summary of raw sample statistics of selected lodes

Mineralized Structure	No. of Samples	Maximum	Mean	Variance	Standard Deviation	Skewness	Kurtosis
No 4A	2,897	27.92	1.36	4.08	2.02	4.30	29.19
No 8A	2,287	47.00	2.66	15.79	3.97	3.51	19.47
Dolcoath South	1,858	38.04	2.25	9.91	3.15	3.22	16.98
Roskear B FW	2,264	32.00	2.07	10.89	3.30	3.43	16.85
No. 1	1,485	73.76	1.20	11.81	3.44	10.87	171.19

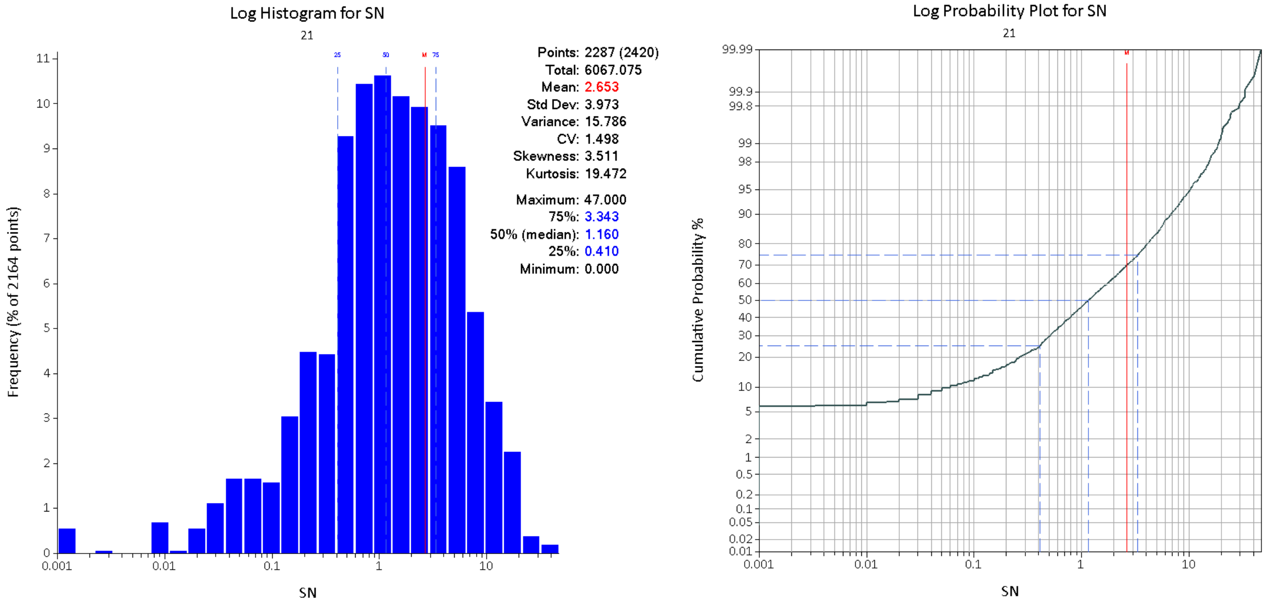
Source: AMC, 2023.

Figure 14.18 Log histogram (left) and log probability plot (right) for No. 2 lode



Source: AMC, 2023.

Figure 14.19 Log histogram (left) and log probability plot (right) for No. 8A lode



Source: AMC, 2023.

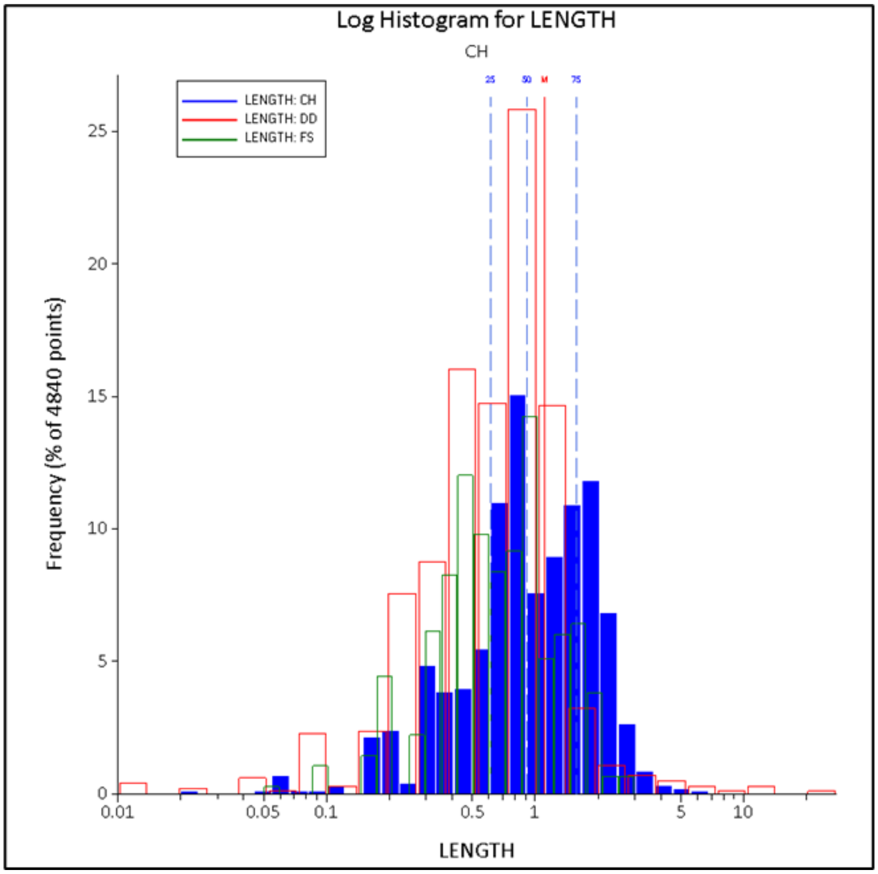
Samples were analysed by type as shown in Table 14.14. Sample length for the combined No 4 lode is shown in Figure 14.20, with channel sample mean length of 1.12 m, drilling sample mean length of 0.84 m and face sample mean length of 0.80 m.

Table 14.14 Raw Sn sample statistics by sample type for selected lodes

Mineralized Structure	Sample Type	No. of Samples	Maximum	Mean	Variance	Standard Deviation	Skewness	Kurtosis
No 4A	DD	79	10.36	0.99	2.91	1.71	2.95	10.67
	CH	2,818	27.92	1.37	4.11	2.03	4.32	29.38
	FS	0	-	-	-	-	-	-
No 8A	DD	840	47.00	2.14	12.41	3.52	4.60	38.09
	CH	1,035	40.59	2.85	17.96	4.24	3.45	16.92
	FS	412	21.40	3.19	16.29	4.04	2.09	4.48
Dolcoath South	DD	26	4.36	0.92	0.91	0.96	2.14	4.63
	CH	1,704	38.04	2.19	9.18	3.03	3.32	19.17
	FS	128	24.57	3.32	19.90	4.46	2.10	4.51
Roskear B FW	DD	1,039	32.00	1.97	11.57	3.40	3.81	20.37
	CH	885	18.93	1.94	7.53	2.74	2.76	9.37
	FS	340	31.07	2.72	17.03	4.13	2.83	10.70
No. 2	DD	56	27.63	2.15	20.52	4.53	3.90	16.89
	CH	1,756	33.52	1.55	6.25	2.50	4.56	32.19
	FS	0	-	-	-	-	-	-

Source: AMC, 2023.

Figure 14.20 Log histogram showing sample length by sample type for No 4 Zone

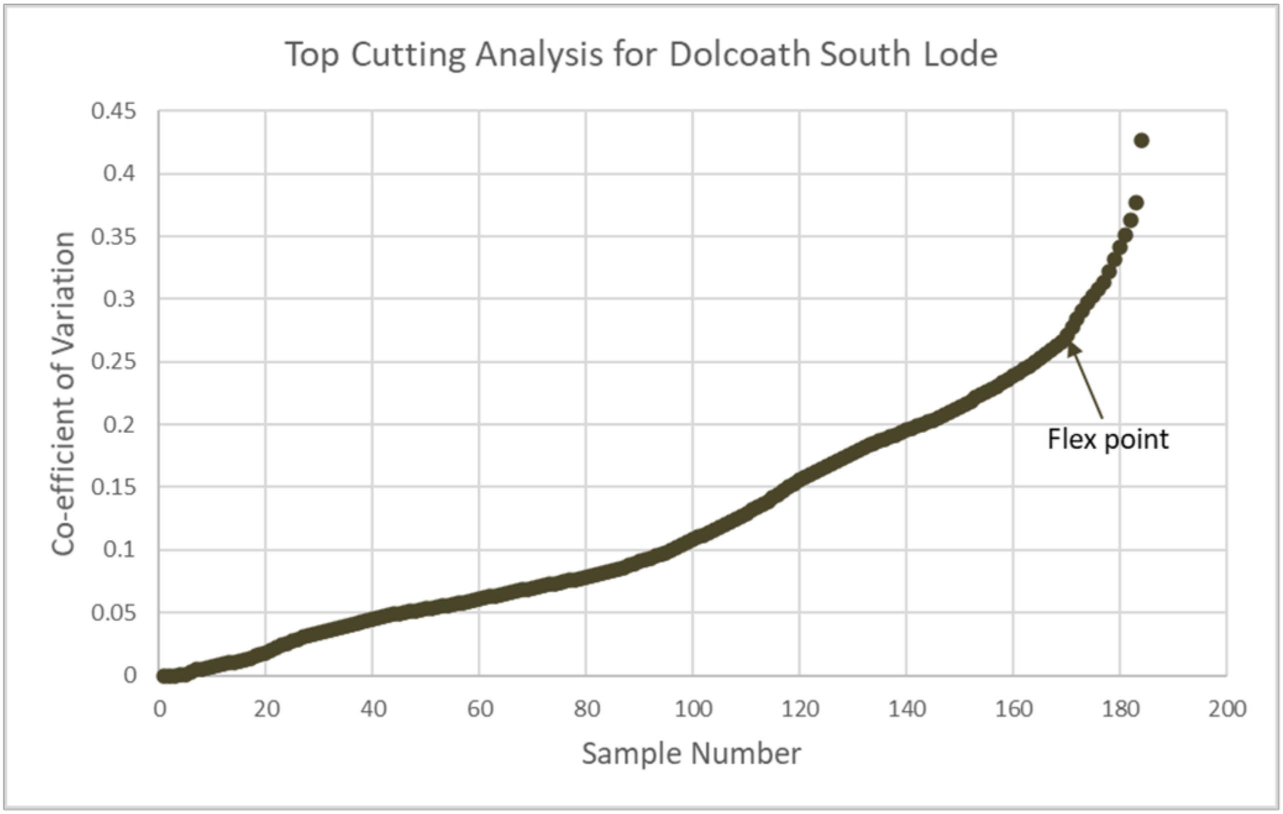


Source: AMC, 2023.

14.3.5 Grade capping

The sample statistics for each individual wireframe were reviewed and grade caps applied where required. This was done to minimize the influence of high-grade outlier samples during estimation. The Sn population for each lode were analysed for appropriate top cutting levels by assessing the cumulative coefficient of variation (CV) as seen in Figure 14.21. Significant changes in gradient of the CV line can indicate a change in population type and has been used to guide grade capping.

Figure 14.21 Cumulative coefficient of variation plot for Dolcoath South sample population



Source: Cornish Metals, 2021.

Note: Plot shows the cumulative co-efficient of variation in the sorted upper 2 centiles of Dolcoath South sample population. The flex point indicates a possible change in population type equating to 15% Sn.

An example summary of the grade caps applied is shown in Table 14.15 with sample statistics pre- and post-grade capping. This shows a small proportion of samples have been capped on an individual basis.

Table 14.15 Summary of top-cuts applied to selected lodes

Mineralized Structure	Grade cap (Sn %)	No. of Samples Cut	Pre grade cap mean (Sn%)	Post grade cap mean (Sn%)
No 4b	15	7	1.39	1.35
No 6_1	10	28	1.67	1.43
No 8A	21	12	2.65	2.61
Dolcoath South	15	15	2.25	2.20
Roskear B FW	23	6	1.80	1.79
No. 1	16	10	1.20	1.08

Source: AMC, 2023.

14.3.6 Compositing

Following grade capping, samples were composited to the width of the structure where it is below the minimum mining width of 1.2 m. In areas wider than the minimum mining width the composite length was set at 1.2 m. Narrower zones have the block grade and tonnage diluted to equivalent 1.2 m width after the estimation has taken place. The compositing process required all samples to be included in one of the composites by adjusting the composite length to as closely match the 1.2 m composite length. A summary of the sample statistics following grade capping is shown in Table 14.16.

Table 14.16 Summary of composited sample statistics for selected lodes

Mineralized Structure	No. of Samples	Maximum (Sn%)	Mean (Sn%)	Variance	Standard Deviation	Skewness	Kurtosis
No 4b	3,597	15.0	1.37	3.55	1.88	3.56	16.88
No 6_1	449	10	1.09	2.95	1.72	2.70	8.43
No 8A	1,540	21	2.44	9.29	3.05	2.46	7.55
Dolcoath South	1,414	15	2.08	6.64	2.58	2.25	6.12
Roskear B FW	1,913	23	1.80	5.38	2.32	3.25	16.84
No. 1	1,455	16	1.07	4.21	2.05	4.65	26.21

Source: AMC, 2023.

14.3.7 Drillhole exclusions

Reviewing the sample data, the QP identified that in some areas drillholes intercepted the lodes at shallow angles relative to the dip of the lode. These shallow intercepts resulted in some holes displaying long mineralized intercepts disproportionate to the true widths of the lodes. In other areas the intercept traced the lode/host rock contact and displayed long intervals lacking assay data.

A review was undertaken of the shallow intercept drillholes, and where a potential grade bias (long high-grade or long low-grade intervals) that may impact on the grade estimates were identified, these drillholes were excluded.

Drillhole exclusions were limited to the North Pool Zone with the following drillhole exclusions applied:

- North Pool Zone No 6 (6_1); one drillhole excluded.
- North Pool Zone No 6 North Branch; four drillholes excluded.
- North Pool Zone A (NPA); four drillholes excluded.
- North Pool Zone A Footwall (NPA_FW); two drillholes excluded.
- North Pool Zone 2 East (NPB2_E); two drillholes excluded.
- North Pool Zone B (NPB); five drillholes excluded.
- North Pool Zone C (NPC); six drillholes excluded.
- North Pool Zone Q (NPQ); two drillholes excluded.

14.3.8 Bulk density

The density value used for mineralized areas within the granite is 2.77 t/m^3 in line with the density used by the previous operating mine and supported by production reconciliation.

The drilling programs carried out by Cornish Metals in 2020 and 2023 involved taking 3,255 specific gravity (SG) measurements. Of these measurements, 354 were taken on core recognized as mineralized material, either through being designated as mineralized lode material for the metallurgical testing programme or assaying over 0.40% Sn. A summary of the statistics for the specific density of these measurements is shown in Table 14.17. The bulk density value of 2.77 t/m^3 used in the Mineral Resource estimate sits within the range of density measurements made by Cornish Metals in 2020 and 2023.

Table 14.17 Summary of statistics for SG measurements on mineralized granite samples from the 2020 and 2023 Cornish Metals drilling programmes

No. of Measurements	Minimum SG	Maximum SG	Mean SG	Standard Deviation
353[e]	2.50	3.68	2.79	0.16

Source: AMC, 2023.

[e] Excludes one outlier measurement.

14.3.9 Variography

Generating an anisotropic variography was difficult owing to the narrow geometry of the lodes. On some lodes the majority of samples are channels, and the clustering effect of channels has had a marked influence on the variogram ranges in the down-dip direction.

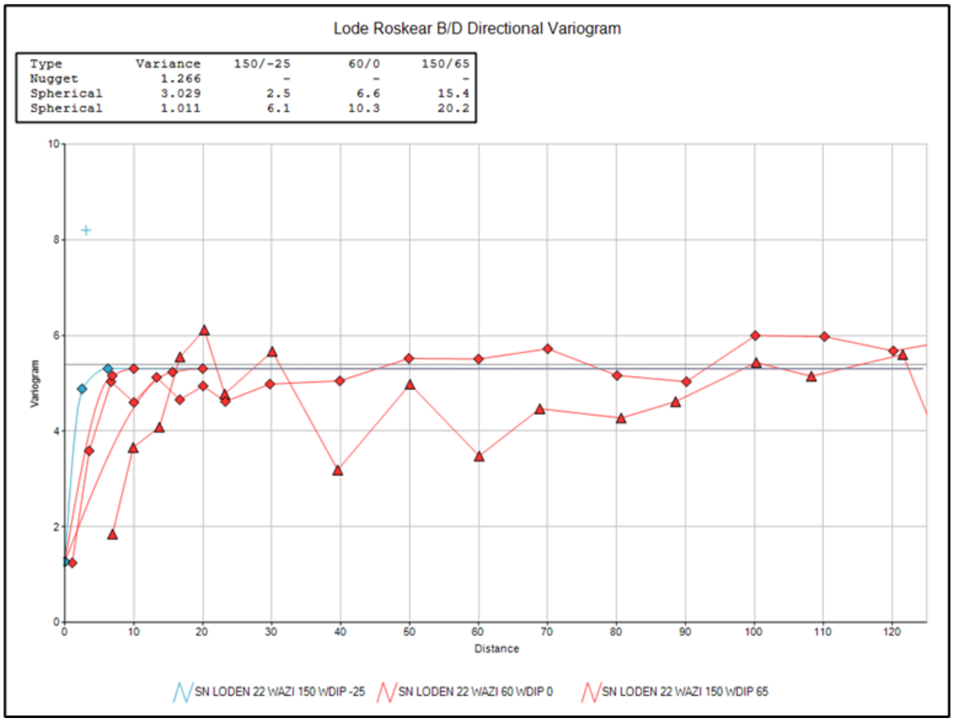
Directional variograms were generally obtainable in lodes where areas of inter-level drilling or sublevel channel sampling had taken place as shown in Table 14.18. An example of the variograms for Roskear B FW and No 8A lodes are shown in Figure 14.26 and Figure 14.27, respectively. Where these were not possible global isotropic variograms were generated and modelled to give an indication of nugget values and ranges as shown in Table 14.19, Figure 14.24, and Figure 14.25. These were heavily influenced by the sample density along the lode drives.

Table 14.18 Directional variography for selected lodes

Domain	Direction Orientation (Dip>Dip Direction)		Nugget	Structure 1		Structure 2	
				Sill	Range (m)	Sill	Range (m)
			C0	C1	A1	C2	A2
Roskear B FW	1	00>060	1.27	3.03	6.6	1.01	10.3
	2	65>150			15.4		20.2
	3	-45>150			2.5		6.1
4 B	1	00>060	1.65	1.00	10.8	0.81	117.8
	2	75>150			22.5		37.3
	3	-35>150			2.5		5.5
No 8A	1	00>030	4.168	0.221	11.5	3.551	21.3
	2	-60>120			4.7		15.0
	3	-30>300			3.9		7.1
Dolcoath North	1	-45>245	0.391	0.348	40.4	3.174	60.6
	2	-45>065			46.9		58.3
	3	(not enough data)			-		-

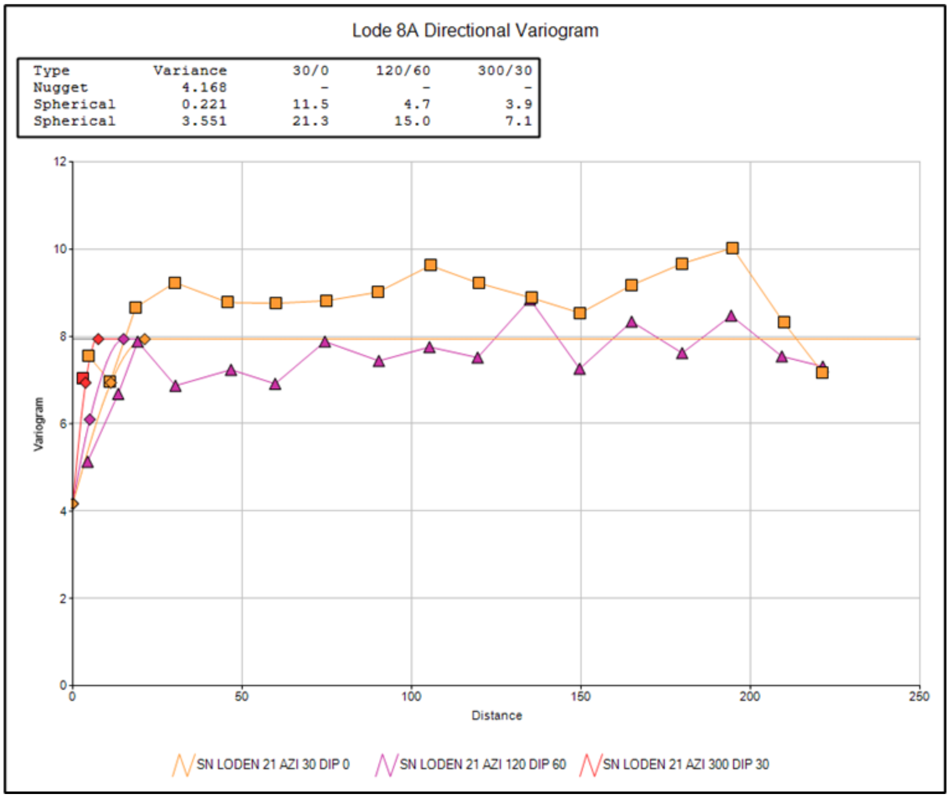
Source: Cornish Metals, 2023.

Figure 14.22 Directional variograms for Roskear B FW lode



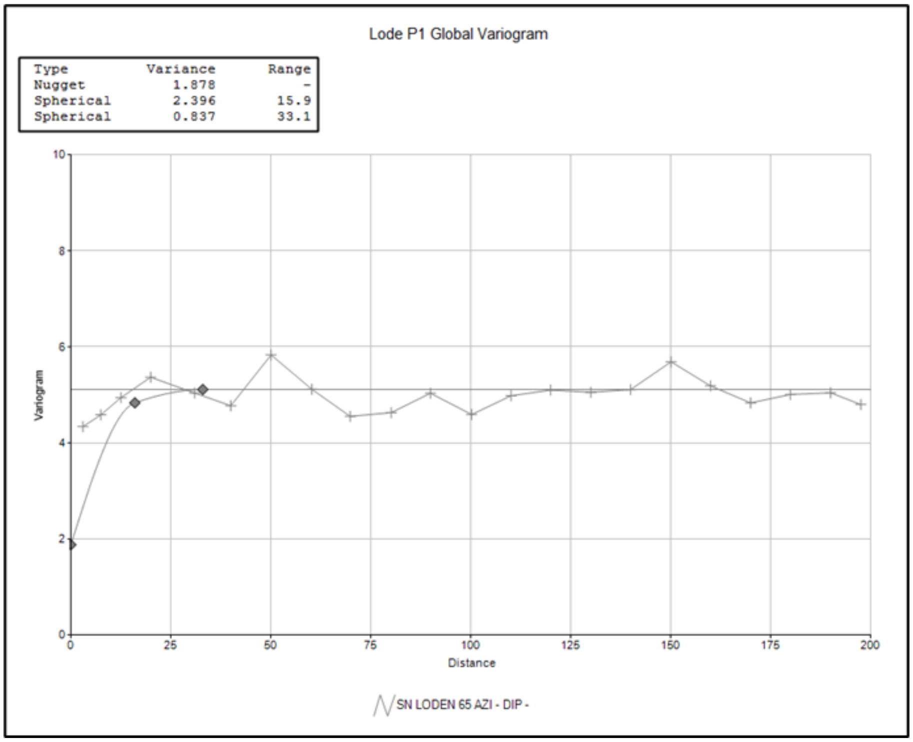
Source: Cornish Metals, 2023.

Figure 14.23 Directional variograms for No. 8A lode



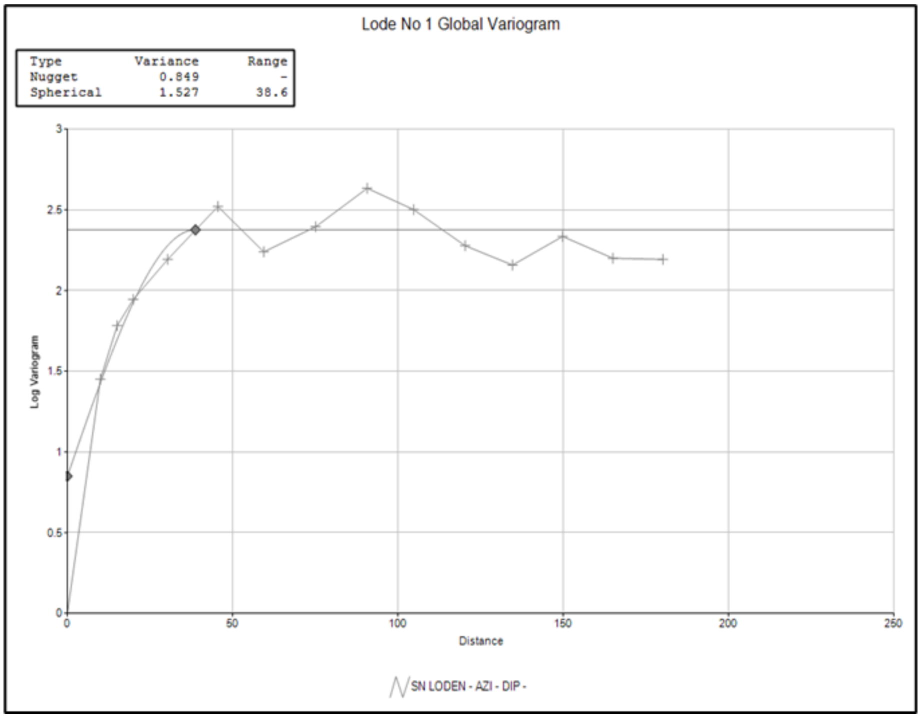
Source: Cornish Metals, 2023.

Figure 14.24 Isotropic variogram for No. Pryces 1 lode



Source: Cornish Metals, 2023.

Figure 14.25 Isotropic variogram for No. 1 lode



Source: Cornish Metals, 2023.

Table 14.19 Isotropic variography for selected lodes

Domain	Nugget	Structure 1		Structure 2	
		Sill	Range (m)	Sill	Range (m)
	C0	C1	A1	C2	A2
Pryces 1	1.878	2.396	15.9	0.837	33.1
No 1	0.849	1.527	38.6	-	-

Source: Cornish Metals, 2023.

14.3.10 Block model

Individual rotated block models were constructed for each lode based on the lode orientation. As most lodes are narrow the decision was made to construct columnar block models ensuring the best fit of blocks. This entailed rotating the block model prototype so that Z becomes the cross-strike direction, X is along-strike, and Y is down-dip. This ensures that within the Z direction, the lode is only ever one block wide and the width is adjusted to fit the wireframe (lode thickness) exactly. Parent block size for the columnar model is 6 m along-strike, 10 m down-dip, and variable to honour the lode thickness across the strike for all lodes. Model parameters for selected lodes are summarized in Table 14.20.

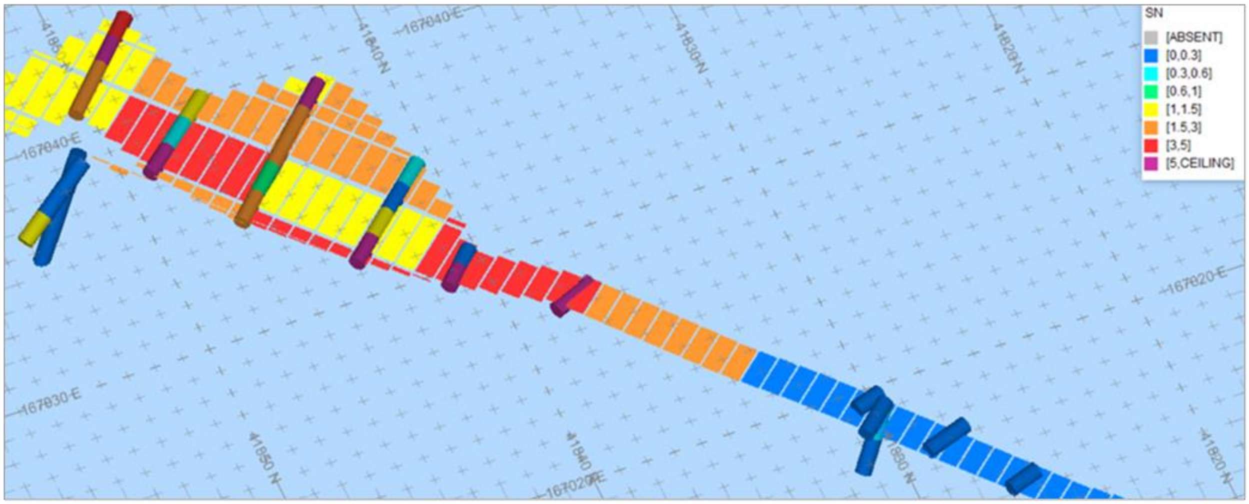
Sub-celling was utilized to ensure that the pinch and swell nature of the lode was honoured, with increased sub-celling taking place in areas of greater undulation of the lode. Minimum sub-cell size along-strike is 0.75 m and 1.25 m down-dip. Many of the lodes have areas that swell in width where the columnar model is not appropriate. Many lodes within the North Pool Zone fall into this category. Firstly, any blocks in the columnar model under the minimum mining width of 1.2 m were coded THIN=1 to aid in the dilution process later on. Then any blocks over 2.4 m in width were coded with NARROW=0, whilst the remainder were coded NARROW=1. The oversize blocks were extracted and sliced on a new block model prototype with cell dimensions of 2.4 m in the Z direction. These sub-celled blocks were then recombined with the narrow blocks to create the complete volumetric model (Figure 14.26). The blocks were also coded ROCK=1 where they occurred beneath the granite-killas contact surface. However, due to uncertainties in the extremities of the project area of the exact granite boundary position, and only minor portions of the lode wireframes extending above the granite surface, all blocks in the Lower Mine resource have been assigned the granite bulk density of 2.77 t/m^3.

Table 14.20 Block model orientation and sizes for selected lodes

Mineralized Structure	Axis orientation		Origin (x/y/z)	Number of Parent Blocks
	Dip Direction	Dip		
No 4b	150°	75°	166000/41100/1770	170/46/1
NPB	317°	66°	166880/41700/1335	81/30/1
No 8A	150°	55°	165950/41200/1600	85/45/1
Dolcoath South	156°	65°	165050/40150/1800	200/55/1
Roskear B/D	112°	68°	165200/40900/2000	250/210/1
No 2	332°	67°	166850/41350/1805	155/55/1

Source: Cornish Metals, 2023.

Figure 14.26 3D view of section through North Pool B lode



Source: Cornish Metals, 2021.

Notes: This figure shows the difference between the columnar style block modelling on the right and the hybrid sub-celling in the thicker zone on the left. Sn grade is show in %.

14.3.11 Search strategy and grade interpolation

Estimation for each lode has been carried out separately with only corresponding lode samples being used for estimating blocks within that lode. Nearest Neighbour, IDW3, and OK estimation techniques have been carried out on all lodes. IDW3 was used as the preferred estimation method owing to the limitations with the variography, with the exceptions of Roskear B FW and Roskear B HW where OK is the preferred method. During the validation checks the OK estimates were determined to yield improved correlations with the composite data for these two lodes. Nearest Neighbour, and OK estimates (except for Roskear B FW and Roskear B HW) were used as check estimates as part of the validation procedures. The same lode-specific search ellipsoid was used for each estimation technique, but other estimation parameters were adjusted to suit the orientation and sample distribution of each lode. These parameters are detailed in Table 14.21 below. No octants were used.

To better reflect the small changes in strike and dip, orientations of the mineralization dynamic anisotropy has been used to alter the search ellipse orientation on a block-by-block basis. Strings and wireframes representing the structural trends of the mineralization were generated and from these wireframes a series of points were produced correlating to each triangle in the wireframe using the ANISOANG function in Datamine Studio RM™. For each point produced, a dip and dip direction orientation was calculated. These dip and dip directions were subsequently estimated into the block model prototypes.

The dip and dip direction have been interpolated into each block and these directions used to adjust the search ellipse orientation to account for changes in lode orientation. Parent cell estimation was used throughout with cell discretization set at 2 by 2 by 2 for all estimates. The parameter Maxkey was set to 2 which allows two samples per drillhole/channel to be used for any estimation.

Estimates were carried out in a three-pass estimation plan with the second and third passes using progressively larger search radii to enable the estimation of blocks not estimated on the previous pass.

It is intended that the majority of blocks should be estimated on the first or second passes, with the third search only being utilized to ensure the block model is estimated fully.

Table 14.21 Summary of South Crofty Lower Mine estimation parameters

Lode	Estimation Method	Search Ellipse Ranges			Search Ellipse Orientation			First Pass		Second Pass			Third Pass			Max. Nº. of comps from any drillhole
		Major Axis (down dip) (m)	Semi-Major Axis (along strike) (m)	Minor Axis (across strike) (m)	Major Axis (°)	Semi-Major Axis (°)	Minor Axis (°)	Min. Nº. of Comps Used	Max. Nº. of Comps Used	Search volume factor	Min. Nº. of comps used	Max. Nº. of comps used	Search volume factor	Min. Nº. of comps used	Max. Nº. of comps used	
1, 1SB, 2A, WET, NN, LM, 2E, 2, 2NB, 2SB, No. 2 2nd South Dipper	IDW^3	35	35	15				5	40	2	3	30	15	1	30	2
3, 3SB, 3A, 3B, 3B Peg	IDW^3	35	35	15				10	40	2	5	30	15	2	30	2
No. 4 (4_2, 4_A, 4_B, 4_C, 5)	IDW^3	40	20	10				5	40	2	3	30	10	1	30	2
North Pool Zone No.6, North Pool Zone No. 6 North Branch, North Pool Zone Pegmatite Lodes, North Pool Zone other lodes	IDW^3	20	30	5				5	40	2	3	30	10	1	30	2
Providence	IDW^3	35	10	10	Dynamic Anisotropy			5	30	2	3	40	5	1	40	2
No. 8	IDW^3	24	19	10				5	40	2	3	30	10	1	30	2
No. 9	IDW^3	35	20	10				5	40	2	3	30	10	1	30	2
Dolcoath South, Dolcoath South South Branch, Dolcoath North	IDW^3	40	40	10				5	40	2	3	30	10	1	30	2
Tincroft, Pryces	IDW^3	30	20	15				5	30	2	3	30	5	1	30	2
Main, Intermediate, North, Great	IDW^3	35	25	15				10	40	2	3	30	15	2	30	2
Roskear A, Roskear South	IDW^3	22.5	20	2.4				5	40	2	3	30	10	1	30	2
Roskear B	OK	22.5	20	2.4				5	40	2	3	30	10	1	30	2

Source: AMC, 2023.

14.3.12 Dilution

The lode wireframes used in the Lower Mine Mineral Resource honour the lode widths giving the best representation of the lode's geometry, variation in thickness, and kinks caused by faulting. Therefore, the wireframe and associated composite samples can be less than the minimum mining width of 1.2 m. To compensate for this, a process was run once the estimation was complete to dilute the grade and increase the tonnage so that the block represents a 1.2 m wide block. This was carried out before reporting at the cut-off grade; meaning narrow blocks previously just above the cut-off grade might be excluded from the Mineral Resource. Where a hybrid model was utilized, only the columnar blocks under the 1.2 m minimum mining width (coded THIN=1) were diluted. A zero Sn grade has been used for the dilution.

14.3.13 Lode width analysis

A lode width analysis was carried out to determine mean and maximum lode widths for each individual lode. This has been possible due to using rotated block models to give an indication of the true lode width. Lode width statistics were carried out on both unfiltered block models and the diluted block models filtered by unmined areas over 0.4% Sn. Example lode width statistics for selected lodes are shown below in Table 14.22.

Table 14.22 Lode width statistics for selected lodes

Zone	Unfiltered			0.4% Sn Cut-Off, diluted to 1.2m, Unmined	
	Minimum (m)	Maximum (m)	Mean (m)	Maximum (m)	Mean (m)
No 2	0.01	6.98	1.05	6.80	1.39
No 4A	0.01	10.96	2.83	10.39	2.19
No 8A	0.02	14.20	1.77	9.07	1.72
North Pool A	0.01	7.39	2.88	7.02	2.23
Dolcoath South	0.01	5.20	1.25	5.20	1.25
Roskear South	0.07	4.30	1.26	3.08	1.42

Notes: The diluted mean may be less than the unfiltered mean due to application of a cut-off grade.
Source: AMC, 2023.

14.3.14 Depletion models

Block models have been depleted using a combination of surveyed development shapes, including sublevels where possible, and mining shapes. These have been constructed using the closure resource longitudinal sections and have been applied to the lodes "cookie cutter" style so no fragments remain on the footwall or hangingwall. Since the 2021 Mineral Resource estimate (AMC, 2021), checks have been carried out to ensure the depletion shapes match the historical information. This has resulted in additional minor depletion in Dolcoath North South Branch and No 2 Lode.

Where major infrastructure is in close proximity to the Mineral Resource envelopes, such as the 380 fm - 470 fm level declines, a 10 m exclusion zone has been depleted from the Mineral Resource around these areas of development.

14.3.15 Block model validation

As part of the QP review of the Mineral Resource block model, visual and statistical validation checks have been carried out by the QP. Validation methods employed includes:

- Reconciliation against historical production data.
- Visual assessment.
- Statistical grade validation.
- Grade profile analysis.

14.3.15.1 Reconciliation of model to historical data

Historically, no mine reconciliations were carried out from resource to production data. The operational efficiency of the mine was governed by the Mine Call Factor (MCF) where hoisted tonnages and grade were reconciled against milled tonnages. This data is summarized in Table 14.23. The reconciliation of mine hoisted material with milled material is good, giving confidence to the reliability of both sets of data.

Table 14.23 Mine-to-mill production reconciliation

Year (12 months unless stated)		Mine Hoist		Mill	
		Tonnage (t)	Sn (%)	Tonnage (t)	Sn (%)
1987		212,211	1.36	213,610	1.26
1988	11 months	152,438	1.38	153,990	1.33
1989	6 months	101,646	1.46	101,102	1.42
1990		197,003	1.58	195,604	1.55
1991		150,228	1.64	152,193	1.63
1992		166,308	1.64	168,069	1.48
1993		176,734	1.52	179,815	1.45
1994		181,099	1.31	173,082	1.26
1995		186,851	1.33	186,936	1.22
1996	11 months	154,190	1.42	156,605	1.39
1997		190,388	1.45	192,544	1.41
1998	To closure	28,298	1.72	29,179	1.74
Total		**1,897,394**	**1.46**	**1,902,729**	**1.40**

Source: Cornish Metals, 2021.

Cornish Metals has compiled past mine production data from monthly reports from 1989 to 1998. Production from stopes and development was recorded as "trammed" tonnage, this being material, which was hauled from drawpoints and development drives, to the primary crusher. These were estimated from the number of wagons trammed to the crusher, with grab samples being taken from the wagons to estimate production grade. In areas of more geographically isolated lode structures with single crosscut access and areas for where records exist for the life of production from that structure only, trammed tonnages can be extracted with greater confidence. This has been carried out for No. 8 lode for all material below 400 fm level and the Roskear A, and Providence lodes.

The current Lower Mine Mineral Resource block model has been reconciled against these historical production figures by extracting blocks within the model lying within mined stope and development outlines. Metal content, grade, and tonnage has been compared, and likely dilution estimated by calculating the tonnage difference between trammed and block model tonnages. A summary of reconciled numbers is given in Table 14.24.

Table 14.24 Reconciliation of production data to current block model estimate

Structure		Ore (t)	Sn %	Sn Metal (t)
Roskear A	Block Model	97,729	2.40	2,452
	Block Model Dilute @ 40%	136,820	1.71	2,452
	Trammed Tonnage	140,850	1.80	2,530
	% Difference Diluted BM to Trammed	-3	-5	-8
No 8 (below 400Fm Level)	Block Model	137,427	2.65	3,636
	Block Model Dilute @ 60%	219,883	1.65	3,636
	Trammed Tonnage	230,186	1.69	3,887
	% Difference Diluted BM to Trammed	-4	-2	-7
Providence	Block Model	33,071	1.67	554
	Block Model Dilute @ 20%	39,786	1.39	554
	Trammed Tonnage	37,695	1.33	501
	% Difference Diluted BM to Trammed	5	5	10

Source: Cornish Metals, 2023.

Metal contents between block model and trammed tonnages reconcile well for the larger structures of Roskear A and No. 8. The metal tonnage for Providence lode appear to be slightly overestimated in the resource model. This is likely due to a number of factors, firstly Providence lode is a relatively small structure and thus the error margins are likely to be amplified on both the Mineral Resource and the trammed tonnages leading to potential discrepancies. The mineralization in Providence is also narrow and so the Mineral Resource may likely represent a “diluted” resource due to wireframe envelopes being closer to the minimum mining width of 1.2 m.

Estimated dilution in Roskear and No. 8 is high, with Roskear A being approximately 40% and No. 8 being approximately 60%. Whilst these seem high rates of dilution, the mining method in these areas was largely long-hole stoping and as such the potential for dilution on such narrow structures could be significant, particularly when considering the type of equipment used at the time.

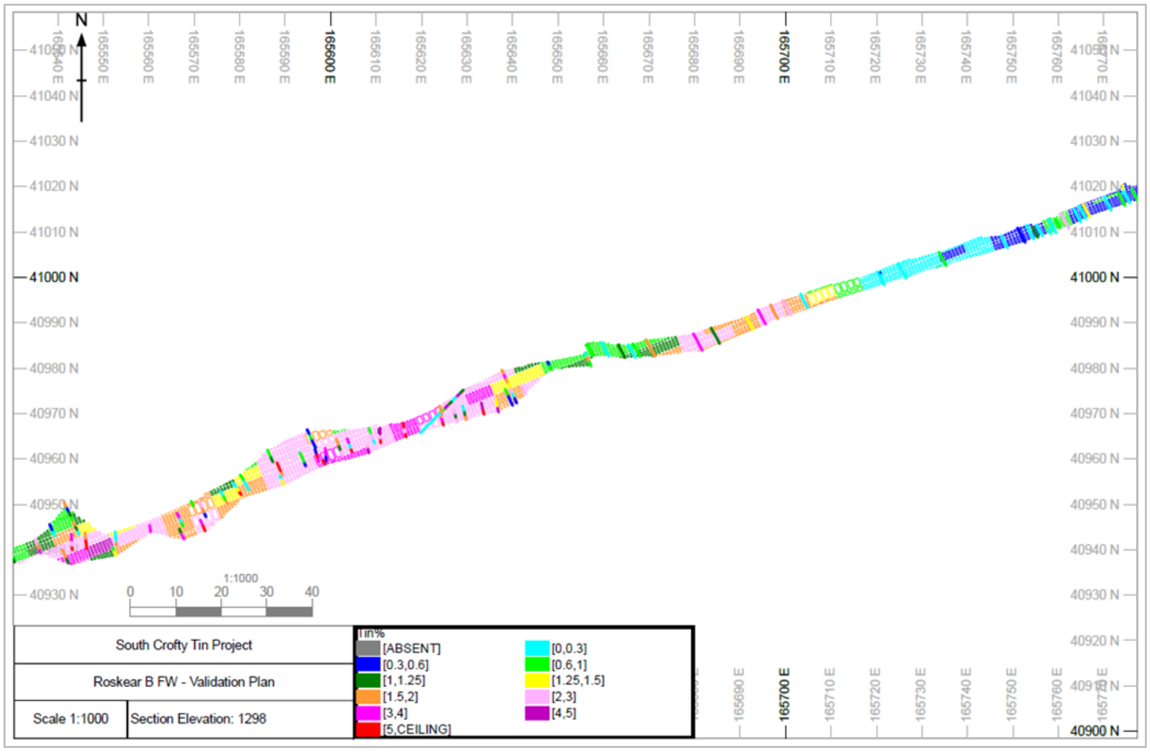
A report commissioned by South Crofty, carried out by Bharti Engineering Inc. (Bharti, 1996) comments on the lack of reconciliation procedures between geological resource, blasted tonnages, and trammed tonnages. This report highlights a brief study of 1995 production, identifying a 38% dilution between blasted and trammed tonnage, the report also discusses that the overall dilution will be higher, as this does not account for the long-hole stope design, including dilution (planned dilution), which was in the order of 20% of the geological resource (Bharti, 1996).

Overall, the QP considers that the reconciliation between historical production data and Mineral Resource block models is reasonable, given the reports on dilution, and adds confidence to the Mineral Resource estimate.

14.3.15.2 Visual validation

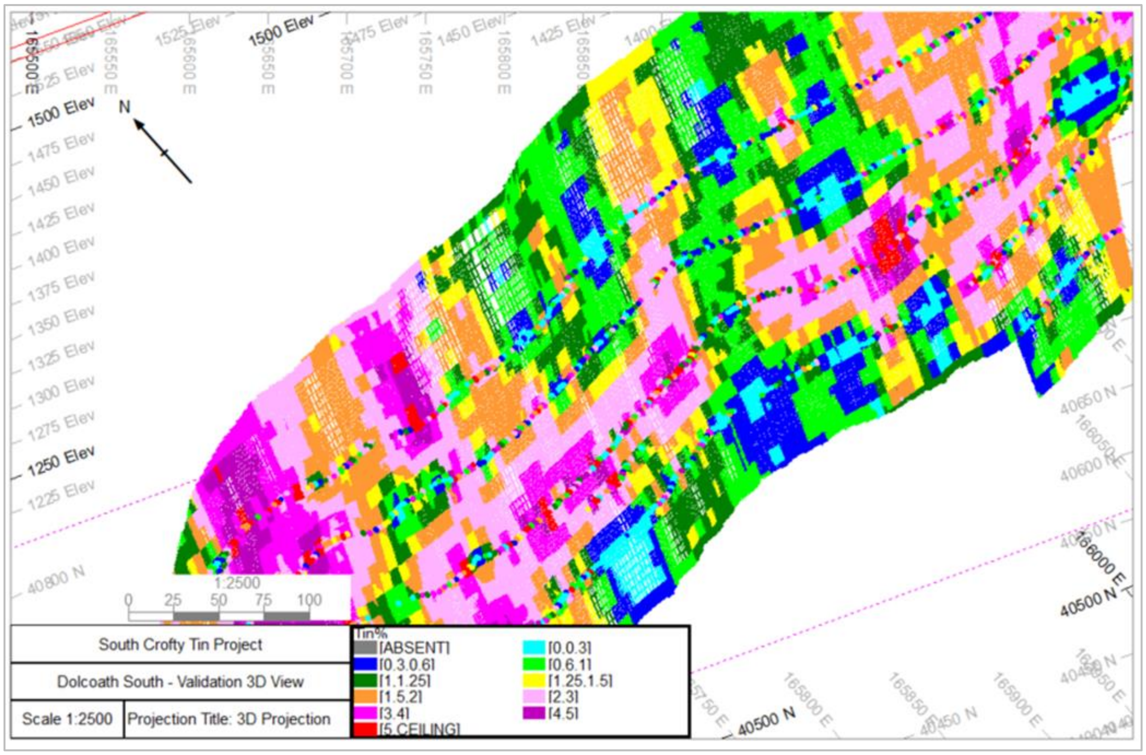
The models were assessed on sections to determine whether the block estimations show a reasonable correlation to the sample composites on which they are based. Examples are shown in Figure 14.27 and Figure 14.28.

Figure 14.27 Plan view lode Roskear B FW showing sample and block IDW Sn grades



Source: AMC, 2023.

Figure 14.28 3D view of lode Dolcoath South showing sample and block IDW Sn grades



Source: AMC, 2023.

Notes: 3D view of Dolcoath South lode showing comparison between sample and block IDW Sn grades.

The visual review shows the block model estimates show a reasonable correlation to the sample composites on which they are based.

14.3.15.3 Statistical grade comparison

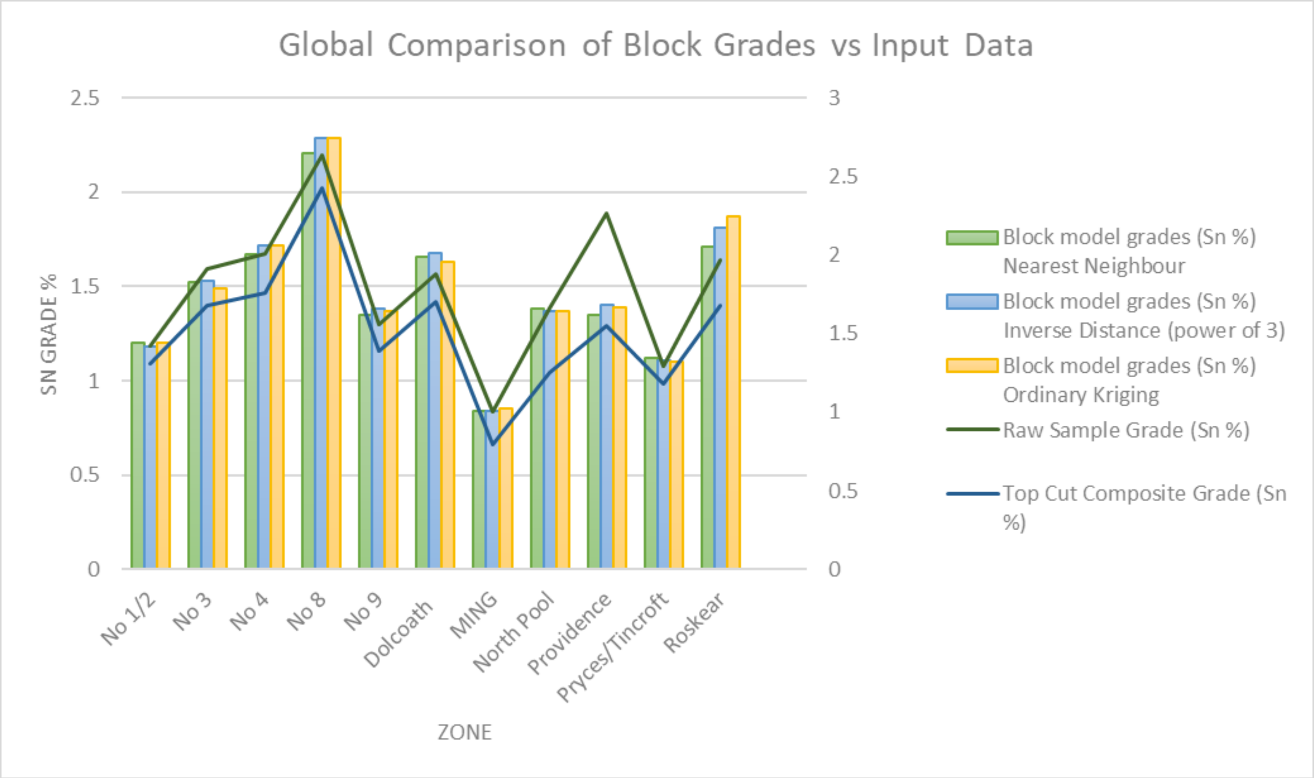
The statistical grades of the blocks within each zone were also compared to the original sample data. Table 14.25 and Figure 14.29 show examples of the statistical grade comparison for different lodes. A global grade comparison provides a check on the reproduction of the mean grade of the composite data against the model over the global domain. Typically, the mean grade of the block model should not be significantly greater than that of the samples from which it has been derived, subject to the sample clustering and spacing at a 0 g/t cut-off grade.

Table 14.25 Statistical comparison of block grades versus composites for selected lodes

Lode	Top Cut Composite Grade (Sn %)	Block model grades (Sn %)		Final Resource Estimation Technique
		Inverse Distance (power of 3)	Ordinary Kriging	
No 1	1.07	0.99	0.99	IDW
No 3a	1.72	1.65	1.63	IDW
No 4b	1.37	1.40	1.40	IDW
No 8a	2.44	2.32	2.32	IDW
No 9N	1.26	1.24	1.19	IDW
Dolcoath South	2.08	1.90	1.89	IDW
Main	0.68	0.74	0.78	IDW
North Pool Zone No.6 North Branch	1.36	1.40	1.41	IDW
Providence	1.74	1.64	1.64	IDW
Pryces (P1)	1.29	1.24	1.23	IDW
Roskear B FW	1.80	1.89	1.99	OK

Source: AMC, 2023.

Figure 14.29 Chart showing global comparison of global block grades versus input data by area



Source: Cornish Metals, 2023.

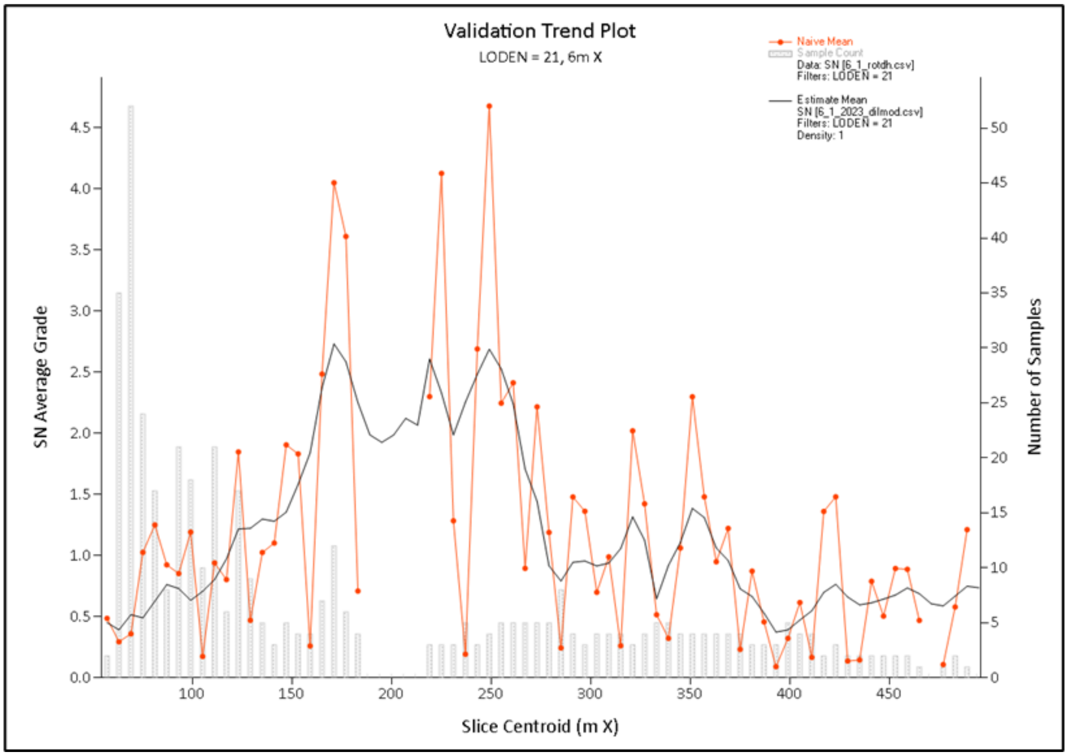
Overall, the block estimate grades show a reasonable correlation to the composite grades on which they are based.

14.3.15.4 Grade profile analysis

To provide a greater resolution of detail than the global grade comparison, a series of local grade profile comparisons, also known as swath plots, were undertaken. A grade profile plot is a graphical representation of the grade distribution through the deposit derived from a series of swaths or bands, orientated along eastings, northings, or vertically. For each swath the average grade of the composite data and the block model are correlated.

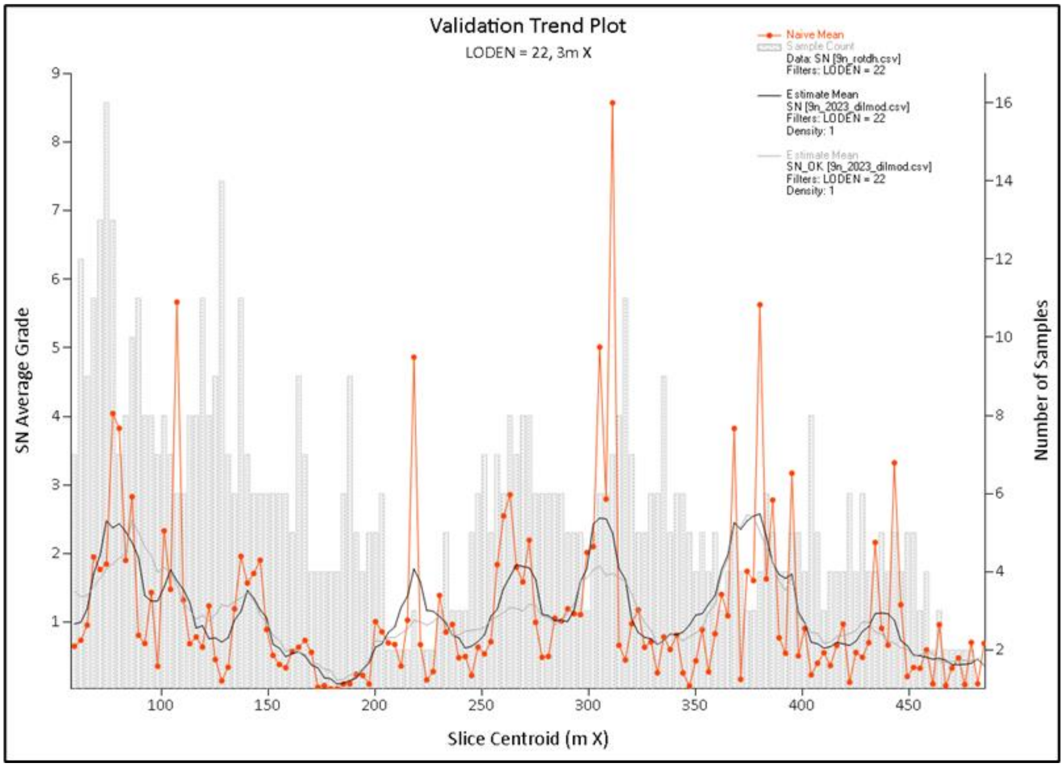
Swath plots were carried out for each major lode along the X direction (along-strike). Figure 14.30 to Figure 14.32 below show swath plots for several of the larger lodes. Overall, the chosen estimation techniques seem to honour the grade data well throughout the lodes.

Figure 14.30 Swath plot for North Pool Zone No. 6 along-strike



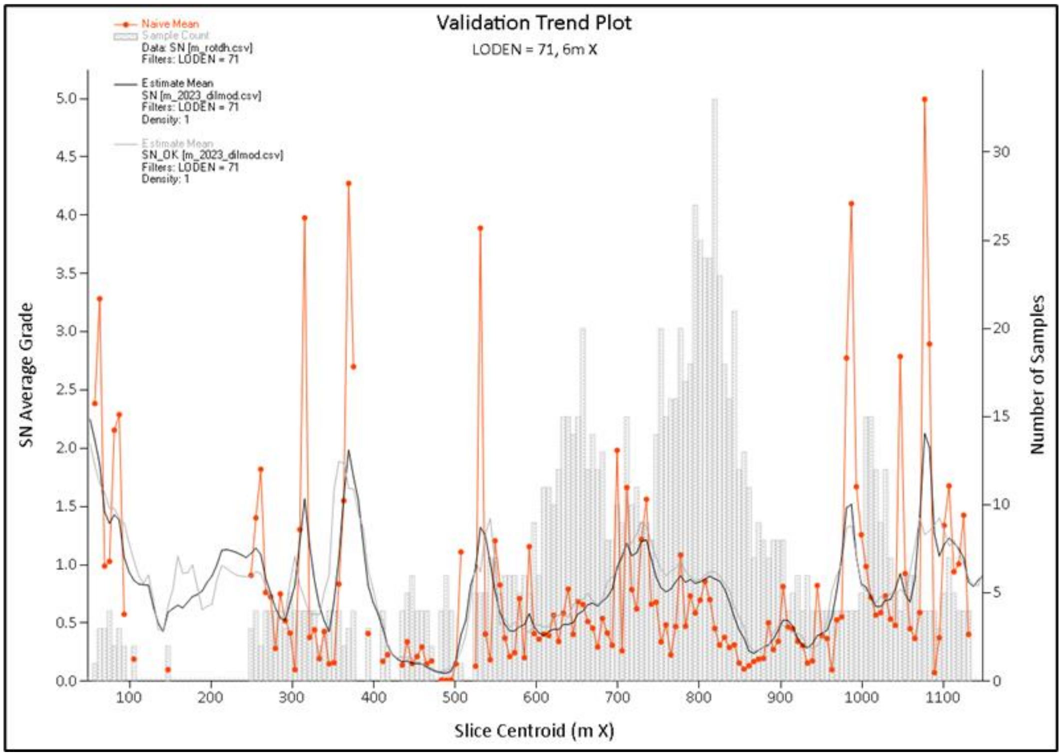
Source: AMC, 2023.

Figure 14.31 Swath plot for No. 9N along-strike



Source: AMC, 2023.

Figure 14.32 Swath plot for Main lode along-strike



Source: AMC, 2023.

Overall, the correlation between the sample composite grades and the estimated block grades are acceptable, without showing any significant over- or underestimation of the block grade.

14.3.16 Reasonable prospects for eventual economic extraction

The Lower Mine Mineral Resources meet the requirement of reasonable prospects for eventual economic extraction, having been modelled to a minimum mining width of 1.2 m to account for mining selectivity. Areas of lodes modelled with widths <1.2 m have been diluted to meet the 1.2 m minimum mining width.

In some older areas the shrink stope mining method has left small pillars and hanging remnants in stopes. Whilst it is unlikely that these will be mined on any large-scale there is the possibility that they may be collected "campaign style" as tertiary retreat pillars, and so these have not been removed from the overall Mineral Resource.

Mineral Resource for the Lower Mine are reported at a cut-off grade of 0.6% Sn based on the cut-off grade parameters detailed in Table 14.4.

14.3.17 Mineral Resource classification

Mineral Resources for the Lower Mine are classified in accordance with the JORC Code (2012). The confidence categories assigned under the JORC Code were reconciled to the confidence categories in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards – for Mineral Resources and Mineral Reserves May 2014 (the CIM Definition Standards). Mineral Resource classifications of "Indicated" and "Inferred" have been used in this Technical Report.

The South Crofty data has been reviewed and verified in relation to CIM best operating practices for reporting and for scope and content of JORC and NI 43-101 reporting through a due diligence conducted by the QP.

The classification of Mineral Resources is based on the QP opinion in relation to the quality of data, geological and grade continuity, and the quality of the grade estimates.

The Lower Mine Mineral Resources were classified as follows:

- Indicated Mineral Resources: Resources defined based on level spacing of no more than 40 m vertically, with full channel sampling on those levels. Areas of approximately 20 m diamond drilling where the lode has good continuity between intercepts have also been classified as Indicated.
- Inferred Mineral Resources: Resources estimated but not meeting the requirements to be classified as Indicated have been assigned an Inferred classification.

14.3.18 Mineral Resource reporting

Table 14.26 summarizes the South Crofty Lower Mine Mineral Resources reported in accordance with the JORC Code. Mineral Resources are limited to those parts of the mineralization at a cut-off grade of 0.6% Sn and a minimum mining width of 1.2 m.

A cut-off grade of 0.6% Sn was selected based on a metal price of US$24,000/tonne, a metal recovery of 88.5%, a mining cost of US$64/tonne, processing cost of US$34/tonne, refining/sales cost US$600/tonne, general and administration cost of US$10/tonne.

The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The Property is a previously operating mine situated in a mining friendly jurisdiction. The United Kingdom is a politically stable jurisdiction and socio-political factors are unlikely to affect the Mineral Resource. Cornish Metals has underground permissions which include five Mineral Rights, which are registered with the Land Registry, as well as areas of Mineral Rights that are leased or unregistered. Conditional planning permissions for the surface development and underground workings were granted by Cornwall Council, the Local Planning Authority (LPA), in 2011 and 2013 respectively. On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the United Kingdom Environment Agency (EA) allowing the discharge of up to 25,000 m^3 of treated water per day from the South Crofty Mine. In January 2020, abstraction licence SW/049/0026/005 was awarded to the Company by the EA. Cornish Metals has the necessary title arrangements and permits, and has addressed environmental considerations relevant to the reporting of Mineral Resources. The QP is not aware of any factors which would materially affect the Mineral Resource disclosed herein.

Table 14.26 South Crofty Lower Mine Mineral Resource estimate at 0.6% Sn cut-off as of 6 September 2023 (inclusive of remnants)

South Crofty Lower Mine Mineral Resource estimate at 0.6% Sn Cut-Off Grade (1-13)				
Lode / Zone	**Classification**	**Mass (kt)**	**Grade % Sn**	**Contained Tin (t)**
No. 1/2	Indicated	479	1.31	6,281
No. 3	Indicated	164	1.26	2,070
No. 4	Indicated	488	1.76	8,595
No. 8	Indicated	113	2.00	2,264
No. 9	Indicated	98	1.47	1,442
Dolcoath	Indicated	466	1.39	6,464
Main/Intermediate/North/Great	Indicated	61	1.09	662
North Pool Zone	Indicated	283	1.35	3,814
Providence	Indicated	-	-	-
Pryces / Tincroft	Indicated	347	1.18	4,092
Roskear	Indicated	397	1.99	7,889
Total Indicated		**2,896**	**1.50**	**43,573**
No. 1/2	Inferred	580	1.21	7,029
No. 3	Inferred	183	1.13	2,079
No. 4	Inferred	293	1.53	4,467
No. 8	Inferred	149	2.08	3,103
No. 9	Inferred	103	1.55	1,597
Dolcoath	Inferred	304	1.31	3,993
Main/Intermediate/North/Great	Inferred	276	1.16	3,214
North Pool Zone	Inferred	185	1.30	2,391
Providence	Inferred	98	1.55	1,520
Pryces / Tincroft	Inferred	177	1.34	2,375
Roskear	Inferred	278	2.01	5,596
Total Inferred		**2,626**	**1.42**	**37,364**

Notes:

1. The Mineral Resource estimate is reported in accordance with the requirements of the Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy, the JORC Code (2012).
2. The Qualified Person for this Mineral Resource estimate is Mr Nicholas Szebor, MCSM, MSc, BSc, CGeol, EurGeol, FGS, of AMC Consultants (UK) Limited.
3. Mineral Resources for the Lower Mine are estimated by conventional block modelling based on wireframing at 0.4% Sn threshold whilst honouring lode continuity and by ordinary kriging or inverse distance to the power of 3 grade interpolation.
4. Assumptions for process recovery are 88.5% for Sn.
5. Cornish Metals has used a metal price of US$24,500/tonne Sn.
6. Bulk densities of 2.77 t/m3 have been applied for volume to tonnes conversion for the Lower Mine.
7. Mineral Resources for the Lower Mine have had a minimum mining width of 1.2 m applied using 0.0% Sn dilution.
8. Mineral Resources are estimated from a depth of approximately 350 m to a depth of approximately 870 m.
9. Mineral Resources are classified as Indicated and Inferred based on drillhole and channel sample distribution and density, interpreted geological continuity, and quality of data.
10. The Mineral Resources have been depleted for past mining; however, they contain portions that may not be recoverable pending further engineering studies.
11. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
12. Effective date 6 September 2023.
13. Totals presented in the table are reported from the resource model are subject to rounding and may not sum exactly.

14.4 Comparison to previous estimate

Table 14.27 provides a comparison between the previous 2021 Mineral Resource estimates for the Lower Mine, and the current 2023 Mineral Resource update.

The results show that there has been a 31.6% increase in contained tin for the Indicated classified material, and a 15.5% for Inferred.

The main sources of increase in the Mineral Resources relates to the modelling of No. 1, No. 3, and Main, Intermediate, North and Great lodes. Assay data for these lodes had not been collated and verified by Cornish Metals at the time of the 2021 Mineral Resource estimates, and therefore these lodes were not modelled.

Assessing the Mineral Resource classification scheme, the QP was of the opinion that some of the mineralization previously classified as Inferred at Roskear met the requirements to be classified as Indicated. A proportion of the Inferred material at Roskear was therefore converted to Indicated for the Mineral Resource update.

For all other lodes, refinements to the lode interpretations and estimation parameters have had a minor impact on the overall Mineral Resource numbers.

Table 14.27 Comparison of 2023 and 2021 Lower Mine Mineral Resource results

Classification	2021 MRE Results			2023 MRE Results			Difference in contained tin	
	Mass (kt)	Grade % Sn	Contained Sn (t)	Mass (kt)	Grade % Sn	Contained Sn (t)	Mass (t)	% Difference
Indicated	2,084	1.59	33,098	2,896	1.50	43,573	10,475	31.6
Inferred	1,937	1.67	32,396	2,626	1.42	37,364	4,968	15.3

15 Mineral Reserve estimates

This section is not applicable to this Technical Report.

16 Mining methods

This section is not applicable to this Technical Report.

17 Recovery methods

This section is not applicable to this Technical Report.

18 Project infrastructure

Although not an advanced property, as this Property contains past producing mines, this section was considered relevant.

Current infrastructure supports the ongoing care and maintenance of the Property. More recent infrastructure advancements, including the servicing of shafts, and construction of the mine water treatment plant, have been implemented to support access into the historical mine. Access into the mine will facilitate additional investigations, and does not reflect a production decision by Cornish Metals.

18.1 General

The project site is divided in to two main surface areas, with the primary 7.65 ha site bounded by the main London-Penzance railway line in the south, the Red River in the west, and the Pool Industrial Estate to the east. The secondary site focused around the NCK shaft, and is connected to the primary site via a 170 m link route. Several additional satellite surface locations within the extant underground planning permissions are annexed to these two main sites for the purposes of providing mine access and ventilation.

General site infrastructure comprises a modern office block with adjoining warehouse and workshop buildings. Further offices are located adjacent to NCK shaft, fully equipped with changing and washing facilities. Part of the former mining change-house has been converted to house the electrical control installations associated with the mine dewatering pumps and an accompanying control room.

A new electrical switch room has been constructed which receives a new 11 Kv power supply, high-voltage switchgear, and distribution boards, as well as two variable speed drives which supply the dewatering pumps.

Various other mining-related structures are spread around the site, of strategic note being the NCK South Winder-house and the NCK shaft headgear, which has been fully inspected and refurbished as part of the planned site works.

The main Project site is bisected by two 33kv overhead power lines. Power requirements for the dewatering and other activities during Phase 1 are via a dedicated 11 kv cable, providing up to 5.8 MVa.

Medium-pressure gas mains are present in various locations across the site, with fresh water supplied by South West Water utility via a six-inch mains water-line that crosses the site.

Excellent connections to the national road network are established via a junction with the A30 trunk road, less than 1 km from the site entrance. Subsidiary roads around the site form part of an extensive industrial estate, resulting in ease of access for heavy goods traffic and oversize loads.

18.2 Mining

Previous mining operations have resulted in a legacy of considerable underground infrastructure.

NCK shaft is the main access point for the underground workings, with the vertical shaft extending to a final depth of 769 m below shaft collar. Further sub-declines extend from the lower depths of NCK shaft and reach an eventual maximum depth of 885 m below surface.

This Dolcoath Deep Adit system is a key piece of infrastructure related to the dewatering of the mine. This network of drainage tunnels extends from the southern extents of South Crofty's surface permit, to a discharge point approximately 2 km linearly to the north-west at Roscroggan. The main adit is approximately 50 m–55 m below surface and ensures connected mine workings above this elevation are kept drained. This conduit currently discharges an average of 15-20 ML/day of untreated mine water into the Red River.

The location of this discharge point is advantageous for the dewatering phase of operations at South Crofty, as utilization of the adit system negates the need to discharge the full quantity of treated mine water into the Red River below the mine site. This significantly reduces the flooding risk for the urbanized area of Tuckingmill, which being located to the south of the Roscroggan adit portal, therefore remains upstream of the discharge point for the majority of treated water from the mine.

Connected to this adit system is Middle Engine shaft, situated on the South Crofty Project site immediately adjacent to the water treatment plant. This shaft is concrete-lined from surface down past the adit level and is proposed to be utilized as the primary route for the treated water discharge pipeline, as well as an integrated escape ladderway servicing the existing underground workings.

The former main exhaust ventilation shafts form part of the infrastructure located to the west and east of the main South Crofty Project site, with both Roskear and Taylors shafts included in the extant underground planning permissions. These shafts, along with other subsidiary ventilation routes, will enable re-access to the underground workings during and following dewatering.

The Tuckingmill Decline was originally intended to serve as a trackless access to the deep working levels of the mine. This decline was commenced in the late 1980s and was mined in an easterly direction, reaching a vertical depth of 120 m below surface before funding was withdrawn for the scheme in 1988. This decline was mined to minimum cross-sectional dimensions of 3.6 m x 5.0 m in the upper, arched sections.

Pre-production mining operations conducted since the original 1998 closure of the mine utilized this Tuckingmill Decline as an access point for modern mobile trackless equipment. During this time, a modern sub-decline was developed westwards off the 30 m horizon of the original Tuckingmill Decline. The sub-decline was sunk to an eventual depth of 120 m vertically, at dimensions no less than 4.0 m x 5.0 m. This decline and its subsidiary development, totalling more than 1,300 m, has been under a programme of care and maintenance since 2013 and will be utilized for ventilation and drainage during the dewatering operations. These workings can subsequently be used to provide infrastructure routes for ore handling and further trackless access to the deeper workings of the mine, pending additional development.

18.3 New Cook's Kitchen (NCK) hoisting

NCK shaft is a rectangular (2.5 m by 6.0 m) shaft divided into four compartments, two service and man-riding, and two skip-hoisting compartments serviced by two adjoining headframes. The south headframe services the service and man-riding western compartments and the north tower headframe service the eastern skip-hoisting.

Both headframes have undergone a thorough inspection, testing, and numerical modelling programme which modelled the initial re-entry and also full production operations. The inspection programme included metal testing and non-destructive testing.

18.4 Mine dewatering

Two 950 kW submersible pumps have been installed 350 m down NCK shaft for the purpose of dewatering the mine, each pump is connected to new steel rising mains up to the shaft collar. The shaft collar pipework for each rising main connects to separate manifolds comprising of instrumentation and connection to HDPE pipelines which connect to the mine water treatment plant.

18.5 Mine water treatment plant

Construction of a treatment plant to process mine water during dewatering and for subsequent steady-state pumping is, at the time of writing, nearing completion, with dewatering expected to commence during October 2023.

The mine water treatment plant comprises a three stream high density sludge (HDS) plant capable of treating 25,000 m^3/day of mine water.

19 Market studies and contracts

This section is not applicable to this Technical Report.

20 Environmental studies, permitting and social or community impact

Whilst the South Crofty Property is not considered to be an advanced property, it was a previous producing operation that was subject to extensive mining activity until closure in 1998 and has had a number of advancements in environmental studies, permitting, and community impact since closure. This information is considered relevant to the Project and details are provided herein.

The South Crofty Property is situated in the Town of Pool between Camborne and Redruth in Cornwall, United Kingdom. It is part of the Cornwall and West Devon Mining Landscape, and is partly within a United Nations Educational, Scientific and Cultural Organization (UNESCO) designated World Heritage Site, comprised of mining landscapes in Cornwall and West Devon.

Conditional planning permissions for the surface development and underground workings were granted in 2011 and 2013, respectively. A Class A installations permit to build and operate a water treatment plant with a discharge consent for dewatering the mine was awarded to Cornish Metals by the Environment Agency in October 2017. Following a change in the law in 2019, whereby abstraction for the purposes of dewatering mines was no longer considered an exempted activity, an abstraction licence was also granted by the Environment Agency in January 2020.

20.1 Permitting

Cornwall Council, the Local Planning Authority (LPA), issued a grant of conditional planning permission for surface activities relating to the Project on 3 November 2011 (PA10/04564). The application proposed modernization of South Crofty Mine to allow continuation of winning and working of minerals by the erection of buildings, plant and works for ore processing, ancillary processes, associated operations and deliveries, comprising:

- The main processing plant building, also containing associated engineering works for additional accesses to the underground mine.
- Electricity substation, aggregate store, fuel storage, explosives storage.
- Tailings treatment.
- Emergency tailings storage.
- Ancillary buildings (i.e., high density thickeners, security, pumped mine water storage, loading ramp, chemical silos, bottled gas compound, offices, changing rooms, stores, archive, vehicle and plant maintenance, storage containers).
- Earth works, mine shaft ventilation caps.
- Surface water management, water treatment plant.
- Access roads, car park areas, weighbridge, and wheel washes.
- Aggregate screening and stockpiling area.

Conditional Planning Permission (Decision PA10/05145, dated 7 January 2013) was granted by the LPA on 7 January 2013 for underground activities and authorizes:

- The underground winning and working of minerals within an area outlined on a drawing attached to the application.
- The development of surface operations ancillary to mining, including the use of seven shafts for mechanical ventilation purposes (namely Robinsons, Middle Engine, Trevenson, Taylors, Williams, New Roskear, and Simms).
- The continued use of NCK shaft with the potential for ore hoisting only with the prior written approval of the LPA.
- The retention of use of Maynes, Palmers, Caravan, Tredinnicks, Druids Whim, Dunns, Daylight shafts, and their existing surface developments.

- The use of Water Engine and Gossan shafts and their proposed surface developments as approved by the LPA.
- The development of surface operations at, or the use of other shafts (apart from those listed above) for access/ventilation purposes, necessary for and ancillary to mining operations with the prior written approval of the LPA.

On 23 October 2017, Cornish Metals announced that it had received Permit EPR/PP3936YU from the EA, allowing the discharge of up to 25,000 m^3 of treated water per day from the South Crofty Mine. Untreated water from historic mining operations (pre Cornish Metals) currently flows directly into the Red River.

In January 2020, abstraction licence SW/049/0026/005 was awarded to the Company by the EA. This permit allows up to 25,000 m^3 per day of raw mine water to be abstracted from the mine and pumped to the process plant. The need for this additional permit was brought about by a change in legislation after the 2017 discharge permit was issued. Previously regulations allowed for the abstraction of groundwater for the purposes of mine dewatering. These two permits together enable Cornish Metals to construct and operate a mine water treatment plant to pump water from the mine and discharge the treated water into the Red River. The water treatment plant is in an advanced state of construction and will be commissioned in October 2023 and dewatering of South Crofty Mine will commence thereafter.

Agreement on the surface permissions was reached between Cornish Metals, Historic England, and Cornwall Council, and the conditional planning was duly granted on 3 November 2011 and subsequently declared to be lawfully implemented and extant on 30 January 2017. The two modern planning permissions, together with the 1952 permission and 2006 Review of Mineral Planning (ROMP), permit mining, hoisting, mineral processing, and other ancillary operations at South Crofty until to 2071.

As part of the planning conditions, Cornish Metals has quarterly on-site monitoring reviews of the mineral planning permissions from the LPA. This addresses all planning conditions and reviews if the company is in compliance of its planning conditions. At the time of writing Cornish Metals is in compliance with all of its mineral planning conditions.

Waste rock and thickened tailings are proposed to be used to backfill mined-out workings. The underground permission requires tailings leach testing and LPA approval before tailings could be used for underground backfilling. The permissions will also likely require other non-material amendments to the current LPA approvals as the Project is advanced.

20.2 Environmental studies

Atkins Engineering Limited completed two environmental impact assessments for the below-ground and above-ground works at the South Crofty Mine in support of applications for planning permission. Conditional permissions were granted for the above-ground (surface) and below-ground (underground) activities at the South Crofty Mine in 2011 and 2013 respectively, as discussed in Section 20.1.

20.3 Social or community impact

The UK planning process involves a consultation period where the application is open to public comment, including support and objection. The Project as proposed in 2011 was not materially objected to, with one exception. In 2012, UNESCO initially expressed its opposition to the Project as proposed in 2011. It is of note that UNESCO has no jurisdiction over planning decisions in the UK and its statement of opposition was made after the conditional planning permission had been granted.

Cornish Metals carries out quarterly liaison meetings with stakeholders to provide updates on Project progress. Regular contact with parish councils in the Project area is also made to inform on operational activities. In addition to this, Cornish Metals employs a designated Community Liaison Manager to consult directly with local stakeholders on activities which might impact them and ensure open lines of communication exist between Cornish Metals and local residents and businesses.

Cornish Metals also carries out community liaison open days which are scheduled to inform the community of new projects and significant milestones of the Project development. These events share the Cornish Metals' progress and plans in order to engage and receive feedback from the local community. Feedback from these events is used to inform materiality assessments for the Project.

20.4 Closure

Closure plans would be regularly updated by Cornish Metals and evolve through the operational period of the Project, to enable the mine to be closed in an orderly manner. The surface planning permission requires a restoration plan be submitted for approval two years before the expiration of planning permission or within two years of the permanent cessation of mineral working, whichever is sooner.

The mine would be closed in an orderly manner based on a closure plan. As defined in the surface permission, a surface restoration scheme would need to be submitted for approval at least two years prior to the expiration of the date in the permission or within two years of the permanent cessation of mineral working, whichever is the sooner. In addition, a restoration scheme for surface features and shafts would be required two years before the expiration of planning permission or two years before the permanent cessation of mineral working, whichever is sooner.

Closure costs are not known at this stage in the Project.

20.4.1 Surface permission closure requirements

The surface permission closure scheme would be required to detail:

- The nature of the intended after-use of the site.
- The sequence and phasing of the restoration.
- Remediation of any contaminated land as necessary.
- The ripping of any compacted layers of the final cover to ensure adequate drainage and aeration; such ripping to take place before the placing of topsoil.
- The machinery to be used in any soil respreading operations.
- The final levels of the reclaimed land and grading to prevent ponding of surface water.
- Drainage of the reclaimed land, including the formation of suitably graded contours and the installation of artificial drainage as necessary.
- The reinstatement of the site and access roads by clearing plant, buildings, and machinery, hard standings, concrete, and brickwork.
- Surface treatment of reclaimed areas.
- The planting and maintenance of trees, shrubs, and hedgerows as appropriate, including location, species, size, number, and spacing.
- The seeding, fertilizing, watering, draining, or other treatment of the land.
- Location and type of fencing and gates.
- Time-scales for implementing and completing the works, and schedule of buildings and structures to remain and those to be removed. The surface permission indicates the structures that are to be removed as part of the restoration scheme, and the buildings/structures (capable of non-mineral after-use) that might be retained.

20.4.2 Underground permission closure requirements

As with the surface planning, the underground permission would require a restoration scheme for the surface features and shafts to be submitted. The scheme would be required to detail:

- The nature of the intended after-use of the surface features and shafts.
- Mine water treatment.
- Ventilation fans removal.
- Reinstatement of shafts to accommodate bat refuges.
- Restoration sequence, phasing, and timescales.

21 Capital and operating costs

This section is not applicable to the Technical Report.

22 Economic analysis

This section is not applicable to this Technical Report.

23 Adjacent properties

Whilst extensive mining activities have taken place in the region historically, there are no other mines operating or in development in the immediate vicinity of the South Crofty Project.

Other companies exploring and developing tin projects in Cornwall and the south-west of England include:

- Cornwall Resources Ltd, developing the Redmoor tin project, situated between the village of Kelly Bray and the town of Callington in south-east Cornwall, 75 km north-east of South Crofty.
- Cornish Tin Ltd, exploring for tin near the village of Breage 14 km south-west from South Crofty, and for lithium at the nearby Godolphin granite.

24 Other relevant data and information

To the best of the authors' knowledge, there is no other relevant data, additional information, or explanation necessary to make the Technical Report understandable and not misleading.

25 Interpretation and conclusions

The Mineral Resource estimates for both the Upper and Lower Mine areas of the South Crofty Property are based on extensive sampling undertaken prior to the mine closure in 1998. Limited additional drilling in 2008–2013 in the Upper Mine has added to the data available for the Upper Mine Mineral Resource estimate. Drilling completed by Cornish Metals in 2020 and 2022–2023 has provided additional assay information for the Lower Mine Mineral Resource estimates.

The most recent drilling completed by Cornish Metals in 2020 and 2022–2023 has targeted the down-dip extents of lodes within the Lower Mine. The 2020 drilling focused on the down-dip extensions of lodes No. 4 and No. 8. The 2022–2023 drilling tested the down-dip extents of lodes No. 1, No. 4, No. 8, Roskear B FW, and North Pool Zone. Drilling has been completed from surface. The completed drillholes showed mineralized intercepts close (<5 m) to the planned intercept depths supporting the geological interpretation of the lodes and that the lodes remain open down-dip. In addition to intercepting known lodes, mineralized intercepts were also encountered in structures not previously mined, which might warrant further investigation.

The Cornish Metals drillholes were planned to avoid the historical mine workings. The successful completion of the drillholes, given the extensive quantity of underground workings, helps to provide support for the veracity of the mine surveys.

Cornish Metals has undertaken an extensive programme of data collation, digitization, and validation to incorporate sample and survey data into a robust form suitable for inclusion in the Mineral Resource estimates. Overall, the QP is of the opinion that the approach taken by Cornish Metals is suitable and has been performed in a diligent manner. The QP has completed a review of drillhole assay certificates from the 2008–2013 drilling for the Upper Mine, and mine ledgers for channel samples in the Lower Mine. Reviewing the Lower Mine ledgers included checks of the spatial position of the channel samples, as well as the assay results and channel lengths. For assay results obtained using the vanning method, ledgers record the assay results in SnO_2 lbs/ton, and the channel length in feet. The QP has verified the conversions of SnO_2 lbs/ton to Sn%, as well as conversion of sample length from feet to metres. The QP review indicates no significant data transcription errors that would materially impact the Mineral Resource estimates.

A key challenge faced by the Project is the lack of supporting QA/QC data for the sampling works performed prior to 1998. The QP has undertaken a programme of data review which has included a comparison of assay methods (vanning versus XRF), pseudo-twinning analysis, assay certificate reviews, and a review of the QA/QC data for the 2008–2013, 2020, and 2022–2023 drilling.

The QP has reviewed the sample data on a lode-by-lode basis to ascertain areas where there are coincident intervals of vanning and XRF assays. The QP has selected areas where samples are situated within discrete shoots and therefore less susceptible to bias from the inherent heterogeneity of the mineralization. The vanning and XRF comparisons show comparable grade populations with no evidence of significant bias noted. The mean grades for the vanning assays are typically slightly lower than the corresponding XRF assays, potentially indicating that the vanning assays are more conservative than the XRF. The QP is of the opinion that both assay methods are suitable for inclusion in the Mineral Resource estimates.

Reviewing the QA/QC data shows no significant issues associated with sample contamination. CRM submissions for the 2008–2013 drilling and the Cornish Metals 2020 and 2022–2023 drilling show good levels of analytical accuracy. Reviewing the duplicate QA/QC data shows that field duplicates show a poor level of precision which is markedly improved following the crushing and pulverization stages of sample preparation. The results indicate that mineralization is inherently nuggety and homogenization of the samples is only achieved following the crushing stage.

Based on the pseudo-twinning analysis, and the review of duplicate assay results, the QP is of the opinion that grade variability is likely a function of the inherent compositional and distributional heterogeneity of mineralization rather than a sampling issue.

Whilst the review work performed by the QP is sufficient to allow the reporting of Inferred and Indicated Mineral Resources, further, QA/QC activities are required to add further confidence to the sample data before assigning a Measured classification. Subject to future access to the mine workings, Cornish Metals should consider a programme of twin sampling, which would include submission of QA/QC samples.

Reconciliation work carried out correlating the Mineral Resource estimates with historical production data provides support to the veracity of the grade estimates. The reconciliation data is limited to those lodes where production reports can be linked to specific lode areas and other lode areas may not have the same degree of correlation.

Cornish Metals has taken a diligent approach to collating and digitizing historical mine plans, cross-sections and longitudinal sections to complete the Mineral Resource estimates. The data used is based on detailed survey work conducted during the historical mining operation. Under the Mines and Quarries Act of 1954 and subsequent versions, including the Mines Regulations 2014, a mine operator must ensure that there are accurate plans of all the workings within a mine (abandoned or not). Under this statutory requirement, Cornish Metals possess an extensive set of mine surveys, including the original surveyors calculation books, which are safely stored in the mine archive.

The digitized survey data has been used to deplete the Mineral Resource estimates, and to flag areas as remnants where there is a potential to recover pillars or remaining mineralization through a campaign-style recovery method. Whilst there is the potential to recover these remnant areas, subsequent mining studies might preclude them from being incorporated into a mine plan and economics being allocated to them. Remnants comprise approximately 21% of the Lower Mine Indicated Mineral Resource and 4% of the Lower Mine Inferred Mineral Resource.

Processing recoveries for Sn from the Lower Mine are well documented in the historical monthly geological reports. Recoveries for the Upper Mine might differ from those documented for the Lower Mine owing to the lower average Sn grade of 0.65% compared to 1.4% Sn in the Lower Mine. Metallurgical testwork is currently ongoing and might yield results which differ from the historical recoveries.

The Mineral Resource estimates for the South Crofty Property have been completed for the Upper Mine and Lower Mine areas. The Upper Mine was originally estimated by P&E on 26 February 2016. No material changes have occurred in the Upper Mine since that date. Mineral Resource estimates for the Lower Mine area were completed by Mr Aaron Wilkins, Chief Geologist of Cornish Metals and Mrs Lauren Beveridge, Senior Resource Geologist of Cornish Metals. The Upper and Lower Mine estimates have been reviewed by independent QP Mr Nick Szebor, CGeol, EurGeol, of AMC. Mr Szebor takes responsibility for the estimates he reviewed. AMC acknowledges Cornish Metals initiative in undertaking the Mineral Resource estimation internally.

Grade estimates was completed for 9 lodes in the Upper Mine area, and 64 for the Lower Mine area. Grades were estimates using a block modelling approach using the Inverse Distance Weighting cubed (IDW3) interpolation method. Additional lodes modelled in the Lower Mine since the previous 2021 Technical Report include No. 1, No. 3, and Main, Intermediate, North and Great lodes. Assay data for these lodes had not been collated and verified by Cornish Metals at the time of the 2021 Mineral Resource estimates. Grade estimates were completed for Sn only in the Lower Mine, and for Sn, Cu and Zn in the Upper Mine. A minimum mining width of 1.2 m has been applied to the

Mineral Resources, and Mineral Resources reported at a 0.6% SnEq cut-off grade accounting for the 1.2 m dilution.

For the Upper Mine a SnEq grade has been estimated for each block in the block model based on the following long-term metal price forecasts: Sn US$24,500/t, Cu US$ 8,000/t and Zn US$2,700/t. For the Lower Mine area the 0.6% SnEq cut-off grade is based on the Sn grade only.

Indicated Resources for the Upper Mine total 260 kt averaging 0.69% Sn, 0.78% Cu and 0.59% Zn, while Inferred Resources total 465 kt averaging 0.66% Sn, 0.63% Cu and 0.63% Zn.

Indicated Resources for the Lower Mine total 2,896 kt averaging 1.50% Sn, while Inferred Resources total 2,626 kt averaging 1.42% Sn.

Overall, the QP is of the opinion that the Mineral Resource estimates are a fair representation of the sample data on which they are based. The extensive mining history shows the mineralization is amenable to extraction and processing, but further work is required to prove up the Project economics.

The Mineral Resource update show that there has been a 31.6% increase in contained tin for the Indicated classified material, and a 15.5% for Inferred compared to the 2021 estimates. The main sources of increase in the Mineral Resources relates to the modelling of No. 1, No. 3, and Main, Intermediate, North and Great lodes. Assay data for these lodes had not been collated and verified by Cornish Metals at the time of the 2021 Mineral Resource estimates, and therefore these lodes were not modelled.

Dewatering of the mine is scheduled to commence in October 2023. The dewatering will allow access for check sampling and offer much improved options for exploration drilling to further verify mineralization and test extents. In addition, the improved drilling access afforded by dewatering, when combined with suitable surface exploration drilling sites, can be used to investigate adjacent areas with mineralization potential surrounding the existing South Crofty workings.

26 Recommendations

Since the previous 2021 Mineral Resource estimate, Cornish Metals has undertaken further work to collate, digitize, and validate historical sample data into the Mineral Resource database. As a result of this work, additional lodes have been modelled as part of the current Mineral Resource estimates. The QP recommends that additional work be undertaken to collate the outstanding historical sample data into the database to further inform the Mineral Resource estimates. The collation of historical sample data can be accommodated by the current Cornish Metals geological team and existing operating costs.

To supplement and to provide additional support to the historical data, Cornish Metals should carry out further confirmation sampling works. The QP is of the opinion that sampling from underground following dewatering would provide the best access for drilling and sampling. The QP understands that Cornish Metals is planning to commence dewatering in October 2023. Dewatering of the mine would require 18-months to two years, but with potential drilling access coming sooner at approximately six months. The cost of dewatering has previously been estimated by Cornish Metals at US$20,000,000.

Whilst dewatering is ongoing, the QP recommends additional surface drilling. The number of drillholes would be limited due to surface access restrictions, and costs would range between US$270,000–US$1,000,000.

As part of any sampling works a rigorous QA/QC scheme should be implemented. The QP recommends continued use of CRMs, blanks, and duplicates for any additional sampling.

Following dewatering, a programme of checking the mine surveys should be undertaken to provide additional support to the historical digitized mine survey data. The additional survey checks could be undertaken by Cornish Metals under its existing operating costs.

Metallurgical testwork is currently ongoing and includes sample characterization testwork, pre-concentration testing, bulk shaking table testwork, deslime and tin flotation, and tin dressing of primary and secondary bulk gravity concentrates. Upon completion of this testwork programme the results should be reviewed and consideration given to the potential recoveries and any impact to the reported Mineral Resources.

Samples for the metallurgical programme have been limited to those obtained from surface drilling of the down-dip extents of known lodes. As the mine dewatering progresses further, the QP recommends that metallurgical sampling and variability testwork should be completed on the upper parts of the mine and lodes not currently covered by the ongoing metallurgical testing. Costs would range between US$100,000–US$500,000.

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28 Qualified Person Certificates

Qualified Person Certificates are provided in this section.

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CERTIFICATE OF AUTHOR

I, Nicholas Szebor, CGeol (London), EurGeol, FGS, MSc, BSc of Maidenhead, United Kingdom, do hereby certify that:

1. I am currently employed as the General Manager (Maidenhead, UK) / Principal Geologist with AMC Consultants (UK) Limited, with an office at Building 3, 1st Floor, Concorde Park, Concorde Road, Maidenhead, Berkshire, SL6 4BY, United Kingdom.
2. This certificate applies to the technical report titled "Technical Report, South Crofty Tin Project, Mineral Resource Update" with an effective date of 14 September 2023, (the "Technical Report") prepared for Cornish Metals Inc. ("the Issuer").
3. I am a graduate of Camborne School of Mines in Penryn, Cornwall, UK (Master of Science in Mining in 2006), and the University of Wales in Bangor, UK (Bachelors of Science in Ocean Science in 2004). I am a member in good standing of the European Federation of Geologists (Licence #1174), Geological Society of London (Licence #1015279), and a fellow of the Geological Society of London (Licence #1015279). I have 16 years of experience within the mineral industry working in roles including consultancy and production. My experience covers a range of commodities, geological settings, exploration, and production environments, including underground and open-pit operations. This experience has been obtained across the mining lifecycle from early-stage exploration to production and mine closure. And I have carried out mineral resource estimates to international reporting codes including JORC, CIM (NI 43-101), and SAMREC. I am familiar with the tin deposits of Cornwall, having studied the geology of the region, and having worked on other projects in the region. I am familiar with narrow-vein "nuggety" styles of mineralization both in terms of exploration methods, sampling, and Mineral Resource estimation.
4. 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.
5. I have visited the property in July 2023 and February 2020, for two days.
6. I am responsible for Sections 2-12, 14-24, 27, and parts of Sections 1, 25, and 26 of the Technical Report.
7. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report in that I was a qualified person for the previous AMC Technical Report on the South Crofty Property in 2021 (filed 23 July 2021, effective date 7 June 2021).
9. I have read NI 43-101, and the Technical Report / the sections of the Technical Report for which I am responsible for has been prepared in compliance with NI 43-101 and Form 43-101F1.
10. 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 / the sections of the Technical Report for which I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 14 September 2023
Signing Date: 27 October 2023

Original signed by

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I, Robert Chesher, FAusIMM(CP), RPEQ, MTMS, of Brisbane, Australia, do hereby certify that:

1 I am currently employed as Senior Principal Consultant with AMC Consultants Pty Ltd, with an office at Level 15, 100 Creek Street, Brisbane, Queensland, 4000, Australia.

2 This certificate applies to the technical report titled "Technical Report, South Crofty Tin Project, Mineral Resource Update" with an effective date of 14 September 2023, (the "Technical Report") prepared for Cornish Metals Inc. ("the Issuer").

3 I am a graduate of University of Queensland in Saint Lucia, Australia (BA Science in Metallurgical in 1977). I am a Fellow in good standing of the Australian Institute of Mining and Metallurgy (AusIMM) and am accredited as a Chartered Professional of the AusIMM in the discipline of Metallurgy (Licence #311429). I am a Registered Professional Engineer of Queensland (RPEQ #24758). I have practiced my profession continuously since 1977. My expertise is in corporate and technical (metallurgical) consulting, focusing on operational and performance reviews, improvements, and optimization.

4 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.

5 I have not visited the property.

6 I am responsible for Sections 13 and parts of 1, 25, and 26 of the Technical Report.

7 I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of NI 43-101.

8 I have had prior involvement with the property that is the subject of the Technical Report in that I was a Qualified Person for the previous AMC Technical Report on the South Crofty Property in 2021 (filed 23 July 2021, effective date 7 June 2021).

9 I have read NI 43-101, and the Technical Report / the sections of the Technical Report for which I am responsible for has been prepared in compliance with NI 43-101 and Form 43-101F1.

10 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 / the sections of the Technical Report for which I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: 14 September 2023
Signing Date: 27 October 2023

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