

13693 230a Street MAPLE RIDGE, BC. V4R 0G4 Tel. +1 (778) 240-5004 e-mail: deon@rockridgeconsult.com Web: www.rockridgeconsult.com Business No: 81755 6632 BC0001

# TECHNICAL REPORT ON THE UPDATED MINERAL RESOURCE ESTIMATE FOR THE NEWTON PROJECT, AXCAP VENTURES, CENTRAL BRITISH COLUMBIA, CANADA

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#### NI 43-101 REPORT

#### **QUALIFIED PERSONS:**

Michael F O'Brien, M.Sc., P.Geo.

Kelly McLeod, P.Eng.

Douglas Turnbull, H.B.Sc., P.Geo.

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# 1. SUMMARY

### **Executive Summary**

#### INTRODUCTION

RockRidge Partnership & Associates ("RockRidge") was retained by Axcap Ventures Inc. ("Axcap" or the "Company") to prepare an independent technical report on the Newton Project ("Technical Report"), located in south-central British Columbia, Canada (the "Newton Project", "Newton", the "Newton Property", the "Project" or the "Property").

Axcap entered into a non-binding letter of intent (the "LOI") dated September 27, 2024, with Carlyle Commodities Corp. ("Carlyle") to acquire the Newton Project.

The Newton Property consists of 62 claims comprising an area of approximately 23,003 ha. Carlyle holds a 100% interest of the mineral rights of the Newton Project, subject to the Amarc NSR and an additional 2.0% NSR on certain mineral claims at the Newton Project in favour of two underlying owners, which can be purchased at any time for \$2,000,000. Carlyle does not directly or indirectly hold any surface rights.

This Technical Report conforms to National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101"). Mr. Michael O'Brien, P.Geo., a consulting geologist with RockRidge, most recently visited the property on October 8, 2024. During the field visit to the Property, Mr. O'Brien traversed the central portion of the deposit on foot and examined float material from rehabilitated trenches, drill collars and reviewed drill cores at Amarc's warehouse facility located at Williams Lake.

The gold-silver mineralization at Newton is associated with disseminated pyrite that is hosted primarily by a sequence of pyroclastic flows of felsic composition that have been intruded by younger dykes of intermediate composition. From 2009 to 2012, Amarc conducted numerous exploration programs at the Newton Project to test for the presence of gold-silver mineralization in the northern extents of its large property holdings. These exploration programs included geophysical and geochemical surveying, mineralogical studies, re-logging of drill core generated from previous exploration programs, and diamond drilling. Amarc's exploration culminated in a maiden resource estimate by Roscoe, Postle and Associates ("RPA") in 2012.

In December of 2022, Carlyle acquired a 100% interest in the Newton Property from Amarc and engaged RockRidge to complete a mineral resource estimate update in 2022. Prior to the LOI and subsequent to the 2022 mineral resource estimate update, Carlyle conducted 2,856.3 metres of diamond drilling in 10 drillholes and metallurgical testwork in 2023.

#### INTERPRETATION AND CONCLUSIONS

The QP believes exploration on the Newton Property to date has successfully identified a mineralized system that exhibits characteristics typical of bulk-tonnage, strata-bound, low to intermediate sulphidation epithermal gold-silver deposits. The mineralisation (disseminated gold and associated base metals) is primarily hosted by thick sequences of late Cretaceous-aged permeable felsic volcaniclastics and flows and contemporaneous felsic intrusions, emplaced into a structurally active graben environment. The host rocks show strong, widespread sericite- quartz alteration with variable siderite and several percent pyrite and/or marcasite. Additional mineralization is hosted to a lesser degree by intrusive rocks of intermediate and felsic composition. Initial studies suggest that the gold occurs predominantly as high fineness electrum and is preferentially associated with marcasite-bearing alteration.

The drilling completed to date has outlined a significant, gold-silver deposit over an area of approximately 800 m by 800 m and to a depth of approximately 560 m from surface. The deposit is coincident with a NW trending magnetic low and occupies a restricted area within an extensive, seven square kilometre hydrothermal system (as indicated by the outline of the 8 MV/V contour of the induced polarization (IP) chargeability anomaly) that exhibits widespread metal enrichment, and which remains to be fully explored. Drill results to date indicate that there is potential to expand the current bulk-tonnage gold resource and also suggest that there are possibilities to discover structurally controlled zones of higher-grade gold mineralization and copper-gold porphyry-style mineralization in proximity to the Newton mineralized system.

The QP has reviewed the quality assurance/quality control ("QA/QC") programs employed by Carlyle during the most recent drilling campaigns and assaying programs and found them to meet current industry best practices.

During the 2022 site visit, discrepancies were noted between collar locations in the drillhole database and the current topographic data. Although these discrepancies were not deemed to

have a material impact on the mineral resource estimate, any further drilling and interpretation would benefit from a new high-resolution topographic data set.

The QP has applied grade caps to the estimation domains that were used to prepare this Mineral Resource estimate. Review of the distribution of gold and silver grades suggested that capping is warranted.

Examination of contour plots of gold grades for selected sections and benches through the deposit reveal that a weak mineralization trend appears to be present in the data examined. A gradeblock model was prepared using the modeled domains to ensure proper coding of the model. "Hard" domain boundaries were used along the contacts of the mineralized domain model. Only data contained within the respective domain models were allowed to be used to estimate the grades of the blocks within the domain in question, and only those blocks within the domain limits were allowed to receive grade estimates. Only the capped, composited grades of the drillhole intersections were used to derive an estimate of a block's grade.

A series of domain wireframe solids were created in three-dimensional modeling software (Leapfrog Geo) that outlined those portions of the deposit that demonstrate continuity of mineralization. These three-dimensional solids were used as one of the constraints in the preparation of the Mineral Resource estimate.

A conceptual pit shell was generated using a Lerchs-Grossmann optimizer as an additional constraint in the preparation of this Mineral Resource estimate. In the absence of definitive geotechnical information, a 50° overall pit wall slope angle was applied.

The Mineral Resources in this Technical Report were estimated in accordance with the definitions contained in the CIM Definition Standards on Mineral Resources and Mineral Reserves (CIM definitions) that were prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 10, 2014.

The mineralized material for each domain was classified by the QP into the Inferred Mineral Resource category based on the search ellipse ranges obtained from the variography study, the application of an open pit shell along with a constraining volume, and its experience with these deposit types in the past.

The Mineral Resources are presented in Table 1-1. At a cut-off grade of 0.25 g/t Au, a total of 41,071,100 tonnes are estimated to be present at an average Au equivalent grade of 0.68 g/t (842,900 contained oz Au) and (4,506,100 contained oz Ag).

Resource in Optimized Pit (Inferred)		Grade		Metal Content			
Cut Off	Mass	Au	Ag	AuEQ <sup>3</sup>	Au	Ag	AuEQ <sup>3</sup>
Au	t	(g/t)	(g/t)	(g/t)	(t. Oz)	(t. Oz)	(t. Oz)
0.25	41,071,100	0.64	3.41	0.68	842,900	4,506,100	900,200

Notes

1. Differences may occur in totals due to rounding.

 CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) and CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2019) were used for mineral resource estimation.

3. Metal price used are US\$1950/Oz for Gold and US\$25/Oz for Silver.

4. Recovery factors used are 80.3% for Au and 32.7% for Ag.

5. Prices are in US\$ per Troy ounce.

6. Effective date for the Mineral Resource December 1, 2024.

There are no Mineral Reserves estimated for the Newton Project.

#### **EXPLORATION POTENTIAL**

Much of the large Newton sulphide-bearing alteration zone, as defined by Amarc's 2010 IP survey, has not been thoroughly explored. There is a clear relationship between the felsic volcanoclastic units and disseminated gold mineralization at the Newton Project. Felsic volcaniclastic units mapped on surface and modeled in 3D based on historic drilling indicate that these felsic units persist at depth but have only received a limited amount of drilling. Of the widely spaced drilling completed NW of the most intensely drilled portion of the Newton Deposit, 9 of the 10 drillholes completed in 1972 by Cyprus Exploration Corp. (Cyprus), intersected intervals of felsic volcaniclastic rocks. Of these 9 holes, 5 were not analyzed for gold and/or silver, and 4 were partially sampled and analyzed for gold only. At that time, Cyprus was primarily interested in the copper potential at Newton, and they did not conduct any gold analyses. Of the partially sampled holes, drillhole 72-06 contains two higher grade gold intersections (79.2m to 82.2m and 222.5m to 225.6m). Of particular note is drillhole 72-03 which intersected a 211m interval of felsic volcaniclastic rock and although there are indications this interval was sampled, likely for copper, gold analyses were not conducted. In 1987, Rea Gold Corp. ("Rea Gold") resampled the 1972 drill core, but details and results of this sampling could not be found.

The main part of the Newton deposit is also coincident with a NW trending magnetic low that extends from the eastern side of the resource model, approximately 1km to the northwest (Figure 25-2). The Newton Deposit and felsic volcaniclastic units immediately NW of the most intensely drilled portion of the Newton Deposit are coincident with this NW trending magnetic low. As part of the recommendations in their 2022 technical report, RockRidge recommended further drilling be carried out in this area to confirm mineralization identified in historical drilling. In 2023, Carlyle completed seven drillholes, northwest and north of the Newton Deposit. Based on favourable gold results from this drilling, Carlyle outlined two new target areas, Halo and Sunrise (See Figure 25-2).

At Halo, three drillholes (N23-93 to 95) were completed approximately 400 metres north of the Newton resource confirming and extending gold mineralization identified in historic drillhole 10030. A fourth drillhole (N23-96) was completed north of the Newton resource and approximately 200m south of Halo intersected mineralization suggesting that the mineralization at Halo may extend to the south toward the Newton Deposit. Further drilling is recommended to define the extent of mineralization at Halo.

At Sunrise, Carlyle completed a short exploration drillhole (N23-98) in a sparsely drilled area northwest of the Newton Deposit and peripheral to a broad area with elevated gold in soil and chargeability anomalies that correlate with untested felsic volcanics. Drillhole N23-98 intersected anomalous gold mineralization hosted in strongly altered felsic intrusive rocks.

Further drilling is recommended to investigate both of the Halo and Sunrise target areas.

#### RECOMMENDATIONS

Pending the completion of the Company's transaction to acquire a 100% interest in the Newton Project, RockRidge recommends the Company carry out a two-phase program consisting of an initial phase focussing resource expansion drilling concurrent with a comprehensive metallurgical testwork program based on a larger, more representative sample of the Newton Deposit mineralization. The estimated cost of the proposed Phase 1 program would be approximately \$4,100,000.

The Phase 1 resource expansion and infill drilling program would be designed to accomplish a number of objectives including:

- Expanding upon known mineralized zones and new discoveries of gold systems on the Property beyond the current resource limits
- Increasing the currently delineated gold-silver resource by improving the grade definition and upgrading the resource classification through infill drilling.
- Obtaining a larger and more representative sample for follow up metallurgical and geotechnical testwork

The Phase 1 drill program would potentially consist of:

- Drill testing areas within or immediately adjacent to the significant plus seven square kilometre hydrothermal system as outlined by the 8MV/V contour of the IP chargeability anomaly where felsic volcanic units are projected, or have the potential to occur, including the Halo and Sunrise target areas (approximately 6,100m).
- Infill diamond drilling to further delineate potentially economic mineralization (approximately 2,900m).
- Additional detailed structural modelling completed within and proximal to the currently
  defined resource to assess the potential presence, and projected location, of zones of
  high-density veins and/or mineralized fractures. Such zones have the potential to host
  higher-grade, structurally controlled mineralization that would increase the tenor of the
  resource. As part of this exercise, detailed three-dimensional modelling of vein and
  fracture density is recommended to develop possible vectors toward prospective structural
  settings. Resulting targets should then be tested by diamond drillholes oriented
  appropriately to the projected plane of the controlling structures.
- Generation of sample material for an expanded metallurgical and geotechnical testwork program.

Prior to commencing any further drilling, the following actions are also recommended.

- Acquisition of a detailed current digital terrain model to better define the topography is recommended using Lidar or detailed RPAS survey.
- Other mapped felsic volcanic occurrences surrounding the focus area should be fully evaluated either on surface or by drilling, particularly NW of the footprint of the current resource model in the Halo and Sunrise target areas where felsic units have been mapped on surface and coincident with the NW trending magnetic low NW of the Newton Deposit. Much of this area has yet to receive an equivalent level of drilling as the main resource area.
- The QP recommends continuing with the QA/QC protocols previously recommended by RPA in 2012 for the Newton Project in relation to future drilling so that sampling programs include certified reference materials for silver and, in accordance with established protocols, the results be monitored for departures from the recommended values with respect to the silver standards.

A budget of \$4,100,000 is estimated for the Phase 1 program and is presented in Table 1-2 below.

Item	C\$
Resource Expansion and Infill Drilling (9000 m @ \$400/m)	\$3,600,000.00
Detailed Topography	\$50,000.00
Metallurgical Testwork	\$350,000.00
Structural Modeling	\$15,000.00
Permitting/Community Relations/Environmental Studies	\$35,000.00
General and Administration	\$50,000.00
TOTAL	\$4,100,000.00

Table 1-2 – PROPOSED PHASE 1 RESOURCE EXPANSION DRILLING AND METALLURGICAL TESTWORK BUDGET

Based on the outcome of the Phase 1 Resource Expansion and Infill Drill Program, a followup Phase 2 program is proposed and would include an update of the Newton mineral resource incorporating the results of the Phase I drilling and metallurgical testwork. Utilizing the parameters derived from the updated mineral resource estimate and metallurgical testwork, the QP recommends the Company proceeds to undertake a full PEA of the Newton Deposit. The total Phase 2 budget would be approximately \$350,000.

## **Technical Summary**

#### PROPERTY DESCRIPTION AND LOCATION

The Newton Property is located approximately 108 km west-southwest of Williams Lake, British Columbia and is road accessible via paved Highway 20 and all- weather forest service roads. Total driving time from Williams Lake to the Newton Property is approximately 2.5 hours.

The Property consists of 62 claims comprising an area of approximately 23,003 ha. Carlyle indirectly holds a 100% interest in the mineral rights of the Project through its wholly owned subsidiary, Isaac Newton Mining Corp. ("INMC") and does not hold any surface rights. The entire Project is subject to the Amarc NSR, and certain claims are subject to an additional 2.0% NSR in favour of two underlying owners. British Columbia mining law allows for access and use of the surface for exploration through notification of surface rights holders. The Project is situated within the asserted traditional territory of the Tsilhqot'in National Government.

#### LAND TENURE

In September of 2024, Carlyle and Axcap announced that it entered into a non-binding letter of intent (the "LOI") for the sale of Carlyle's Newton Project. Pursuant to the LOI, Carlyle and Axcap agreed to negotiate the terms of a definitive agreement for the sale of Carlyle's interest in the Newton Project (the "Newton Transaction").

Pursuant to the LOI, Axcap will:

- pay Carlyle a \$100,000 cash fee following the signing of the LOI and a \$150,000 cash fee upon the signing of a definitive agreement;
- pay Carlyle a \$250,000 cash fee upon Axcap closing an equity financing at a price of \$0.20 per security for proceeds of not less than \$4,000,000;
- upon closing the Newton Transaction (i) issue to Carlyle 3,750,000 shares of Axcap and 500,000 warrants, each exercisable into one share at a price of \$0.20 for a period of three years (subject to Canadian Securities Exchange (the "Exchange") minimum pricing requirements); and (ii) in the event Axcap has not completed the above noted financing, pay Carlyle \$125,000, with an additional \$125,000 to be paid within 90 days of the closing of the Newton Transaction; and

 on the date that is 12 months following closing of the Newton Transaction, issue to Carlyle shares of Axcap with a value of \$1,250,000 calculated on the 20-day volume weighted average trading price of the Axcap shares on the Exchange;

Axcap is at arm's length from Carlyle. Completion of the Newton Transaction remains subject to a number of conditions, including: the satisfactory completion of due diligence on the Newton Project; the receipt of any required regulatory approvals, including the Exchange; and the negotiation of definitive documentation. As of the date of this report, the sale of the Newton Project has not been finalized.

The entire Project is subject to 2% NSR payable to Amarc and certain claims are subject to an additional 2.0% NSR in favour of two underlying owners which can be purchased at any time for \$2,000,000.

#### HISTORY

The earliest known work on the Property occurred in 1916 when a Mr. Newton produced a quantity of gold from a small shaft and some open cuts. The first documented work at Newton Hill was by Cyprus, which executed an exploration program in 1972, followed by several additional exploration programs by various operators from 1981 to 1997. No further exploration work was reported until High Ridge Resources Inc. ("High Ridge") acquired the Property in 2004. From 2004 to 2006, High Ridge conducted a re-assessment of the 1972 IP geophysical data, a ground geological investigation, a total field ground magnetic survey and completed 12 diamond drillholes totaling 2,019.5 m in 2006.

In 2009, Amarc acquired the Newton Project and completed several exploration campaigns between 2009 and 2012. Exploration work completed by Amarc included airborne and ground-based geophysical surveys, soil sampling mineralogical analysis, and hyperspectral logging. In addition, Amarc re-logged core from 12 drillholes completed in 2006. During their tenure on the Project, Amarc completed 27,944 metres of core drilling in 89 holes which culminated in a maiden mineral resource estimate completed on Amarc's behalf by RPA in 2012.

In December of 2022, Carlyle acquired a 100% interest in the Newton Property from Amarc and engaged RockRidge to complete a mineral resource estimate update in 2022. Prior to Axcap acquiring the Project in 2024 and subsequent to the 2022 mineral resource estimate update,

Carlyle conducted 2,856.3 metres of diamond drilling in 10 drillholes and metallurgical testwork in 2023.

#### GEOLOGY

The most recent British Columbia Geological Survey regional geology compilation shows that rocks on the Newton Property include Mesozoic-aged intrusive, volcanic, and sedimentary rocks of the Spences Bridge Group overlain by Cenozoic volcanic rocks and unconsolidated glacial till. More recently, it has been suggested that Mid to Late Cretaceous calc-alkaline volcanism characterized by felsic pyroclastic units of the Kasalka Group and mafic to felsic flows and ignimbrites of the Spences Bridge and Kingsvale Groups are contemporaneous and represent a chain of stratovolcanoes associated with subsiding, fault-bounded basins.

Stratified rocks at Newton Hill have been assigned provisionally to the Cretaceous Spences Bridge Group and consist of mafic volcanic rocks, sedimentary rocks derived from mafic to intermediate volcanic protoliths, rhyolite flows, and felsic volcaniclastic rocks. These rock types are believed to have been deposited in a graben. The sequence is dominated by felsic volcanic and volcano-sedimentary rocks that unconformably overlie epiclastic sedimentary rocks.

The volcano-sedimentary sequence at Newton Hill is cut by several types of intrusions. The oldest are sub-volcanic felsic quartz-feldspar porphyries that have a quartz monzonite composition and are interpreted to be related to the felsic volcanic rocks in the Spences Bridge Group. Minor mafic dykes present in the area are considered to be related to mafic volcanic rocks in the Spences Bridge Group. The early intrusions are cut by a complex of Cretaceous monzonite intrusions. These monzonites are intruded in turn by porphyritic plagioclase-hornblende diorites. The youngest intrusions observed are minor plagioclase and biotite-phyric dykes which are believed to have formed after hydrothermal activity had ceased.

The Newton deposit is believed to have been formed within a structurally active volcanic environment. Felsic and mafic volcanic rocks were deposited in a rifted volcanic graben which was segmented along steeply dipping extensional faults. Two major structures have been recognized in the resource area. The South Graben fault ("SGF") and the Newton Hill fault ("NHF") can be correlated across much of the area of drilling within the Newton deposit.

Although gold and base metal mineralization have been encountered in all rock types within the Newton deposit, felsic volcaniclastic and flow rocks are the primary host rocks to the mineralization. Quartz-feldspar porphyry and monzonite porphyry intrusions are also commonly, although not as consistently, well-mineralized. Mineralization in other rock types is more erratic. The felsic plagioclase and biotite porphyritic dykes are very late- or post- hydrothermal and do not contain significant concentrations of gold or base metals.

#### MINERALIZATION

Gold-silver mineralization, with or without base metal mineralization, is frequently associated with both disseminated and veinlet- hosted styles of mineralization. Veinlet-hosted mineralization, although widespread, is volumetrically minor compared to disseminated mineralization.

Most mineralization formed during two sub-stages of quartz-sericite alteration. These are (1) earliest quartz-sericite-(siderite)-pyrite alteration associated with gold, but with low concentrations of base metals; and (2) later quartz-sericite alteration associated with gold and higher concentrations of base metals, during which early pyrite was replaced by marcasite. Mineralization also occurs in late polymetallic veinlets which contain abundant pyrite, chalcopyrite, sphalerite, galena, arsenopyrite and locally, molybdenite.

There is evidence to suggest that there is a large gold-bearing hydrothermal system present at Newton. Geochemically significant gold concentrations, exceeding 50 ppb (0.05 g/t) values occur over an area of at least 1,300 m by 1,800 m. Geologically important gold concentrations of more than 100 ppb (0.1 g/t) have been returned from drill intersections throughout an area which measures approximately 1,300 by 900 meters. Short intersections of more than 100 ppb have also been encountered outside of this area. The resource area has been defined by variably spaced drilling over an area measuring 1,000 m by 900 m, extending to a maximum depth of 685 m.

#### **DEPOSIT TYPES**

Newton is viewed as a bulk-tonnage disseminated epithermal gold deposit with some elevated base metal concentration. It shares many similarities with a group of deposits that have been recently recognized in central British Columbia. Key similarities include: (1) a spatial and genetic relationship with Late Cretaceous (~72 Ma) felsic pyroclastic rocks and high-level intrusions which formed in a structurally active environment; (2) a primary gold-silver signature; (3) elevated

concentrations of copper, zinc, lead, and molybdenum; (4) an association of mineralization with extensive, pervasive quartz-sericite alteration, which contains disseminated and vein-hosted pyrite, marcasite, chalcopyrite, sphalerite, galena, arsenopyrite, and sulphosalts; and (5) late stages of polymetallic vein formation.

#### **EXPLORATION**

Axcap has not conducted any exploration work on the Newton Property since entering into the LOI.

#### DRILLING

Axcap has not conducted any drilling on the Newton Property since entering into the LOI.

A number of historic drill campaigns have taken place on the Newton Property since the first hole was completed in 1972 to the last drilling program completed by Carlyle in 2023. In total, 36,417 m of core drilling has been completed in 138 holes up to hole N23-098. This work includes 27,944 metres in 89 holes completed during the four years Amarc was the project operator from 2009 to 2012 and 2,856.3 metres in 10 holes completed by Carlyle in 2023. All drill core from the historical programs were originally stored at the Newton Project site. In early 2011, Amarc salvaged what remained of this historical core and moved it to a secure location at Gibraltar Mine, near McLeese Lake, British Columbia. Currently all of the historic drill core previous to Carlyle's drilling resides at a partially fenced industrial facility controlled by Mueller Electrical in Williams Lake. The drill core from Carlyle's drill program in 2023 is stored in a locked facility at KiNiKiNiK Lodge in Redstone, B.C.

#### SAMPLE PREPARATION, ANALYSES, AND SECURITY

Axcap has not conducted any sampling since entering into the LOI.

Previous operators utilized several analytical laboratories to carry out analytical work on samples from the property. During their time as the most recent operator, Amarc utilized Acme Analytical facilities in Vancouver as the primary laboratory and ALS Chemex for check analyses.

The half-core samples were crushed at Acme (Vancouver or Smithers) to greater than 80% passing 10 mesh (2 mm), then a 500 g sub-sample was split and pulverized to >85% passing 200 mesh (75  $\mu$ m). Prior to hole 11045, a 250 g sub-sample was split and pulverized to >85% passing 200 mesh. The coarse rejects and pulps from the assay samples are retained at the secure, long-

term storage facility of Hunter Dickinson Services Inc. ("HDSI") at Port Kells, British Columbia. The gold content was determined by 30 g fire assay fusion with Inductively Coupled Plasma -Atomic Emission Spectroscopy (ICP-AES) finish (Acme method code: 3B01). The concentrations of copper, silver, and 32 additional elements were analyzed using a 1.0 g sample aqua regia digestion with ICP-AES or Inductively Coupled Plasma - Mass Spectroscopy finish (Acme method code: 7AX).

Amarc implemented and maintained an effective external QA/QC system consistent with industry best practice from 2009 to 2012. This program is in addition to the QA/QC procedures used internally by the analytical laboratories. Standards (Certified Reference Materials) were randomly inserted into the sample stream at a frequency of 1 in 20. Duplicate samples were created by taking an additional split from the remaining pulp reject, coarse reject quarter-core or half-core remainder at a frequency of 1 in 20 on a random basis. Blank samples were inserted into the sample stream at a frequency of 1%.

A total of 1,494 bulk density (or specific gravity, SG) measurements have been taken by site personnel using the water immersion method since 2010. Drillhole logs are entered into notebook computers running the Amarc Access data entry module for the Newton Project at the core logging area on site. The core logging computers are synchronized on a daily basis with the master site entry database at the site geology office. Core photographs are also transferred to the site geology office computer daily. In the geology office, the logs are printed, reviewed, and validated and initial corrections made.

#### DATA VERIFICATION

The QP conducted a thorough review of the documented historic data collection procedures. In particular, the review focused on data verification and validation procedures described in the 2012 RPA report that were implemented during the most recent drilling completed from 2009 to 2012 on behalf of Amarc by Hunter Dickinson Inc. ("HDI") exploration staff. Based on this review, the QP found the QA/QC programs employed by Amarc and HDI exploration staff during the drilling and assaying programs meet current industry best practices.

During site visits in 2022 and 2024, RockRidge's associate consultant Michael O'Brien, examined the existing site access, infrastructure and visited a number of drillhole collar sites. The QP believes that the logging and sampling procedures used by Amarc and HDI have been carried

out to industry standards adequate for the estimation of mineral resources. The lithologies, structure, alteration, and mineralization encountered by in selected drillholes were examined and compared with the descriptions presented in the drillhole logs. No material discrepancies were noted.

A program of check assaying was carried out by the QP where two complete drillholes (Hole 11045 and 11052) were check assayed during the site visit undertaken by the QP in June 2021. While a small number of check samples cannot be considered as adequate to confirm the accuracy of all of the assays contained with the Newton Project drillhole database, the QP is satisfied that it has independently confirmed the presence of gold in approximately similar quantities as have been reported by Amarc in the selected samples.

The QP carried out a program of validating the digital drillhole database in 2022 by means of spot checking a selection of drillholes that intersected the mineralized material. Approximately 10% of the drillhole database was selected for validation. The QP discovered no material discrepancies as a result of its spot-checking of the drillhole database. As a result of its data verification activities, The QP believes that the drillhole database assembled by Amarc, subsequently updated by Carlyle and provided by Axcap is suitable for use in the preparation of a Mineral Resource estimate.

#### MINERAL PROCESSING AND METALLURGICAL TESTING

Continuous intervals of drill core from three holes were submitted by Carlyle for metallurgical testwork. Testing was carried out and supervised by Base Metallurgical Laboratories ("BaseMet"), Kamloops, B.C. under test program BL1338. The objective of the program was to conceptualize a preliminary process flowsheet that would produce gold and silver doré, and to evaluate the metallurgical performance of the mineralization.

A master composite was generated from the drill core samples to investigate gravity concentration, whole-ore-leach ("WOL") and flotation at various grind sizes followed by leach of the rougher concentrate and tailings. The best results were achieved at a primary grind size of 80% passing (P80) 75 microns following the float/leach flowsheet. The rougher concentrate underwent further size reduction to a P80 of 15 micron followed by a 48 hour leach. A 24 hour

leach of the rougher tailings contributed approximately 8% additional gold to the overall extraction. The total extraction achieved from the float/leach test for gold and silver was 80.3% and 32.7%, respectively.

## Mineral Resource Estimate

#### **DESCRIPTION OF THE DATABASE**

RockRidge and the QP were provided with a digital drillhole database in comma-delimited format, containing information on collar location, downhole surveys, lithology, and assays. The final dataset consists of 36,417 meters of drilling from 138 drillholes, with 128 drilled by previous operators and 10 by Carlyle. Within the model footprint, there are 31,659 meters of drilling across 106 holes, including 9 drilled by Carlyle. The model area contains 10,481 gold (Au) samples over 29,896 meters of drilling and 9,942 silver (Ag) samples across 28,731 meters.

#### **GEOLOGICAL DOMAIN INTERPRETATION**

The deposit was updated from the previous interpretation using lithological logs from the additional holes in the drillhole database, a surface geological map, advanced 3D modeling software, and vertical section interpretations. While still primarily based on drilling data from the 2022 estimate, the new model has been refreshed with the addition of 10 new drillholes.

The structural model was developed using implicit modeling in Leapfrog Geo software, which defined fault-bounded blocks within the lithology model. Eight fault blocks were identified, but only three (FB1, FB4, and FB7) contained significant gold grades within large felsic volcanic units. These units were displaced by the west-dipping Newton Hill fault and laterally shifted by the Ruby fault.

Lithological solids were modeled in Leapfrog by assigning drillhole data specific codes to identify distinct intervals. Significant time was invested in refining the wireframe solids to align with interpreted lithological and tectonic boundaries. An improved topography digital terrain model based on publicly available digital elevation model (DEM) data from the Shuttle Radar Topography Mission ("SRTM"), and an overburden surface derived from drill logs were incorporated. The Felsic units hosted nearly all significant gold and silver mineralization. Syn- to post-mineralization dykes cross-cut the three felsic blocks. Three mineralized domains were defined within these felsic units using a grade shell approach aligned with the observed

mineralization trend, applying a gold cut-off grade of 0.4 g/t. Three additional domains were constructed outside the 0.4 g/t grade areas, regardless of lithology.

Analysis of the geometry of lithological and mineralized units enabled three-dimensional palinspastic reconstruction of displacements along the Newton Hill and Ruby faults. Geostatistical analysis and block model interpolation were performed in pre-deformation space, with interpolated blocks subsequently transformed to their current faulted positions. This method assumes deformation occurred post-mineralization, and variography modeling in pre-deformed space better captures the original spatial uncertainties.

In the pre-deformation model, the three fault-block domains within the 0.4 g/t Au grade shells formed a single coherent volume, representing the mineralization's original position before faulting. Similarly, the three domains outside the grade shells in fault blocks 1, 4, and 7 also formed a single volume after reconstruction. For estimation purposes, these were coded as "IN" (within the grade shells) and "OUT" (outside the grade shells). This process resulted in two domains in un-faulted space, enabling gold and silver estimates before translating back to the current faulted spatial orientation.

Compared to the previous model, more lithological units were modeled, and the volume estimates of lithology solids were significantly improved. The palinspastic reconstruction approach enhanced the accuracy of the estimation process.

#### **GRADE CAPPING**

Cumulative coefficient of variation plots and log probability plots were used to select suitable capping values for gold and silver in each of the four domains. For the Au\_IN domain, a capping value of 11.5 g/t Au was determined, while the Au\_OUT domain was assigned a capping value of 3.11 g/t Au. Similarly, capping values of 41.1 g/t Ag and 16.2 g/t Ag were chosen for the Ag\_IN and Ag\_OUT domains, respectively.

#### **COMPOSITING METHODS**

The drillhole database was coded to correspond with the interpreted domains, ensuring that only data within the domain boundaries was composited to standardize sample support. An analysis of gold sample length distributions showed that a nominal core length of three meters was optimal

for calculating composites. This length represented the predominant sample size and preserved the original resolution of the deposit data.

A target composite length of 3 meters was applied, allowing composite lengths to vary on a holeby-hole basis. This approach ensured that all data within a mineralized domain was utilized in the estimate, while eliminating very short composites without discarding data. The QP believes that the composite length is appropriate for the mineral resource estimation.

#### **BULK DENSITY**

A total of 1,782 density measurements were available in the updated Newton database. Values that were recognizably erroneous were deleted from the data set. Specific gravities were estimated using an inverse distance squared estimator with an anisotropic search in a horizontal orientation. The search volume proportions were created such that a value could be estimated into each block of the project area. The QP believes that the verification of the bulk density measurements and application in the mineral resource is appropriate.

#### TREND ANALYSIS

An analysis of the general continuity of mineralization trends in three- dimensions was carried out before experimental variograms were modeled. Radial basis function (RBF) interpolation was used to generate volumetric fields of the irregularly spaced metal grade data. The RBF interpolant was created in Leapfrog software using gold grades without applying any trends. A 3-dimensional contour of gold grades at fixed grade intervals with 0.2 g/t intervals was selected.

Slices were taken through the RBF interpolant in east-west and north-south orientations as well as horizontally. Overall, the gold values are distributed as relatively large zones bordered by faults with grades of less than 1 g/t Au that enclose areas of slightly elevated gold grades. Although poorly defined, a major trend could be observed in all three planes with a general orientation that is roughly parallel to the Newton-Hill fault dipping at about 25° with a long axis at a strike of roughly NNW-SSE. The QP believes that the trend analysis process is appropriate, and it has been used to define the grade continuity in the mineral resource estimations.

#### VARIOGRAPHY

Experimental semi-variograms were calculated and modeled for gold and silver in each reconstructed domain. One or two structure spherical models were fitted. All domains had enough

samples to create stable experimental semi-variograms. Mild anisotropy was observed for the most part and therefore directional variogram models were considered applicable for this study. The nugget values were established from downhole variograms. The QP believes that the semi-variograms reflect the observable ranges of spatial grade continuity and are appropriate for precious metals grade estimation in the deposit.

#### **BLOCK MODEL CONSTRUCTION**

An orthogonal block model was created within each domain wireframe to encompass the full extent of the Newton mineralization. The block model was not rotated, but a sub-blocking approach was utilized to accurately represent the volume of each domain. A block size of 15mX x 15mY x 3mZ was chosen to best reflect the data density, deposit shape, and composite length, while also minimizing the number of blocks lacking data support.

The metal grade estimation work involved a multi-step approach. For the "IN" domains the first step considered a search ellipsoid which was equal to the variogram range. This was doubled in size for the second step and tripled for the third step. A minimum of eight composites from two different drillholes were required to estimate a block in the first step. In the second step the requirement was six composites and in the third step four composites from two holes was required. The "OUT" domains were estimated with two passes using eight samples in the first pass and six samples in the second pass.

The selection of search radii was guided by variography-derived modeled ranges, enabling the estimation of a significant portion of blocks within the modeled area while minimizing extrapolation. These parameters were refined through iterative test estimates, with the results reviewed in a series of plan views and sections.

"Hard" domain boundaries were applied at the contacts of the un-faulted mineralized domains. Only data within a specific domain was utilized to estimate the grades of blocks within that domain, and grade estimates were restricted to blocks located within the domain boundaries. The QP believes that the block model and estimation search parameters are appropriate for grade estimation in this deposit.

#### **BLOCK MODEL VALIDATION**

The resource block model was validated by completing a series of visual inspections of the interpolated block model grades compared to the drillhole composite grades, as well as swath plots.

On average, the estimated blocks correlate well to the assay data. An acceptable degree of conditional bias is evident from the validation. Generally, at lower composite grades, the estimates are slightly higher, whereas at higher composite grades, the estimates are marginally lower, which is to be expected from an ordinary kriged estimate for this deposit type. The QP believes that these validations are industry-standard and appropriate for this deposit.

#### **CUT-OFF GRADE**

Given the early stage of Newton Project, no recent studies have been undertaken that have contemplated potential operating scenarios. For the purposes of this assignment, a conceptual operating scenario was developed in which mineralized material would be excavated using a conventional truck and shovel open pit mine and the material then being processed using either a conventional flotation-leach or whole ore leach circuit. This conceptual scenario will likely change as more information becomes available for this deposit. The QP believes that a gold price of US\$1,950/oz and a silver price of US\$25/oz, and a gold recovery of 80.3% and a silver recovery of 32.7%, is appropriate for use in the estimation of a cut-off grade for this project. A review of similar bulk tonnage gold deposits in the region suggests that a 0.25 g/t Au is an appropriate threshold for use in preparation of a Mineral Resource estimate.

# 2. INTRODUCTION

RockRidge was retained by Axcap Ventures Inc. ("Axcap"), to prepare this independent Technical Report on the Newton Project, located in south-central British Columbia, Canada on behalf of Axcap. The purpose of this Technical Report is to disclose the results of an updated Mineral Resource estimate for the gold-silver mineralization outlined by all drilling completed to date on the Newton Property. Gold-silver mineralization at Newton is associated with disseminated pyrite that is hosted primarily by a felsic volcanic sequence has been intruded by younger dykes of intermediate composition.

The mineral resource estimate update includes assay results from two drill campaigns completed on the Newton Project in 2023 and subsequent to the previous mineral resource estimate completed by RockRidge on behalf of Carlyle Commodities Corp. ("Carlyle") in 2022. (O'Brien et al, 2022)

This Technical Report conforms to NI 43-101. Mr. Michael O'Brien, P.Geo., Associate Principal Consultant with RockRidge, visited the property on October 8, 2024. During the site visit, Mr. O'Brien reviewed mineralized intersections of core from drillholes completed since his previous site visit in 2020 and carried out a personal inspection of selected trenches and drillhole collars.

Qualified persons ("QPs" or "Authors") for this Technical Report as defined in NI 43-101 and in compliance with Form 43-101F1 are:

- Michael F. O'Brien, P.Geo., Associate Principal Consultant with RockRidge Partnership & Associates and an independent consultant and director of Red Pennant Communications Corp.
- Kelly McLeod, P. Eng., President K-Met Consultants Inc.
- Douglas Turnbull, P.Geo., geological consultant and President of Lakehead Geological Services Inc.

The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to RockRidge at the time of preparation of this Technical Report,
- Assumptions, conditions, and qualifications as set forth in this Technical Report, and

• Data, reports, and other information supplied by Axcap, Carlyle and other third-party sources, as applicable.

The source of information used by the QPs in preparation of this Technical Report include data provided by Carlyle to complete the 2022 mineral resource update on behalf of Carlyle, and data provided by Axcap including the current drillhole data base, previous technical reports as well as public domain information listed in detail Section 27. All measurement units used in this Technical Report are metric, and currency is expressed in Canadian dollars unless stated otherwise.

#### LIST OF ABBREVIATIONS

A ampere	L	litra
	_	litre
bbl barrels	lb	pound
btu British thermal units	L/s	litres per second
°C degree Celsius	m	metre
C\$ Canadian dollars	Μ	mega (million); molar
cal calorie	m <sup>2</sup>	square metre
cfm cubic feet per minute	m <sup>3</sup>	cubic metre
cm centimetre	μ	micron
cm <sup>2</sup> square centimetre	MASL	metres above sea level
d day	μg	microgram
dia diameter	m <sup>3</sup> /h	cubic metres per hour
dmt dry metric tonne	mi	mile
dwt dead-weight ton	min	minute
oF degree Fahrenheit	μm	micrometre
ftfoot	mm	millimetre
ft <sup>2</sup> square foot	mph	miles per hour
ft <sup>3</sup> cubic foot	MVA	megavolt-amperes
ft/s foot per second	MW	megawatt
g gram	MWh	megawatt-hour
G giga (billion)	oz	Troy ounce (31.1035g)
Gal Imperial gallon	oz/st, opt	ounce per short ton
g/L gram per litre	ppb	part per billion
Gpm Imperial gallons per minute	ppm	part per million
g/t gram per tonne	psia	pound per square inch absolute
gr/ft <sup>3</sup> grain per cubic foot	psig	pound per square inch gauge
gr/m <sup>3</sup> grain per cubic metre	RL	relative elevation
ha hectare	S	second
hp horsepower	st	short ton
hr hour	stpa	short ton per year
Hz hertz	stpd	short ton per day
in, inch	t	metric tonne
n <sup>2</sup> square inch	tpa	metric tonne per year
J joule	tpd	metric tonne per day
k kilo (thousand)	US\$	United States dollar

Axcap Ventures Inc. - Newton Project

RockRidge Partnership & Associates

kcal	kilocalorie	USg	United States gallon
kg	kilogram	USgpm	US gallon per minute
km	kilometre	V	volt
km <sup>2</sup>	square kilometre	W	watt
km/h	kilometre per hour	wmt	wet metric tonne
kPa	kilopascal	wt%	weight percent
kVA	kilovolt-amperes	yd <sup>3</sup>	cubic yard
kW	kilowatt	yr	year

# 3. RELIANCE ON OTHER EXPERTS

For the purpose of this Technical Report, the Authors have reviewed and exclusively relied on transaction details and ownership information provided by Carlyle, Axcap and AxCap's counsel McMillan LLP of Vancouver. The Authors have reviewed a copy of the Non-Binding Letter of Intent – Newton Project ("LOI") signed and executed by Axcap and Carlyle, dated September 27, 2024, and provided to the Authors by Axcap's VP of Exploration, Blake McLaughlin. The LOI is summarized under "Property Agreements" in Section 4, to which this disclaimer applies.

# 4. PROPERTY DESCRIPTION AND LOCATION

## Location

The Newton Property is located in west central British Columbia, in the Clinton Mining Division, on NTS map sheet 92O/13, and BCGS maps 092O.072, 073, 082 and 083. The Property is located approximately 108 km west-southwest of Williams Lake, British Columbia, at 51° 47.85' N Latitude and 123° 37.26' W Longitude: or UTM Zone 10 (NAD 83) at 5,738,700 m N and 457,175 m E, as shown in Figure 4-1 and Figure 4-2.

The Property is road-accessible via paved Highway 20 and all-weather forest service roads. Total driving time from Williams Lake to the Newton Property is approximately 2.5 hours. Access to the Newton Property is gained from the 7000 Road, west of Alexis Creek, British Columbia.

## Land Tenure

The Newton Property consists of 62 claims comprising an area of approximately 23,003 ha (Figure 4-2). All claims are indirectly held by Carlyle through its wholly owned subsidiary Isaac Newton Mining Company ("INMC"). A complete list of the project claims, the expiration dates, and the area of each claim is contained in Table 4-1.

Tenure No.	Claim Name	Date Recorded	Expiry Date	Area (ha)
208327	NEWTON I	1987/Sep/14	2027/Apr/30	500.00
414743	NWT 5	2004/Oct/07	2027/Apr/29	375.00
507905		2005/Feb/25	2027/Apr/28	699.86
507914		2005/Feb/25	2027/Apr/27	399.65
511965	NWT 7	2005/May/02	2027/Apr/26	399.61
511967	NWT 8	2005/May/02	2027/Apr/25	299.94
514976		2005/Jun/22	2027/Apr/24	559.68
514979		2005/Jun/22	2027/Apr/23	499.92
514981		2005/Jun/22	2027/Apr/22	379.78
606674	NEWT 19	2009/Jun/26	2027/Apr/21	499.90
606675	NEWT 04	2009/Jun/26	2027/Apr/20	500.13
606676	NEWT 20	2009/Jun/26	2027/Apr/10	499.90
606677	NEWT 31	2009/Jun/26	2027/Apr/10	499.30

Table 4-1	- LIST (	OF CLAIMS
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Tenure No.	Claim Name	Date Recorded	Expiry Date	Area (ha)
606678	NEWT 05	2009/Jun/26	2027/Apr/10	500.13
606679	NEWT 21	2009/Jun/26	2027/Apr/10	299.94
606680	NEWT 06	2009/Jun/26	2027/Apr/10	500.12
606681	NEWT 32	2009/Jun/26	2027/Apr/10	499.35
606682	NEWT 07	2009/Jun/26	2027/Apr/10	500.37
606683	NEWT 33	2009/Jun/26	2027/Apr/10	499.35
606684	NEWT 22	2009/Jun/26	2027/Apr/10	199.89
606685	NEWT 36	2009/Jun/26	2027/Apr/10	499.12
606686	NEWT 23	2009/Jun/26	2027/Apr/10	499.67
606687	NEWT 08	2009/Jun/26	2027/Apr/10	500.37
606688	NEWT 37	2009/Jun/26	2027/Apr/10	499.12
606689	NEWT 09	2009/Jun/26	2027/Apr/10	500.37
606690	NEWT 24	2009/Jun/26	2027/Apr/10	299.80
606691	NEWT 38	2009/Jun/26	2027/Apr/10	499.07
606692	NEWT 25	2009/Jun/26	2027/Apr/10	439.48
606693	NEWT 18	2009/Jun/26	2027/Apr/10	480.53
606694	NEWT 17	2009/Jun/26	2027/Apr/10	480.53
606695	NEWT 34	2009/Jun/26	2027/Apr/10	459.56
606696	NEWT 26	2009/Jun/26	2027/Apr/10	499.32
606697	NEWT 03	2009/Jun/26	2027/Apr/10	500.13
606698	NEWT 35	2009/Jun/26	2027/Apr/10	479.26
606699	NEWT 02	2009/Jun/26	2027/Apr/10	500.13
606700	NEWT 43	2009/Jun/26	2027/Apr/10	299.33
606701	NEWT 10	2009/Jun/26	2027/Apr/5	500.37
606702	NEWT 27	2009/Jun/26	2027/Apr/5	479.39
606703	NEWT 11	2009/Jun/26	2027/Apr/5	500.37
606704	NEWT 44	2009/Jun/26	2027/Apr/5	399.13
606705	NEWT 16	2009/Jun/26	2027/Apr/5	480.54
606706	NEWT 45	2009/Jun/26	2027/Apr/5	399.13
606707	NEWT 28	2009/Jun/26	2027/Apr/5	419.30
606708	NEWT 15	2009/Jun/26	2027/Apr/5	240.27
606709	NEWT 46	2009/Jun/26	2027/Apr/5	479.00
606710	NEWT 29	2009/Jun/26	2027/Apr/5	419.18
606711	NEWT 14	2009/Jun/26	2027/Apr/5	300.34
606712	NEWT 30	2009/Jun/26	2027/Apr/5	179.68
606713	NEWT 13	2009/Jun/26	2027/Apr/5	400.32
606714	NEWT 31	2009/Jun/26	2027/Apr/5	379.17
606715	NEWT 12	2009/Jun/26	2027/Apr/5	120.06
606716	NEWT 32	2009/Jun/26	2027/Apr/5	219.49

#### RockRidge Partnership & Associates

Tenure No.	Claim Name	Date Recorded	Expiry Date	Area (ha)
606717	NEWT 01	2009/Jun/26	2027/Apr/5	240.05
615743	NEWT47	2009/Aug/07	2027/Apr/5	59.94
615803	NEWT 48	2009/Aug/07	2027/Apr/5	20.00
615843	NEWT 49	2009/Aug/07	2027/Apr/5	19.99
615863	NEWT 50	2009/Aug/07	2027/Apr/5	39.96
616023	NEWT 51	2009/Aug/07	2027/Apr/5	79.92
840950	NEWS 450	2010/Dec/16	2027/Apr/5	19.98
840951	NEWS 451	2010/Dec/16	2027/Apr/5	19.99
840952	NEWS 452	2010/Dec/16	2027/Apr/5	19.97
840953	NEWS 453	2010/Dec/16	2027/Apr/5	19.95



Figure 4-1 - LOCATION MAP



Figure 4-2 - CLAIM MAP
## Nature and Extent of Issuer's Title

Carlyle holds a 100% interest in the mineral rights of the tenures listed above. To keep these claims in good standing in accordance with the *Mineral Tenure Act* (British Columbia), a minimum value of work or cash-in-lieu is required annually. These values are currently set at \$5 per hectare in the first two years of holding the tenure, \$10 per hectare in the third and fourth years, \$15 per hectare for the fifth and sixth years, and \$20 per hectare for subsequent years. Cash-in-lieu values are double the work values. The Newton claims are beyond the 6th year of their tenure and in good standing until 2027.

Carlyle does not, directly or indirectly, hold any surface rights. British Columbia mining law allows for access and use of the surface for exploration through notification of surface rights holders. There are several lots of private land on some of the claims, as shown in Figure 4-3. None of the claims are covered by placer mining claims.

The Project is situated within the asserted traditional territory of the Tsilhqot'in National Government.

## **Property Agreements**

In September of 2024, Carlyle and Axcap announced that it entered into a non-binding letter of intent dated September 27, 2024 (the "LOI") for the sale of Carlyle's Newton Project. Pursuant to the LOI, Carlyle and Axcap agreed to negotiate the terms of a definitive agreement for the sale of Carlyle's interest in the Newton Project (the "Newton Transaction").

Pursuant to the LOI, Axcap will:

- pay Carlyle a \$100,000 cash fee following the signing of the LOI and a \$150,000 cash fee upon the signing of a definitive agreement;
- pay Carlyle a \$250,000 cash fee upon Axcap closing an equity financing at a price of \$0.20 per security for proceeds of not less than \$4,000,000;
- upon closing the Newton Transaction (i) issue to Carlyle 3,750,000 shares of Axcap and 500,000 warrants, each exercisable into one share at a price of \$0.20 for a period of three years (subject to Canadian Securities Exchange (the "Exchange") minimum pricing

requirements); and (ii) in the event Axcap has not completed the above noted financing, pay Carlyle \$125,000, with an additional \$125,000 to be paid within 90 days of the closing of the Newton Transaction; and

 on the date that is 12 months following closing of the Newton Transaction, issue to Carlyle shares of Axcap with a value of \$1,250,000 calculated on the 20-day volume weighted average trading price of the Axcap shares on the Exchange;

Axcap is at arm's length from Carlyle. Completion of the Newton Transaction remains subject to a number of conditions, including: the satisfactory completion of due diligence on the Newton Project; the receipt of any required regulatory approvals, including the Exchange; and the negotiation of definitive documentation. As of the date of this report, the sale of the Newton Project has not been finalized.

The entire Project is subject to 2% NSR payable to Amarc and certain claims are subject to an additional 2.0% NSR in favour of two underlying owners which can be purchased at any time for \$2,000,000.



Figure 4-3 - LOCATION OF PRIVATE LAND

## **Permits and Environmental Liabilities**

Most of the Newton mineral claims are located on Crown land (see Figure 4-3 for location of private land parcels), and the area is open to mineral exploration and development. None of the mineral claims are covered by placer mining claims. The Project borders the northeast corner of Nuntsi Provincial Park, within the asserted traditional territory of the Tsilhqot'in National Government.

The project area is being actively logged and lies within an area of extensive beetle kill. The logging roads are extensive and in heavy use.

A permit under the *Mines Act* (British Columbia) ("Mines Act") is required for exploration activities involving any work on a claim that disturbs the surface by any mechanical means including drilling, trenching, excavating, blasting, construction or demolishment of a camp or access, induced polarization surveys using exposed electrodes and site reclamation (e.g., drilling). The application and subsequent permit are called a "Notice of Work" ("NOW").

A NOW for the Newton Mineral project was filed with the Chief Permitting Officer, submitted on Mar 16, 2021, and last updated on Nov 17, 2021. The application included a plan of the proposed work system ("Mine Plan") and a program for the protection and reclamation of the surface of the land and watercourses ("Reclamation Program"), affected by the NOW.

The Mines Act, the Health, Safety and Reclamation Code for Mines in British Columbia, and this Mines Act Permit contain the requirements of the Chief Permitting Officer for the execution of the Mine Plan and Reclamation Program, including the deposit of reclamation securities. Nothing in this permit limits the authority of other government agencies to set additional requirements or to act independently under their respective authorizations and legislation.

On May 31, 2022, The British Columbia Ministry of Energy, Mines and Low Carbon Innovation issued Carlyle a Mines Act Permit (MX100000220) to carry out exploration on the Newton Property for a period of 5 years ending May 21, 2027.

The QP is not aware of any environmental liabilities related to the Property. There are no other significant factors or risks that the author is aware of that would affect access, title, or the ability to perform work on the Property.

## **Other Factors**

Axcap has reviewed and will be adopting the previous internal protocols and continuing the ongoing work with respect to archeological studies implemented originally by Amarc and adopted by Carlyle. During the time Amarc owned the Project, they conducted desk-based Archeological Oversight Assessments and Preliminary Field Reviews in conjunction with local First Nations and identified restricted areas of high archeological potential around the Newton Hill area.

# 5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## Accessibility

The Newton Property is readily accessible by vehicle from Highway 20 and all-weather forest service roads (see Figure 4-1). Distance by road from the City of Williams Lake (population 11,000), the major business and service centre that is closest to the property, is 180 km.

Total driving time from Williams Lake to the Newton Property is approximately 2.5 hours. Access to the property is gained from the 7000 Road, west of Alexis Creek.

## Local Resources Infrastructure

The district is well served by existing transportation and power infrastructure and a skilled workforce, which support several operating mines, as well as late-stage mineral development and exploration projects.

## Physiography

The Newton Property is situated in the Chilcotin Forest District of the Southern Interior Forest Region. The region has been extensively logged and lies within an area of extensive beetle kill. The drilled area of the Newton Property is open forest populated primarily by Douglas fir with minor lodge pole pine and rare aspen.

Topography is flat to gentle, varying from 1,200 m at Scum Lake to 1,375 m at the top of Newton Hill. The Taseko River cuts through the western side of the claim area, along a deeply incised valley with a relief of 350 m at Newton Hill.

### Climate

Temperatures in Williams Lake can average 18°C to 22°C in summer and -10°C to +2°C in winter, with maximums up to 35°C in summer and minimums down to -30°C in winter. Annual rainfall and

snowfall in 2024 averaged 17.2 cm and 100.7 cm, respectively (https://williamslake.weatherstats.ca/). The main exploration period is between mid-May and late October; however, year-round diamond drilling is possible, as water can be trucked from a local lake or river and a winterized camp can be established.

## **Sufficiency of Surface Rights for Mining**

Carlyle does not currently hold any surface rights within the Property; however, the surface rights remain available should the project progress to more advanced stages. While the project is still at the exploration stage, the size and topography of the Newton Property in the vicinity of the mineralized zone is amenable to mine development.

## 6. HISTORY

## **Prior Ownership**

The earliest known work on the Newton Property occurred in 1916 when a Mr. Newton produced gold from a small shaft and some open cuts (Durfeld, 1994). No further work is reported until 1965. A detailed summary of the ownership changes since 2009 has been provided in Section 4 – *Property Agreements* of this Technical Report.

## **Exploration and Development History**

The following summary of the exploration history of the Newton Property is taken from Hantelmann (2007) and has been amended herein. A summary of historical work is shown in Table 6-1.

Year(s)	Owner/Operator	Work Done	Assessment Reports
1916	Mr. Newton	Shaft and open cuts	Unknown
1965	Southwest Potash (Amex)	Soils	Unknown
1971/72	Cyprus Exploration Corp.	Induced polarization, magnetometer, geology, 10 diamond drillholes (1,615 m)	Unknown
1981/82	Taseko Mines Limited	8 percussion drillholes (2,095 ft), 4 diamond drillholes (1,913 ft)	11001
1987/88	R. Durfeld, A. Schmidt	Resampled/assayed soils, rock, core	18081
1990/94	Rea Gold Corp.	Soils	20585
1989/91	Rea Gold Corp. and Verdstone Gold Corp	Geology, soils, rocks, trenching (4,048 ft), ground magnetometer, induced polarization, 5 diamond holes	22198, 23114, 23660
1996	Verdstone Gold Corp.	Minor trenching (90 m) and surveying	24724
1997	Verdstone Gold Corp.	Minor infill soils	25264
2004	High Ridge Resources	Revisited old, induced polarization data	27497
2005	High Ridge Resources Inc.	Geology, ground magnetometer, soils orientation	28011
2006	High Ridge Resources	12 diamond drillholes (2,019.5 m)	29088

#### Table 6-1 - EXPLORATION HISTORY

Year(s)	Owner/Operator	Work Done	Assessment Reports
2009	Amarc Resources Ltd.	Re-logged all 2006 holes, 75 spectrometer analyses	31221
2009/10	Amarc Resources Ltd.	14 diamond drillholes (4,076.5m)	31636
2010/11	Amarc Resources Ltd.	29 diamond drillholes (7,646.6m)	32965
2011/12	Amarc Resources Ltd.	46 diamond drillholes (16,221.4m)	34056
2023	Isaac Newton Mining/Carlyle Commodities Corp.	3 diamond drillholes (2016.1m)	41282
2023	Isaac Newton Mining/Carlyle Commodities Corp.	7 diamond drillholes (840.3m), Metallurgical testwork	41789

In 1965, South-West Potash (Amex) and K. W. Livingstone are to have performed soil surveys in the Newton area, but results were not considered to be significant.

The first documented work at Newton Hill was by Cyprus which, in 1972, completed geological mapping, magnetometer, and IP geophysical surveys, followed by 1,615 m of BQ-sized diamond drilling. The IP survey delineated an elliptical chargeability anomaly encompassing a gossanous zone and identified an estimated 5% sulphide halo around Newton Hill. Results from the diamond drilling failed to identify ore grade copper mineralization. No analyses were made for gold.

Taseko Mines Limited ("Taseko") acquired what were the Ski claims in 1981. Eight percussion holes were drilled, totaling 638.6 m (2,095 ft), and another 583.1 m (1,913 ft) in four diamond drillholes were completed in 1982. Selected samples were analyzed for copper, gold, and silver; however, the results were not considered significant at that time.

R. M. Durfeld and A. J. Schmidt acquired the rights to the Newton Hill claims in 1987. A soil geochemical survey, consisting of 82 samples, and re-assaying of selected core samples from the 1972 drilling program were completed in 1988.

In 1989, in conjunction with Rea Gold, additional soil sampling was undertaken. A total of 218 soil samples were collected and analyzed for copper, gold, silver, and arsenic.

From 1990 through 1992, Rea Gold (formerly Verdstone Gold Corp.) ("Verdstone Gold") conducted geological mapping, soil sampling, trenching, and diamond drilling. In 1990, an 18.5 line-mile grid was constructed and a total of 1,153 soil samples were subsequently collected and

analyzed for copper, gold, arsenic, mercury, and molybdenum. Twelve trenches, totaling 1,233.8 m (4,048 ft), were excavated and 606 rock samples were collected and analyzed.

In 1996, Verdstone Gold completed 90 m of trenching using Global Positioning System surveying. The trenches identified anomalous copper and gold values. In 1997, Verdstone Gold conducted minor soil sampling to infill gaps and to look for extensions to the previously identified copper geochemical anomalies.

High Ridge began working on the property in 2004. Part of their work involved re-assessing the 1972 IP geophysical data. In 2005, High Ridge conducted a geological investigation and a total field ground magnetic survey. In 2006, 12 diamond drillholes were completed for a total of 2,019.5 m.

Amarc acquired the Newton Property in 2009 and completed several exploration campaigns between 2009 and 2012. Exploration work completed by Amarc included airborne and groundbased geophysical surveys, soil sampling mineralogical analysis, and hyperspectral logging. Table 6-2 summarizes all the exploration apart from drilling undertaken by Amarc at the Newton Project. The areas of the original Newton Property covered by the several types of exploration are shown in Figure 6-1.

Year	Work	Methods	Results
2010	ZTEM survey	7,114.3 line-km, with lines spaced 200 m apart. Flown by helicopter at a mean height of 155 m above the ground.	Several targets identified for IP surveys and soil sampling.
2010	Soil sampling	13,572 samples collected on 19 grids with sample spacing of 50 m.	Three copper- and molybdenum-in-soil anomalies identified for follow-up work.
2010	Induced polarization survey	248.9 line-km on 13 grids, with line spacing varying from 200 m to 700 m, depending on the grid.	Three chargeability anomalies coincident with the soil anomalies identified for follow-up drilling; including chargeability anomaly at Newton.

Table 6-2 - WORK COMPLETED BY AMARC

Year	Work	Methods	Results
2011	QEMSCAN	Analysis of 19 samples to characterize mineral assemblages of two visually distinct alteration types and to establish characteristics of gold mineralization.	Discovered two mineralogically-distinct alteration types and sulphide assemblages associated with gold.
2011	Induced polarization survey	188.9 line-km on 5 grids, with line spacing varying from 500 m to 1,000 m, depending on the grid.	One chargeability anomaly identified for follow-up drilling.
2011	Magnetic Survey	25 line-km at 50-m line spacing.	Total field magnetic low.
2012	Induced polarization survey	96.5 line-km completed on three grids.	Completed.
2012	Hyperspectral logging	Visible light spectral analysis of core.	Completed.



Figure 6-1 - EXPLORATION PROGRAMS

#### 2010 INDUCED POLARIZATION SURVEY

Figure 6-2 illustrates the plus seven square kilometre extent of the hydrothermal sulphide system at Newton as indicated by the 8 MV/V contour of the chargeability anomaly defined by the 2010 IP geophysical survey. The results of the survey indicate that the current Newton resource occupies only a small portion of the anomaly in the southeast sector of this significant hydrothermal system which remains to be fully explored.

The results were derived from an 85 line-km survey carried out by contractor Peter E. Walcott & Associates. Survey lines were spaced at 200 m intervals within the zone of hydrothermal alteration and peripheral lines at 400 m. The survey was conducted using a pulse type system, using the "pole-dipole" method. The principal components of the system were manufactured by Walcer Geophysics of Enniskillen, Ontario, and Instrumentation GDD of St. Foy, Québec.

#### 2012 MAGNETIC SURVEY

Figure 6-3 presents a map that shows the Total Field Magnetics and the location of drillhole collars in the Newton deposit-area. The results show that the Newton gold deposit lies within a northwest trending total field magnetic low that extends approximately 500 m to the northwest beyond the deposit, as defined by the higher density of drillholes, into an area that contains only a few, widely spaced reconnaissance drillholes.

These results were derived from a detailed ground magnetic survey carried out in late spring of 2012 by contractor by Peter E. Walcott & Associates. The survey employed three GSM19W GPS enabled magnetometers manufactured by Gem Systems Inc. of Markham, Ontario – two rovers and one base station. The survey grid was established using real time differential GPS guidance using a series of predefined waypoints uploaded to the respective magnetometers. The survey maintained a nominal line spacing of some 50 m, using a one second sampling interval over 21 north-south orientated lines. A total of some 22 line - kilometres in the Newton deposit area were traversed. Data were subsequently downloaded daily from the respective units, base station corrected, and loaded into Oasis Montaj for subsequent processing, filtering, and final presentation.



Figure 6-2 - DRILLHOLE LOCATIONS AND IP CHARGEABILITY CONTOURS



Figure 6-3 - DRILLHOLE LOCATIONS AND TOTAL FIELD INTENSITY

In 2009, Amarc re-logged core from 12 drillholes completed in 2006 by High Ridge. Seventy- five selected core samples were analyzed with shortwave infrared spectroscopy using a TerraSpec spectrometer.

Diamond drilling programs completed by Amarc included a 14-hole diamond drill program in 2009-2010 totaling 4,076.5 m of core to investigate the southeastern continuation of gold and copper mineralization encountered by drilling completed in 2006 by High Ridge; a wide-spaced, 29-hole diamond drill program in 2010-2011 totaling 7,646.6 m to investigate the extent of the gold-silver mineralization encountered by previous drilling programs across an area of seven square kilometres as well as to follow up a chargeability anomaly in the area of the Newton discovery; and a 46-hole delineation diamond drill program totaling 16,221.4 m completed in 2011-2012 to determine the grade and extent of the main gold-silver zone. At the end of the 2012 drill program, Amarc engaged RPA to complete a maiden mineral resource estimate and prepare a technical report.

#### 2023 DRILLING AND METALLURGICAL TESTWORK

In December 2020, Carlyle acquired the Newton Property and carried out a mineral resource estimate update in 2022, preliminary metallurgical testwork in 2023 and completed 10 diamond drillholes in two phases totaling 2856.3 metres in 2023. The objective of the 2023 drill program was to;

- Upgrade the resource classification by utilizing infill drilling
- Increase the currently delineated gold-silver resource on the property by improving grade definition

In early 2023, Carlyle carried out a Phase 1, three-hole drilling program totaling 2016.09 m. In December of 2023 Carlyle carried out a Phase 2, seven-hole drill program totaling 840.3m. The program was successful in extending the known mineralization associated with the main felsic domain.

The Company submitted a master composite consisting of primarily felsic volcanic material of continuous drill core intervals from the Phase 1 drill program for testing, Testing was carried out and supervised by Base Metallurgical Laboratories (BaseMet), Kamloops, B.C. under test program BL1338. The objective of the program was to conceptualize a preliminary process

flowsheet that would produce gold and silver doré, and to evaluate the metallurgical performance of the mineralization. The testwork included gravity concentration, Whole-ore-leach (WOL) and flotation at various grind sizes followed by leach of the rougher concentrate and tailings. (Dube, 2024)

Over the course of the 2023 exploration program, Carlyle confirmed:

• A new, near surface, higher grade gold and silver bearing zone to the north of the current inferred mineral resource, referred to as Halo area ("Halo").

• Gold and silver mineralization in another farther north-western area, referred to as the Sunrise Area ("Sunrise")

• Encouraging preliminary gold and silver extractions from metallurgical testing of material from the Newton project

## **Historical Mineral Resource Estimates**

The QP considers the 2012 and 2022 mineral resource estimates summarized below to be historical in nature and they are superseded by the MRE presented in this report.

In 2022 RockRidge Partnership and Associates ("RockRidge") completed a mineral resource estimate update ("2022 MRE") of the Newton Deposit on behalf of Carlyle (O'Brien et al, 2022). At a cut-off grade of 0.25 g/t Au, a <u>historic</u> inferred mineral resource totalling 42,396,600 tonnes at an average grade of 0.63 g/t gold and 3.43 g/t silver was estimated. The historic 2022 MRE was based on the drillhole database compiled by Amarc in 2012 but supplemented with additional grade information from four drillholes assayed after completion of the maiden (historic) estimate completed by RPA in 2012. The historic 2022 MRE inferred estimate was prepared using a grade block model with 10,819 Au assay records and 10,165 Ag records from 130 drillholes. This 2022 historical estimate was based on the data available at the time and is included here for historic completeness only.

In 2012, RPA on behalf of Amarc completed a <u>historic</u> mineral resource estimate of the Newton Deposit ("2012 MRE"). At a cut-off grade of 0.25 g/t Au, RPA estimated a total of 111,460,000 tonnes at an average grade of 0.44 g/t Au and 2.1 g/t Ag (Pressacco, 2012). This historical 2012

estimate is included here for historic completeness. The historical inferred estimate was prepared using a grade block model with 128 drillholes and 10,945 assays.

Prior to the 2012 MRE, no historical mineral resource or mineral reserve estimates were prepared for the Newton property.

Other than the historical small-scale production reported for 1916, there is no record of mining production on the Newton Property.

## 7. GEOLOGICAL SETTING AND MINERALIZATION

## **Regional Geology**

The Nechako-Chilcotin region is underlain by Mesozoic Island arc assemblages of the Stikina Terrane and is bordered to the west and east by the major Yalakom and Fraser faults, respectively. These bounding structures represent major regional tectonic events of the North American Cordillera. Post-accretionary (Stikina) Cretaceous to Early Eocene crustal-scale extension resulted in northwest-trending extensional faults with a dextral component, including the Yalakom fault and contemporaneous northeast-trending strike-slip faults. This crustal-scale extensional event was accompanied by Late Cretaceous and Eocene volcanism. To the east, the Nechako-Chilcotin region is bounded by the north- trending Fraser fault which has both normal and dextral movement components; displacement began during northwest-oriented extension in the Early Eocene to Early Oligocene (Figure 7-1).

A British Columbia Geological Survey regional geology compilation (Riddell, 2006;Figure 7-2) shows that rocks on the Newton Property include Mesozoic intrusive, volcanic, and sedimentary rocks of the Spences Bridge Group overlain by Cenozoic volcanic rocks and unconsolidated glacial till. More recently, Bordet et al. (2011) suggest that Mid- to Late-Cretaceous calc-alkaline volcanism characterized by felsic pyroclastic units of the Kasalka Group and mafic to felsic flows and welded and non-welded ignimbrites of the Spences Bridge and Kingsvale Groups are contemporaneous and represent a chain of stratovolcanoes associated with subsiding, fault-bounded basins.



Axcap Ventures Inc. – Newton Project



Figure 7-2 - PROPERTY GEOLOGY



Cretaceous rock types in the region can be subdivided into three major groups (after Riddell, 2006):

- 1. Early to Late Cretaceous Spences Bridge Group. This group includes andesite and dacite flows, breccia, and tuff; volcano-sedimentary rocks, and minor basalts and rhyolites.
- 2. Jurassic-Cretaceous intrusions. These comprise granodiorite, diorite, quartz diorite, quartz monzonite, and tonalite intrusions.
- 3. Cretaceous feldspar porphyry. These rocks are dominated by feldspar ± biotite porphyry, felsite, and hornblende-biotite-feldspar porphyry intrusions.

Cenozoic rocks are primarily Miocene to Pleistocene basalts assigned to the Chilcotin Group. Quaternary cover consists of unconsolidated glacial till and glaciofluvial deposits.

Outcropping rock types at Newton Hill comprise volcanic and sedimentary rocks of the Early to Late Cretaceous Spences Bridge Group which may, in the vicinity of the Newton deposit, include rock types correlative with the Late Cretaceous Kasalka Group, and Late Cretaceous feldspar porphyry intrusions. Intrusions of the Jurassic to Cretaceous suite are well-exposed along the Taseko River valley to the west and northwest of Newton Hill.

## Local Geology

#### DEPOSIT GEOLOGY

Stratified rocks at Newton Hill (Figure 7-4, Figure 7-5 and Figure 7-6) have been assigned provisionally to the Cretaceous Spences Bridge Group, bearing in mind the uncertainties in regional correlation noted above, and consist of mafic volcanic rocks, sedimentary rocks derived from mafic to intermediate volcanic protoliths, rhyolite flows, and felsic volcaniclastic rocks. These rock types are believed to have been deposited in a graben. The sequence is dominated by felsic volcanic and volcano-sedimentary rocks that unconformably overlie epiclastic sedimentary rocks (Figure 7-5 and Figure 7-6). The epiclastic rocks consist of pebble conglomerates that are interbedded with sandstone and siltstone, similar to Cretaceous Churn Creek conglomerates that have been correlated with both the Silverquick-Powell Creek Formation (Riesterer et al.,2001) and the Spences Bridge Group (Riddell, 2006).



Figure 7-4 - SURFACE GEOLOGY



Figure 7-5 - CROSS SECTION A - B



Figure 7-6 - SECTION C - D

The volcano-sedimentary sequence at Newton Hill is cut by several types of intrusions (Figure 7-4). The oldest are sub-volcanic felsic quartz-feldspar porphyries that have a quartz monzonite composition and are interpreted to be related to the felsic volcanic rocks in the Spences Bridge Group. Minor mafic dykes present in the area are likely related to mafic volcanic rocks in the Spences Bridge Group. The early intrusions are cut by a complex of Cretaceous monzonite intrusions which broadly strike about azimuth 030° and dip steeply to the northwest. These monzonites are intruded in turn by porphyritic plagioclase-hornblende diorites. The youngest intrusions observed are minor plagioclase- and biotite-phyric dykes which are believed to have formed after hydrothermal activity had ceased.

#### SPENCES BRIDGE GROUP

Within the Newton deposit, the Spences Bridge Group comprises epiclastic wackes, felsic tuffs and flows, and mafic flows.

#### **Epiclastic Rocks**

This is stratigraphically the oldest rock type and occurs mostly to the northeast, east, and south of Newton Hill (Figure 7-3) and at depth on the east side of the deposit (Figure 7-4). It is unconformably overlain by the felsic and mafic volcanic rock sequences (Figure 7-5 and Figure 7-6); fragments of epiclastic rocks are locally found at the base of the felsic volcanic section near its contact with the underlying epiclastic rock package. The epiclastic rocks range from green to beige in colour and comprise interbedded pebble conglomerate, sandstone, and siltstone. The conglomerate beds are poorly sorted and immature, with 5% to 60% sub- angular to rounded clasts (Figure 7-7 a) supported in a matrix of fine-grained sand. The fragments comprise mafic volcanic and sedimentary rocks, felsic volcanic rocks and intrusions and chert, all of which are from an undetermined provenance. The sandstone and siltstone interbeds are less abundant and commonly display normal-facing, upward-fining graded bedding.

#### **Felsic Volcanic Rocks**

The felsic volcanic rocks found at the Newton Project are mostly pyroclastic deposits which range from ash tuffs to tuff breccias (Figure 7-7 b & c). These units form several thick beds (Figure 7-5 and Figure 7-6) that represent multiple depositional cycles of ash fall and poorly welded ignimbrite deposits. Felsic volcanic rocks have been found to occur both above and below the Newton Hill fault (Figure 7-5; see descriptions below); those below the fault strike approximately 300° to 320°

and dip 65° to 70° to the southwest. These units have been dated at 72.09  $\pm$  0.63 Ma (Cretaceous) by U-Pb methods on zircon (Oliver, 2010).

The felsic tuffs are light grey, aphanitic to very fine grained and consist predominantly of devitrified glass shards and feldspar microliths. The ash tuffs locally contain up to 3% rounded quartz crystals. Although some ash tuffs are massive, most are characterized by convoluted laminations and flow-bands (Figure 7-7 c) and are commonly auto-brecciated (Figure 7-7 c). Overall, the tuffs are poorly welded, although limited intervals exhibit stronger welding textures.

Interbedded units within the tuffs contain centimetre-scale angular and sub-angular lithic fragments which consist mostly of felsic intrusive rocks and hematitic fragments of uncertain provenance in a tuff matrix. Minor, immature, clast-supported conglomerate interbeds are interpreted to be locally derived from the thicker beds of felsic tuff.

Felsic flows also occur within the felsic volcaniclastic sequence. The flows are rhyolite to rhyodacite in composition, grey to white in colour, commonly glassy, flow-banded, autobrecciated, and competent. The flows are locally porphyritic with up to 10% combined quartz and plagioclase grains one millimetre to three millimetres in size. The grey to white colour variation is likely a consequence of small differences in composition, degree of devitrification and later alteration. Felsic flows typically contain orbicular, millimetre- to centimetre-scale, pale creamcoloured devitrification features such as spherulites and lithophysae.



Figure 7-7 - EXAMPLES OF ROCKS FOUND IN THE NEWTON DEPOSIT

#### Mafic Flows, Volcaniclastic Sediments, and Mafic Volcanic Derived Sediments

Mafic flows are basaltic or andesitic in composition, dark green and massive in texture (Figure 7-7 d). They are predominantly aphanitic in grain size but, locally, may contain 2% to 3% (chloritized) pyroxene phenocrysts from two millimetres to four millimetres in size and up to 10% plagioclase phenocrysts between one to three millimetres in size. Flow fabrics and autobrecciation textures are rare. The mafic flows are mostly found in the hanging wall to the Newton Hill fault (Figure 7-5 and Figure 7-6).

Sedimentary strata derived from a mafic source commonly form narrow interbeds within mafic flow sequences. They are most commonly encountered to the north and northeast of Newton Hill. The sedimentary rocks are green to black, very thinly bedded, non-graded and range from mudstone to sandstone; in rare cases, they contain black, lapilli-sized fragments of mafic volcanic rock. These sedimentary intervals are characterized by alternating beds of non-magnetic, green siltstone/sandstone and magnetic black mudstone.

Other rock types with a mafic composition include hematitic andesite tuffs, coarse mafic volcaniclastic rocks, and mafic epiclastic sedimentary rocks that contain millimetre- to centimetre-scale fragments of mafic volcanic rocks in a fine-grained chloritic matrix. These rock types are volumetrically very minor in the Newton Hill area.

#### **CRETACEOUS INTRUSIONS**

#### Quartz-Feldspar Porphyry

These intrusions are quartz monzonite in composition. They contain 5% to 10% rounded, commonly myrmekitic quartz phenocrysts one millimetre to three millimetres in size set in a white to cream coloured aphanitic and quenched groundmass (Figure 7-7 e). Feldspar phenocrysts that are less than one millimetre to two millimetres in size form under 5% to 15% of the intrusions. Locally, up to 3% biotite phenocrysts approximately one millimetre in size is preserved. Oliver (2010) reports that both the quartz-feldspar porphyry intrusions and the felsic volcanic rocks have high-K, calc-alkaline, rhyolite to rhyodacite compositions and lie within the field of volcanic arc granites on tectonic discrimination plots. As such, the volcanic and intrusive rocks are interpreted to be broadly cogenetic on a regional scale. This is consistent with a single U-Pb date of 70.91  $\pm$  0.49 Ma on zircon from a quartz-feldspar porphyry intrusion (Oliver, 2010) which overlaps, within error, the date reported above for the felsic volcanic sequence.

#### **Mafic Dykes**

Volumetrically very minor, mafic dykes of basaltic to andesitic composition locally intrude other rock types at Newton Hill. The dykes are fine-grained and mostly equi-granular, although a few examples contain 5% to 25% plagioclase phenocrysts, ranging from two millimetres to four millimetres in size and up to 10% hornblende and biotite phenocrysts between one millimetre and three millimetres in size. The mafic dykes are interpreted to be related to the mafic volcanic component of the Spences Bridge Group.

#### **Monzonite Porphyry**

The most common intrusive rock type at Newton is green to grey, fine- to medium-grained monzonite porphyry dyke (Figure 7-7 f). These intrusions are characterized by 10% to 30% plagioclase phenocrysts of between one millimetre and eight millimetres in size, accompanied locally by up to 5% biotite ± hornblende phenocrysts that are up to three millimetres in size. The groundmass is fine-grained, felted, and composed of tightly interlocking feldspar (± mafic) grains. These intrusions typically lack free quartz, although in a few cases up to 2% quartz phenocrysts from one millimetre to three millimetres in size are present. In a few cases, these intrusions contain abundant xenoliths of adjacent host rocks.

#### Diorite

Diorite intrusions (Figure 7-7 g) are medium-grained, magnetic, and commonly exhibit flow foliation. They are variably altered and their colour ranges from brown, where biotite-altered, to pale green, where altered to chlorite. This rock type contains 20% to 30% plagioclase phenocrysts from one millimetre to four millimetres in size, up to 20% mafic (hornblende >> biotite > pyroxene) phenocrysts and trace magnetite phenocrysts from one millimetre to two millimetres in size. Locally, the host rocks to the diorite intrusions may be converted to hornfels.

#### Felsic Plagioclase and Biotite Porphyritic Dykes

Plagioclase and/or biotite phyric dykes cut the felsic volcano-sedimentary sequence, the quartzfeldspar porphyry intrusions, and the monzonite porphyry intrusions. These dykes mainly strike to the southwest and have steep dips (Figure 7-4). They are characterized by 25% to 35% plagioclase phenocrysts from one millimetre to two millimetres in size, up to 8% biotite phenocrysts between one millimetre to two millimetres in size, and up to 2% millimetre-scale quartz phenocrysts in an aphanitic groundmass. They are volumetrically minor and were emplaced very late to post hydrothermal activity.

#### STRUCTURE

The Newton deposit is believed to have been hosted within a structurally active volcanic environment. Felsic and mafic volcanic rocks were deposited in a rifted volcanic graben which was segmented along steeply dipping extensional faults. The SGF and the NHF can be correlated across much of the area of drilling within the Newton deposit (Figure 7-5 and Figure 7-6).

The SGF is located to the south of Newton Hill. It has an easterly strike and is approximately vertical with dips between 85° to the south and 85° to the north. It is locally segmented and cut by younger faults. Displacement across the SGF is north-side-down and believed to be a minimum of 600 m. An unconstrained component of dextral strike-slip movement may also be present (Oliver, 2012).

The NHF is a gently west-dipping normal fault which may have listric attributes. Near the surface, this fault strikes approximately 027° and dips 31° to 35° to the northwest, whereas at depth the fault rotates to a strike of approximately 060° and the dip decreases to about 24°. The NHF is between five metres and 30 m in width; it comprises an intensely sheared core, marked by massive clay gouge and black, pyritic seams, flanked by a brecciated rock mass that less commonly exhibits shear fabrics. Absolute normal displacement is estimated to be 300 m to 350 m with no strike-slip component. Cross-cutting relationships indicate that the NHF is younger than the SGF. The low angle of dip on the NHF has been attributed to post-fault rotation (Oliver, 2012).

Narrow fault zones are common, particularly in the hanging wall to the NHF in the central part of Newton Hill (Figure 7-4). These faults generally strike north-northwest and dip  $60^{\circ}$  to  $85^{\circ}$  to the west-southwest. They are characterized by one centimetre to tens of centimetres thickness of clay gouge and/or fault breccia and are also commonly associated with quartz- carbonate  $\pm$  gypsum extension veins. Individual fault planes cannot be confidently correlated between drillholes.

#### ALTERATION

Based on observations of drill core from the 2023 drill program, Carlyle considered three of these types of alteration, quartz-sericite, argillic and propylitic to be dominant (Dube 2024).

#### **Quartz-Sericite Alteration**

Quartz-sericite alteration (Figure 7-8 a) occurs predominantly in the felsic volcaniclastic and pyroclastic units located in both the hanging and footwall of the NHF. The alteration comprises pervasive quartz and sericite. It may be weakly to intensely developed and is characterized by a white to light green colour. Quartz-sericite alteration is more weakly developed in quartz-feldspar porphyry and monzonite porphyry intrusions. Quartz-sericite alteration is associated with the presence of most of the gold and base metals in the Newton deposit.

Quartz-sericite alteration comprises two pervasive alteration assemblages and occurs in association with late polymetallic base metal veinlets:

- The oldest sub-stage of quartz-sericite alteration comprises a pervasive assemblage of quartz, sericite, minor siderite, and several percent pyrite. This alteration is seen to be associated with a significant amount of the gold and, to a lesser degree, base metal mineralization to a much lesser degree. In addition, pervasive alteration quartz- sericitepyrite alteration envelopes are noted in association with quartz-sericite-pyrite ± molybdenite veinlets; however, these veinlets and associated alteration envelopes typically form less than 1% of the affected rock mass.
- In the subsequent sub-stage of quartz-sericite ± siderite alteration, the early pyrite is
  partially to completely replaced by marcasite. Inclusions of both early pyrite and trace early
  chalcopyrite are commonly seen to be enclosed within the younger marcasite. This
  alteration also appears to be associated, at least spatially, with precipitation of gold but is
  distinguished by a markedly higher concentration of base metals, which include elevated
  concentrations of zinc and copper above and below the Newton Hill fault, respectively. It
  is not clear whether additional quartz veinlets with associated alteration envelopes formed
  during this stage of alteration or if this alteration phase is entirely typified by pervasive
  alteration.

Textural evidence suggests that late polymetallic veinlets (Figure 7-8 c) cut the early pyrite- and marcasite-dominated sub-types of quartz-sericite alteration. These veinlets are typically less than one centimetre in width and contain various combinations of pyrite, chalcopyrite, sphalerite, galena, arsenopyrite and, locally, molybdenite. The extent to which these veins may be associated with the introduction of gold to the deposit is not known.

#### **Argillic Alteration**

Argillic alteration, which replaces quartz-sericite alteration, is most commonly encountered in the monzonite porphyry and quartz-feldspar porphyry intrusions. Argillic alteration comprises kaolinite, sericite, calcite and/or iron-bearing carbonates, minor chlorite and up to approximately 5% pyrite. Kaolinite is commonly more abundant than sericite. This alteration is characterized by strong selective to pervasive alteration of feldspar phenocrysts by kaolinite-sericite, chlorite alteration of hornblende and biotite phenocrysts, and a less intense replacement of the igneous groundmass. Monzonite porphyry and quartz-feldspar porphyry intrusions affected by argillic alteration locally have a spotted appearance defined by orbicular aggregates of green to blue clays belonging to the kaolinite ± smectite group (Figure 7-8 d; McClenaghan, 2010). Similar green and blue clay alteration is rare in the felsic volcanic sequence. The clay aggregates are interpreted to be altered mafic phenocrysts or mafic fragments.

#### **Propylitic Alteration**

Propylitic alteration mainly affects the mafic flows and mafic sedimentary rocks and is approximately contemporaneous with early quartz-sericite alteration. This alteration assemblage consists of pervasive green chlorite variably accompanied by patchy epidote, albite, calcite  $\pm$  ankerite and minor quartz. The quartz and carbonate minerals most commonly occur in veinlets. Locally, magnetite grains one millimetre to two millimetres in size are intergrown with or replace epidote, particularly in the alteration envelopes to veinlets filled predominantly by quartz-iron-carbonate minerals.

#### Potassium-silicate alteration

Potassium-silicate alteration is the least common assemblage observed at Newton and replaces other alteration types. It is characterized by fine-grained, brown hydrothermal biotite  $\pm$  magnetite (Figure 7-8 e). It occurs mostly within the chilled margins of monzonite porphyry and diorite intrusions in contact with quartz feldspar porphyry intrusions, mafic flows, and/or mafic

sedimentary rocks. It is also locally observed as alteration envelopes to some quartz- veinlets which cut mafic rock types in proximity to intrusive contacts. The distribution and timing of the potassium-silicate alteration may indicate that it represents a biotite hornfels related to late-hydrothermal diorite intrusions.

#### **Other Alteration Types**

Silicification and albite alteration have been noted in some drillholes. These alteration types are spatially associated and are interpreted to comprise a single quartz, albite, chlorite, and minor iron-carbonate assemblage. The silica-albite alteration is most commonly observed in quartz-feldspar porphyry bodies that have been intruded by monzonite porphyry. An early stage of strong silicification locally replaces an even earlier stage of moderate albite alteration and produces unusual textures that include grey and white colour banding and laminae (Figure 7-8 f). In a single drillhole, texturally destructive silicification (Figure 7-8 e & f) was observed to have overprinted mineralized felsic tuffs in the footwall of the NHF. Silica- albite alteration is locally present in mafic volcanic rocks, epiclastic wacke and diorite intrusions, where it commonly overprints propylitic alteration.

The youngest alteration type thus far identified is characterized by extensional, one millimetre to 20 mm wide, carbonate veinlets. These late veinlets are found in all rock types on Newton Hill.



**A.** Quartz-sericite alteration with pyrite-marcasite in felsic ash tuff. **B.** More strongly siliceous example of quartz-sericite alteration with disseminated pyrite-marcasite in a felsic ash tuff. **C.** Sphalerite-rich polymetallic veinlets cutting a mafic volcanic flow affected by pervasive silica-albite alteration. **D.** Argillic alteration characterized by orbicular zones of clay alteration in a monzonite intrusion. **E.**K-silicate alteration, comprising biotite, quartz and minor magnetite, in a mafic volcanic flow. **F.** Silicification and albitization in a quartz feldspar porphyry intrusion. Labels at the bottom of each photo indicate drill hole and interval. Each sample is HQ drill core that is 63.5 mm in diameter.

Figure 7-8 - EXAMPLES OF ALTERATION TYPES FOUND IN THE NEWTON DEPOSIT
# **Mineralization**

Although gold and base metal mineralization have been encountered in all rock types within the Newton deposit, felsic volcaniclastic and flow rocks are the primary host rocks to the mineralization (Figure 7-4 and Figure 7-7). The close spatial relationship between mineralization and the felsic volcanic rocks may reflect a higher relative primary permeability to fluid flow in felsic volcanic rocks compared to other rock types. A typical grade in the felsic volcanic rocks is in the order of 0.4 to 1.5 g/t Au. Quartz-feldspar porphyry and monzonite porphyry intrusions are also commonly, although not as consistently, well-mineralized.

Mineralization in other rock types is less consistent; however strong mineralization has been observed at least locally in mafic epiclastic sedimentary rocks (e.g., 24 m grading 0.83 g/t Au and 0.09% Cu in drillhole 10030), mafic volcanic rocks (e.g., three metres grading 2.31 g/t Au and 33 m grading 0.34 g/t Au in drillhole 10027 and 29.9 m grading 0.48 g/t Au and 0.22% Zn in drillhole 10020), and diorite (e.g., 15 m grading 0.35 g/t Au in drillhole 10023). Propylitic alteration (chlorite-epidote-pyrite-calcite-albite magnetite) has been noted in mafic rocks, but no significant gold mineralization is associated with this assemblage (McLenaghan 2013). The gold grade in diorite is typically less than 0.20 g/t Au, whereas in epiclastic and mafic rocks it is typically less than 0.10 g/t Au. The felsic plagioclase and biotite porphyritic dykes are very late- or post-hydrothermal and do not contain significant concentrations of gold or base metals.

Gold-silver  $\pm$  base metal mineralization is associated with both disseminated and veinlet- hosted styles of mineralization (Figure 7-9). Veinlet-hosted mineralization, although widespread, is volumetrically minor compared to disseminated mineralization; overall, the total concentration of veinlets in altered and mineralized rock is estimated at less than one percent by volume. In felsic volcanic rocks and in quartz-feldspar porphyry intrusions proximal to the felsic volcanic sequence, mineralization is predominately disseminated in style (Figure 7-9 a, b, c) and veinlets are rare. Mineralization in the monzonite porphyry and quartz-feldspar porphyry intrusions is also characterized by disseminated sulphide minerals; however, quartz  $\pm$  sulphide veinlets with strong quartz-sericite-pyrite alteration envelopes are estimated to be comparatively more common than in other rock types (Figure 7-9 d). Mineralization also locally occurs as a sulphide matrix to brecciated rocks (Figure 7-9 e).

Most mineralization formed during the two sub-stages of quartz-sericite alteration. These are (1) earliest quartz-sericite-(siderite)-pyrite alteration associated with gold but with low concentrations of base metals; and (2) later quartz-sericite alteration associated with gold and relatively higher concentrations of base metals, during which early pyrite was replaced by marcasite. Mineralization also occurs in late polymetallic veinlets which contain abundant pyrite, chalcopyrite, sphalerite, galena, arsenopyrite, and, locally, molybdenite, but it is not known how much of the gold is associated with these late polymetallic veinlets.

The total concentration of sulphide minerals is estimated to range from 0.5% to 15% in felsic volcanic rocks. Gold mineralization of similar tenor occurs across intervals with both high and low concentrations of sulphide minerals. There is, however, a general spatial coincidence of gold and base metal mineralization, although close elemental correlations have not been recognized at sample-scale.

No visible gold has been observed in drill core. Preliminary optical petrography and scanning electron microscopy studies by Gregory (2011) have identified the following relationships with respect to gold:

- Electrum inclusions occur within siderite, chalcopyrite, and pyrite in felsic ash tuff samples affected by the later quartz-sericite-marcasite alteration.
- Petzite (Ag<sub>3</sub>AuTe<sub>2</sub>), undifferentiated Au-Bi-Te minerals, and minor electrum inclusions occur in pyrite in felsic ash tuff samples altered by the early quartz-sericite-pyrite assemblage.
- Electrum inclusions hosted by pyrite in felsic ash tuff and epiclastic sedimentary rock samples altered by the early quartz-sericite-pyrite assemblage.
- Volumetrically, electrum associated with the marcasite-bearing alteration may make the largest contribution to the overall gold budget in the Newton deposit.

Partial oxidation occurs along fractures in the upper 10 m to 30 m of the Newton deposit. Minor chalcocite has been identified within the zone of partial oxidization, but no other significant effects have been noted. Mineralization below this level is hypogene in character.

A rhenium-osmium date of  $72.1 \pm 0.3$  Ma was obtained on molybdenite from a quartz vein hosted by quartz-feldspar porphyry (McClenaghan, 2012). This date establishes near contemporaneity among quartz feldspar porphyry intrusions, felsic volcanic rocks, and the hydrothermal system which precipitated gold mineralization at Newton. In addition, the date indicates that the mineralization at Newton is similar in age to the mineralization at the Capoose and Blackwater deposits.

There is evidence to suggest that there is a large gold-bearing hydrothermal system present at Newton. Geochemically significant gold concentrations, exceeding 50 ppb (0.05 g/t) values occur over an area of at least 1,300 m by 1,800 m. Geologically important gold concentrations of more than 100 ppb (0.1 g/t) have been returned from drill intersections throughout an area which measures approximately 1,300 m by 900 m. Short intersections of more than 100 ppb have also been encountered outside of this area.

The resource area is defined by variably spaced drilling over an area measuring 1,000 m by 900 m, which extends to a maximum depth of 685 m.



Figure 7-9 - EXAMPLES OF MINERALIZATION TYPES

# 8. DEPOSIT TYPES

Newton is regarded as a bulk-tonnage, disseminated, strata-bound, epithermal gold-silver deposit with elevated concentrations of base metals. It shares many similarities with a group of deposits that have been recently recognized in central British Columbia, including the Blackwater Gold Deposit owned by Artemis Gold Inc. and the Capoose deposit owned by New Gold Inc., both located some 175 km northwest of Newton. Key similarities among these deposits include: (1) a spatial and genetic relationship with Late Cretaceous (~72 Ma) felsic pyroclastic rocks and high-level intrusions which formed in a structurally active environment; (2) a primary gold-silver signature; (3) elevated concentrations of copper, zinc, lead, and molybdenum; (4) an association of mineralization with extensive, pervasive quartz-sericite alteration, which contains disseminated and vein-hosted pyrite, marcasite, chalcopyrite, sphalerite, galena, arsenopyrite, and sulphosalts; and (5) late stages of polymetallic vein formation.

The Newton hydrothermal system shares many hydrodynamic features consistent with the epithermal model recently presented by Rowland and Simmons (2012) for the Taupo Volcanic Zone, New Zealand. These features include magmatically induced, convective hydrothermal circulation, permeable host rocks receptive to hydrothermal fluid flow (e.g., a high primary porosity in felsic pyroclastic flows) and fault-fracture permeability created by volcanism and tectonism (e.g., basin and graben structures).

Although the Newton deposit has similarities to low-sulphidation epithermal systems under the classification system of Sillitoe and Hedenquist (2003), it also has characteristics compatible with intermediate sulphidation epithermal gold-silver deposits (McLenaghan, 2013), that may display a spatial association with porphyry base and precious metal deposits that formed in extensional basins or rifted grabens. Other low-sulphidation epithermal systems that have a close spatial and genetic association to Cu-Au porphyry deposits are present in the Iskut region of northern British Columbia, and include the Snowfields (Armstrong et al., 2011) and Sulphurets (Ghaffari et al., 2011) deposits.

# 9. EXPLORATION

Axcap has not conducted any exploration on the Newton Property.

# 10. DRILLING

Axcap has not conducted any drilling on the Newton Property.

Numerous drill campaigns have taken place on the Newton Property since the first hole was completed in 1972. To date, a total of 36,563 m has been completed in 138 holes up to hole N23-98. A summary of the various drilling programs that have been completed on the project over the years is provided in Table 10-1 and a plan of drillhole locations showing additional drilling completed subsequent to the previous MRE is illustrated in Figure 10-1.

Operator	Year	Drillhole ID	No of Holes	Size	Meters
Cyprus	1972	72-01 to 72-10	10	BQ	1634.3
Taseko	1982	82-01 to 82-04	4	Core	553.8
		P82-01 to P82-08	8	Percussion	589.2
Rea Gold	1992	92-01 to 92-05	5	NQ	970.3
Ventex	1996	96-01 to 96-02	2	n/a	90.0
High Ridge	2006	06-01 to 06-12	12	HQ/NQ	2044.5
Amarc	2009	9001 to 9014	14	HQ	4076.5
Amarc	2010	10015 to 10031	17	HQ	5286.1
Amarc	2011	11032 to 11056*	26	HQ	7268.3
Amarc	2012	12057 to 12088	32	HQ	11231.1
Carlyle	2023	N23-89 to 98	10	HQ/NQ	2857.2
TOTAL			138		36631.3

|--|

\* Includes 11051A (abandoned at 18.79m)



Figure 10-1 – DRILLHOLE LOCATION PLAN

# **CYPRUS DRILLING – 1972**

Cyprus acquired the property in 1972 and completed 1,634 m of BQ diamond drilling in 10 holes as a follow-up to other exploration work on the property. Diamond drilling failed to encounter significant supergene enrichment and low copper grades were intercepted, so the company did not pursue the project any further. As copper was the primary target at the time, no systematic gold analyses were performed. The 1972 drill core was subsequently re-sampled and re-assayed in 1987 by Rea Gold.

# **TASEKO DRILLING – 1982**

In 1981, Taseko acquired the property. They completed four diamond drillholes (554 m) in 1982 and eight percussion holes (559 m) on the outer parts of the large IP anomaly that was outlined by a survey in 1972. Note that the position of the 1982 drillholes is uncertain. Amarc drilled in the same apparent area but encountered different rock types.

# **REA GOLD DRILLING – 1992**

As a follow up to previous work on the property, in 1992 Rea Gold Corp. (Rea) completed five diamond drillholes with a total length of 970 m.

### HIGH RIDGE DRILLING – 2006

High Ridge completed 12 drillholes numbered 06-01 through 06-12 on the property in 2006 for a total length of 2,045 m. Drilling was conducted by Hy-Tech Drilling Ltd. (Hy-Tech) using a portable drill and a helicopter for drill moves. Most holes were initiated with HQ (63.5 mm diameter) core then reduced to NQ (47.6 mm diameter). The predominant drillhole orientation was at an azimuth of 35° (measured clockwise from due north) and an inclination (dip) of -50°, with the following exceptions: 06-02 was drilled vertically, 06-03 at -87° dip, 0° azimuth, and 06-10 at -50° dip, 0° azimuth (Table 10-2). Reflex downhole directional surveys were taken at the bottom of two of the 2006 drillholes.

In the 2006 drill program by High Ridge, drill core was boxed at the drill rig and transported by drill truck to the logging facility on site. The remaining core after sampling was stored on site near the top of Newton Hill.

In 2009, Amarc photographed, re-logged, and took representative quarter core samples of the material from this program.

All drill cores from the historical programs were originally stored at the Newton Project site. In early 2011, Amarc salvaged what remained of this historical core and moved it to the Gibraltar Mine site, near McLeese Lake, British Columbia. All data from the historical drilling, such as the drillhole locations, drill logs, and analytical results, is derived from the Durfeld and Rea compilations, assessment reports, and information provided by High Ridge.

Hole ID	Length (m)	Azimuth (°)	Dip (°)
06-01*	25.0	35	-50
06-02	212.5	0	-90
06-03	210.0	0	-87
06-04	204.0	35	-50
06-05	167.0	35	-50
06-06	180.0	35	-50
06-07	180.0	35	-50
06-08	177.0	35	-50
06-09	183.0	35	-50
06-10	175.0	0	-50
06-11	121.0	35	-50
06-12	210.0	35	-50

Table	10-2	- DRILLHOLE	DETAILS	-HIGH	RIDGE
rabie	10-2		DLIAILO	-111011	NIDOL

\*Drillhole 06-01 was abandoned at a depth of 25 m

# **AMARC DRILLING - 2009**

In 2009, Amarc completed 14 drillholes (holes 9001 through 9014) for a total of 4,076.5 m. The drilling contractor, Hy-Tech, used a LS-5 drill to recover HQ core. Most holes were drilled vertically with the exception of hole 9001, which was drilled at -45° dip, 90° azimuth (Table 10-3).

A Magellan ProMark3 differential GPS incorporating a Base Station and Rover was used to take the 2009 drill collar surveys. All surveys by Amarc were recorded in UTM NAD 83, Zone 10 coordinates. Downhole orientation surveys were performed at 60 m to 175 m intervals by Hy-Tech using a Reflex E-Z shot tool. Drill core was geologically logged and photographed prior to sampling. No geotechnical logs or core density measurements were made during the 2009 drilling program.

Hole ID	East-X (m)	North-Y (m)	Elev-Z (m)	Length (m)	Azimuth (°)	Dip (°)
9001	457002.3	5738700.9	1317.3	501.0	90	-45
9002	457101.2	5738705.7	1308.9	323.0	0	-90
9003	457152.7	5738705.8	1302.3	350.0	0	-90
9004	457203.3	5738705.1	1296.9	350.0	0	-90
9005	457251.4	5738704.6	1291.7	351.0	0	-90
9006	457200.4	5738656.4	1287.9	306.5	0	-90
9007	457206.1	5738756.1	1306.6	252.0	0	-90
9008	457300.9	5738703.7	1286.0	174.0	0	-90
9009	457254.1	5738654.5	1282.4	186.0	0	-90
9010	457247.5	5738756.3	1300.2	233.0	0	-90
9011	457149.1	5738654.4	1290.5	252.0	0	-90
9012	457258.6	5738606.7	1272.4	228.0	0	-90
9013	457103.2	5738654.4	1294.7	288.0	0	-90
9014	457248.4	5738808.2	1310.7	282.0	0	-90

Table 10-3 - AMARC 2009 DRILLING PROGRAM

# AMARC DRILLING - LATE 2010 AND EARLY 2011

From October 2010 to January 2011, Amarc completed 29 diamond drillholes numbered 10015 through 11043, for a total of 7,691 m. The drilling contractor, Black Hawk Drilling Ltd. (Black Hawk), recovered HQ diameter core from the holes which were all drilled vertically or near vertically (Table 10-4). Drillhole collar coordinates were surveyed using a differential GPS as in 2009. Downhole surveys were performed at 75 m to 125 m intervals using a Reflex E-Z shot tool.

Geological and geotechnical logging, as well as bulk density measurements and core photography, was performed prior to sampling. The related logging data was entered into a Microsoft Access entry database on site and then transferred to an SQL database in the Vancouver office of Amarc. In the drilling program, a total of 2,458 drill run measurements were taken and an overall average core recovery of 92.6% was calculated. Among them, 770 measurements have 100% recovery.

Hole ID	East-X (m)	North-Y (m)	Elev-Z (m)	Length (m)	Azimuth (°)	Dip (°)
10015	457199.3	5738806.2	1319.0	306.9	295.8	-88.6
10016	457108.1	5738766.4	1321.4	346.6	190.6	-89.8
10017	457249.7	5738852.7	1319.0	352.7	0	-90
10018	457345.7	5738892.6	1310.6	169.8	210.4	-89.1
10019	457353.6	5738997.7	1322.9	415.4	278	-88.7
10020	457306.1	5738796.1	1301.6	300.8	0	-90
10021	457179.0	5738400.8	1246.8	240.7	0	-90
10022	456996.1	5738197.0	1229.4	220.1	0	-90
10023	456840.8	5739069.8	1331.1	310.0	0	-90
10024	457415.6	5739160.6	1317.3	145.4	252.8	-89.4
10025	457690.6	5738977.9	1277.5	242.9	275.4	-89.7
10026	457157.6	5738853.0	1329.7	329.8	51.8	-89.4
10027	457024.4	5739138.7	1343.0	370.9	0	-90
10028	456615.9	5738994.6	1312.4	337.4	144.2	-89.6
10029	456496.5	5738975.7	1303.4	416.7	0	-90
10030	457105.6	5739277.3	1329.0	337.4	169.7	-89.6
10031	456802.2	5739280.2	1304.2	416.7	0	-90
11032	456794.2	5739621.9	1260.3	300.8	0	-90
11033	456058.5	5739641.7	1169.1	262.1	0	-90
11034	457298.2	5738750.2	1293.1	178.9	0	-90
11035	455697.1	5739556.3	1127.9	43.9	0	-90
11036	457355.0	5738808.6	1296.7	185.0	0	-90
11037	455697.1	5739556.3	1127.9	181.4	0	-90
11038	457503.5	5738997.6	1302.5	178.0	0	-90
11039	456497.7	5738396.0	1239.5	188.1	0	-90
11040	457500.1	5738790.5	1277.5	295.4	0	-90
11041	456252.2	5739202.7	1248.3	216.1	0	-90
11042	456003.2	5739105.1	1216.9	228.4	0	-90
11043	456243.4	5738601.5	1226.7	172.8	0	-90

Table 10-4 – AMARC 2010 – 2011 DRILLING PROGRAM

### AMARC DRILLING - LATE 2011

Amarc completed 14 HQ size core holes between September and December 2011. A total of 4,919 m of drilling was completed by contractor Black Hawk. These holes numbered 11044

through 11056 (including 11051A), were all drilled vertically (Table 10-5). Collar coordinates were surveyed by differential GPS, as described in the 2009 and 2010 programs. Downhole surveys were performed using Reflex E-Z shot equipment on all holes except for 11044, 11050, and 11051A. The downhole survey measurement interval ranged between 75 m and 100 m.

A total of 1,545 drill runs were measured and an overall average core recovery of 94.6% was calculated. Among the intervals measured, 396 have 100% recovery.

Hole ID	East-X (m)	North-Y (m)	Elev-Z (m)	Length (m)	Azimuth (°)	Dip (°)
11044	457450.0	5738790.0	1275.0	355.1	0	-90
11045	457500.0	5738740.0	1262.0	290.8	0	-90
11046	457550.0	5738790.0	1265.0	154.5	0	-90
11047	457500.0	5738840.0	1275.0	121.9	0	-90
11048	457450.0	5738740.0	1270.0	367.9	0	-90
11049	457450.0	5738690.0	1264.0	511.2	0	-90
11050	457400.0	5738790.0	1282.0	63.1	0	-90
11051	457400.0	5738790.0	1282.0	572.1	0	-90
11051A	457400.0	5738790.0	1282.0	18.8	0	-90
11052	457400.0	5738690.0	1265.0	587.4	0	-90
11053	457400.0	5738740.0	1275.0	577.6	0	-90
11054	457400.0	5738640.0	1260.0	614.8	0	-90
11055	457500.0	5738690.0	1255.0	364.9	0	-90
11056	457400.0	5738590.0	1250.0	319.1	0	-90

Table 10-5 – AMARC LATE 2011 DRILLING PROGRAM

# AMARC DRILLING - 2012

Up to June 2012, Amarc completed 32 HQ size core holes with a total length of 10,258.0 m. These holes, numbered 12057 through 12088, were drilled by the drilling contractor Black Hawk. Most of the holes were drilled vertically except for holes 12063, 12064, 12072, 12074,12080, 12086, and 12088, which were drilled at a dip of -50° with azimuths of 90°, 180°, or 360°. Table 10-6 lists the collar coordinates and orientations.

Collar coordinates were surveyed by differential GPS as described in the 2009 and 2010 programs. Downhole surveys were performed using Reflex E-Z shot equipment on all holes. The measuring interval for the downhole surveys ranged from 50 m to 100 m.

Geological and geotechnical logging, as well as bulk density measurements and core photography, was performed at site prior to sampling. The related logging data were entered into a Microsoft Access entry database on site and then transferred to an SQL database in Amarc's Vancouver office.

In the 2012 drilling, a total of 3,568 drill runs were measured and an overall average core recovery of 95.1% was calculated. Among the intervals measured, 847 have 100% recovery.

Hole ID	East-X (m)	North-Y (m)	Elev-Z (m)	Length (m)	Azimuth (°)	Dip (°)
12057	457446.8	5738838.7	1290.0	348.7	0	-90
12058	457346.8	5738693.6	1280.5	111.9	0	-90
12059	457449.9	5738891.4	1297.8	203.6	0	-90
12060	457452.2	5738642.2	1253.5	602.8	0	-90
12061	457398.2	5738839.2	1283.4	526.7	0	-90
12062	457351.0	5738849.0	1290.7	557.4	0	-90
12063	457452.2	5738642.2	1253.5	255.1	90	-50
12064	457452.2	5738642.2	1253.5	137.8	180	-50
12065	457497.8	5738636.0	1261.7	511.2	0	-90
12066	457500.0	5739300.0	1290.0	306.9	0	-90
12067	457550.4	5738632.9	1258.0	322.2	0	-90
12068	457300.0	5738850.0	1300.0	386.2	0	-90
12069	457550.0	5738590.0	1245.0	383.1	0	-90
12070	457350.0	5738640.0	1268.0	452.6	0	-90
12071	457250.0	5738900.0	1324.0	364.9	0	-90
12072	457550.0	5738590.0	1245.0	267.3	90	-50
12073	457300.0	5738900.0	1316.0	247.3	0	-90
12074	457550.0	5738590.0	1245.0	227.7	180	-50
12075	457110.0	5738280.0	1230.0	151.5	0	-90
12076	457350.0	5738950.0	1310.0	687.9	0	-90
12077	457550.0	5738690.0	1260.0	118.0	0	-90
12078	457150.0	5738600.0	1270.0	267.3	0	-90
12079	457500.0	5738590.0	1242.0	331.3	0	-90
12080	457500.0	5738590.0	1250.0	154.5	180	-50
12081	457050.0	5738650.0	1285.0	224.6	0	-90
12082	457450.0	5738590.0	1248.0	405.6	0	-90
12083	457325.0	5738700.0	1280.0	322.2	0	-90
12084	457350.0	5738705.0	1290.0	651.4	0	-90
12085	457350.0	5738755.0	1295.0	644.4	0	-90

Table 10-6 - AMARC 2012 DRILLING PROGRAM

12086	457250.0	5738320.0	1228.0	343.5	360	-50
12087	457000.0	5738800.0	1315.0	471.5	0	-90
12088	457300.0	5739000.0	1310.0	271.0	90	-50

# **CARLYLE COMMODITIES DRILLING – 2023**

In 2023, Carlyle completed two phases of drilling at the Newton Deposit totalling 2,856.3 metres in ten HQ plus NQ size core holes.

The Phase I drill program was completed from January 13 to February 12, 2023, and consisted of three drillholes (N23-89 to 91) totalling 2016 metres. Collar locations were recorded using a Garmin handheld GPS with ±3 m accuracy. Standard wireline drilling practice was applied. Each run of drill core was collected in a 3-meter core barrel. Drill core was retrieved and placed into wooden core boxes with marking blocks that recorded depth of drilling. Drill casing was left in place at the end of the drilling work and all holes were plugged and cemented. Stick-up lengths of casing above surface were subsequently cut to surface level. Sampled intervals were cut in half along the core axis using a diamond saw in a secure purpose-built plywood core cutting facility with a lockable door at KiNiKiNiK Lodge. Cut samples were tagged, sealed inside a polybag and grouped into rice bags. These samples were then transported by Bandstra Transport to Bureau Veritas in Vancouver, BC, for analysis. Individual drillholes are summarized in Table 10-7 (Dube,2023).

The Phase 2 drill program was completed from December 4 to December 23, 2023, and consisted of 7 drillholes totalling 840.3 metres. Both phases of drilling were completed by Black Hawk Drilling. Table 10-7 lists the collar coordinates and orientations for the drillholes completed by Carlyle (Dube, 2024).

The 2023 drill programs were successful in extending the known mineralization associated with the main felsic domain and the Newton deposit remains open in multiple directions. The 2023 drill program also identified a new, near surface, gold and silver bearing zone to the north of the current inferred mineral resource, which Carlyle calls the Halo area. Additionally, gold and silver mineralization was identified in an area further northwest of the current mineral resource which Carlyle referred to as the 'Sunrise Area'.

Hole ID	East-X (m)	North-Y (m)	Elev-Z (m)	Length (m)	Azimuth (°)	Dip (°)
N23-089	457500	5738701.4	1269	1001.1	270	-65
N23-090	457499	5738588.6	1255	251.0	267	-78
N23-091	457497	5738774.9	1276	764.0	220	-69
N23-092	457108	5738816	1322	258.0	0	-90
N23-093	457130	5739235	1324	105.3	0	-90
N23-094	457086	5739318	1306	109.0	0	-90
N23-095	457142	5739312	1309	92.0	0	-90
N23-096	457218	5739008	1333	87.0	0	-90
N23-097	456925	5738660	1290	135.0	0	-90
N23-098	456430	5739110	1276	54.0	0	-90
TOTAL				2856.39		

Table 10-7 - CARLYLE 2023 DRILLING PROGRAM

### SUMMARY OF RESULTS

A summary of the significant intervals of mineralization from the drillholes used in the preparation of the mineral resource estimate is shown in Table 10-8. It is to be noted that the lengths of the mineralized intersections presented below represent core lengths.

Table 10-8 - SUMMARY OF SIGNIFICANT DRILL RESULTS

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int.³ (m)	Au (g/t)	Ag (g/t)			
	Historical Drillholes								
82-03		28.0	142.7	114.6	0.17				
82-04		22.0	150.0	128.0	0.25				
82-04	incl.	116.4	134.7	18.3	0.51				
P82-1		3.0	86.9	83.8	0.34	2.4			
92-03		36.0	90.0	54.0	0.5				
92-03	incl	36.0	66.0	30.0	0.7				
92-04		10.0	130.0	120.0	0.42				
92-04	incl.	14.0	74.0	60.0	0.69				
92-04	and	14.0	40.0	26.0	0.9				
92-05		190.0	214.6	24.6	0.57				
92-05	incl.	196.0	200.0	4.0	2.76				
06-02		175.0	212.5	37.5	0.33	2.1			
06-03		115.0	210.0	95.0	0.52	4.2			
06-03	incl.	159.0	210.0	51.0	0.6	5.7			
06-04		183.0	187.0	4.0	0.39	2.4			

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int. <sup>3</sup> (m)	Au (g/t)	Ag (g/t)
06-06		151.0	159.0	8.0	0.5	0.9
06-11		3.0	49.0	46.0	0.54	0.5
06-12		105.0	210.0	105.0	1.15	11.8
06-12	incl.	169.0	210.0	41.0	2.49	20
		Drillhol	es Complete	d by Amarc		
9001		3.0	39.0	36.0	0.6	0.9
9001		228.0	297.0	69.0	1.41	10.9
9001	incl.	233.1	234.0	0.9	11.19	22.2
9001	incl.	252.8	297.0	44.2	1.74	15.9
9001		441.0	477.0	36.0	0.34	0.6
9002		222.0	255.2	33.2	0.96	2.8
9002	incl.	234.0	252.0	18.0	1.1	3.3
9003		3.0	224.5	221.5	0.6	5.6
9003	incl.	18.0	39.0	21.0	0.71	2.3
9003	incl.	96.0	224.5	128.5	0.84	8.9
9003	and	156.0	198.0	42.0	1.25	16.8
9004		6.0	195.0	189.0	1.56	7.9
9004	incl.	54.0	195.0	141.0	2.01	10
9004	and	96.0	195.0	99.0	2.76	12.2
9004	and	126.0	195.0	69.0	3.79	9.1
9004	and	129.0	132.0	3.0	13.47	14.4
9004	and	168.9	195.0	26.1	5.54	12.5
9005		12.0	27.0	15.0	0.32	1.4
9005		41.0	54.0	13.0	0.44	4.4
9005		76.0	163.2	87.2	0.5	7.1
9005	incl.	88.0	89.0	1.0	16.56	221.6
9005		279.0	303.0	24.0	0.34	0.8
9006		9.0	306.5	297.5	0.26	2.3
9006	incl.	78.0	192.2	114.2	0.32	3.7
9006	incl.	264.0	306.5	42.5	0.43	0.6
9007		48.0	252.0	204.0	0.33	4.5
9007	incl.	48.0	66.0	18.0	0.49	1.9
9007	incl.	135.0	216.0	81.0	0.46	8
9007	and	183.0	216.0	33.0	0.62	13.4
9008		18.0	42.0	24.0	0.44	6.4
9008		123.7	129.0	5.3	0.44	8
9009		15.0	147.9	132.9	0.25	5.9
9009	incl.	66.0	114.0	48.0	0.36	6.3
9010		35.4	189.0	153.6	0.29	3

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int.³ (m)	Au (g/t)	Ag (g/t)
9010	incl.	35.4	69.0	33.6	0.52	3.2
9011		83.4	207.0	123.6	0.44	2.3
9011	incl.	149.0	207.0	58.0	0.6	2.4
9011	and	186.0	207.0	21.0	1.13	2.9
9014		72.0	210.0	138.0	0.74	4.2
9014	incl.	147.0	210.0	63.0	1.17	6.8
9014	and	168.0	207.0	39.0	1.45	6.5
9014	and	204.0	207.0	3.0	11.7	50.8
10015		95.0	134.0	39.0	0.35	3.1
10015		194.0	230.0	36.0	0.43	4.7
10016		141.0	249.0	108.0	0.37	1.5
10016	incl.	231.0	249.0	18.0	0.57	1.8
10017		75.0	215.0	140.0	0.35	2.3
10017	incl.	138.0	168.0	30.0	0.52	3.4
10017		307.3	311.5	4.3	1.13	4.6
10018		54.0	60.0	6.0	0.47	0.8
10018		141.0	150.0	9.0	0.45	2.6
10019		33.0	42.0	9.0	0.21	4.7
10019		321.2	393.0	71.8	0.48	1.9
10020		18.0	156.0	138.0	0.46	4.1
10020	incl.	63.0	98.7	35.7	0.58	2.3
10020	incl.	116.8	156.0	39.3	0.79	10.5
10020	and	116.8	132.0	15.3	1.55	5.9
10020		294.0	297.0	3.0	6.58	1
10023		30.0	39.0	9.0	0.46	2
10023		249.0	288.0	39.0	1.21	2
10023	incl.	249.0	273.0	24.0	1.81	1.6
10023	and	267.0	273.0	6.0	5.15	2.6
10026		185.0	221.0	36.0	0.41	2.7
10027		75.0	78.0	3.0	2.31	0.2
10027		102.0	135.0	33.0	0.34	6.2
11034		9.1	33.0	23.9	0.34	3
11036		10.0	31.0	21.0	0.25	1.3
11040		15.4	171.0	155.6	0.58	2.9
11040	incl.	15.4	42.0	26.6	1.12	4.2
11040	incl.	69.0	108.0	39.0	0.71	3.6
11044		56.4	350.0	293.6	0.61	2.3
11044	incl.	56.4	204.0	147.6	0.73	3.1
11044	and	56.4	92.0	35.6	1.43	6

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int.³ (m)	Au (g/t)	Ag (g/t)
11044	incl.	272.0	338.0	66.0	0.84	1.8
11044	and	272.0	317.0	45.0	1.02	2
11045		16.3	178.0	161.7	1.05	3.6
11045	incl.	52.0	178.0	126.0	1.24	4.1
11045	and	79.0	157.0	78.0	1.71	5.1
11045	and	79.0	115.0	36.0	2.51	8.7
11045	and	85.0	88.0	3.0	12.5	18.5
11046		68.0	83.0	15.0	0.23	1.7
11047		17.0	50.0	33.1	0.54	3.1
11048		34.0	175.0	141.0	0.65	1.7
11048	incl.	34.0	49.0	15.0	0.8	4.1
11048	incl.	73.0	109.0	36.0	1.23	2.2
11048		277.0	337.0	60.0	0.6	2.1
11049		23.5	144.0	120.5	0.86	2.2
11049	incl.	23.5	84.0	60.5	1.21	2.3
11049		213.0	342.0	129.0	0.71	3.4
11049	incl.	228.0	261.0	33.0	1	5.2
11049	incl.	297.0	315.0	18.0	1.4	2.3
11051		81.0	129.0	48.0	0.77	3.7
11051	incl.	81.0	102.0	21.0	0.96	5.5
11051		315.0	408.0	93.0	0.76	1.8
11051	incl.	366.0	408.0	42.0	1.21	0.8
11052		48.0	456.0	408.0	0.6	2.6
11052	incl.	48.0	207.0	159.0	0.84	3.1
11052	and	99.0	207.0	108.0	1	3.6
11052	and	138.0	207.0	69.0	1.23	4.7
11052	and	168.0	171.0	3.0	7.7	3.6
11052	incl.	318.0	456.0	138.0	0.6	2.8
11052	and	378.0	456.0	78.0	0.73	2.8
11052	and	378.0	426.0	48.0	0.93	3.8
11053		79.0	94.0	15.0	0.47	1.9
11053		166.0	187.0	21.0	0.65	1.4
11053		235.0	271.0	36.0	0.87	1.5
11053	incl.	235.0	238.0	3.0	3.58	1.4
11053	and	256.0	259.0	3.0	4.89	3.5
11053		445.0	475.0	30.0	0.64	1
11054		43.0	442.0	399.0	0.5	2.4
11055		30.1	151.0	120.9	0.7	2.4
11055	incl.	78.0	151.0	73.0	0.86	2

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int.³ (m)	Au (g/t)	Ag (g/t)
11055		238.0	286.0	48.0	0.57	2.8
12057		68.0	134.0	66.0	0.6	3.3
12057	incl.	89.0	134.0	45.0	0.7	3.5
12057		149.0	164.0	15.0	0.63	2
12057		239.0	254.0	15.0	1.3	2.7
12057		269.0	305.0	36.0	0.54	0.9
12058		36.0	42.0	6.0	0.47	7.8
12060		11.6	332.9	321.3	0.55	3
12060	incl.	11.6	179.9	168.3	0.71	3.8
12060	and	21.0	99.0	78.0	0.93	6.2
12060	and	75.0	99.0	24.0	1.84	12.4
12060	and	147.0	177.0	30.0	0.69	1.5
12061		82.0	154.0	72.0	0.31	1.6
12061		334.0	343.0	9.0	0.48	2.3
12062		354.0	372.0	18.0	0.49	1.2
12062		390.0	435.0	45.0	0.41	1.5
12063		28.0	34.0	6.0	1.13	4.6
12063		52.0	208.0	156.0	0.4	12.7
12063	incl.	52.0	139.0	87.0	0.49	19.9
12063	and	52.0	76.0	24.0	0.71	24.1
12064		22.4	43.0	20.6	0.65	2.7
12064		76.0	91.0	15.0	0.55	6.1
12065		19.2	28.0	8.8	0.39	5.5
12065		43.0	388.0	345.0	0.43	3.6
12065	incl.	46.0	67.0	21.0	0.49	7.7
12065	incl.	97.0	112.0	15.0	0.37	17.5
12065	incl.	205.0	388.0	183.0	0.55	2
12065	and	244.0	328.0	84.0	0.72	2
12065	and	244.0	259.0	15.0	1.09	2.3
12065	and	292.0	328.0	36.0	0.82	2.5
12067		19.5	100.0	80.5	0.32	7.3
12067	incl.	19.5	55.0	35.5	0.44	6.6
12067		160.0	250.0	90.0	0.3	2.7
12068		33.0	39.0	6.0	0.47	1.8
12068		66.0	162.0	96.0	0.46	2.8
12068	incl.	126.0	162.0	36.0	0.69	4
12068	and	147.0	162.0	15.0	1.02	5.9
12068		246.0	252.0	6.0	0.92	2
12069		28.0	102.0	74.0	0.4	3.9

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int.³ (m)	Au (g/t)	Ag (g/t)
12069	incl.	63.0	72.0	9.0	0.76	3.8
12069	incl.	90.0	102.0	12.0	0.56	4.8
12069		279.0	306.0	27.0	0.49	2.8
12070		74.0	104.0	30.0	0.38	3
12070		203.0	221.0	18.0	0.35	0.8
12070		266.0	293.0	27.0	0.8	3.1
12070	incl.	278.0	293.0	15.0	1.12	4.9
12071		104.0	113.0	9.0	0.33	0.3
12071		203.0	218.0	15.0	0.4	1.9
12073		115.0	124.0	9.0	0.37	0.8
12074		37.0	46.0	9.0	0.4	2
12076		288.0	459.0	171.0	0.69	2.1
12076	incl.	321.0	447.0	126.0	0.82	2.2
12076	and	321.0	342.0	21.0	0.96	4.6
12076	and	384.0	447.0	63.0	1.07	1.5
12077		94.0	106.0	12.0	0.33	0.8
12079		20.2	173.0	152.8	0.7	4.7
12079	incl.	23.0	53.0	30.0	1.08	9.8
12079	incl.	116.0	173.0	57.0	0.78	3.8
12081		130.0	139.0	9.0	0.53	1.2
12082		38.0	242.0	204.0	0.71	3.1
12082	incl.	56.0	98.0	42.0	0.84	4.7
12082	incl.	125.0	131.0	6.0	3.4	6
12082	incl.	158.0	188.0	30.0	0.85	4.2
12082	incl.	194.0	224.0	30.0	0.82	1.5
12082		305.0	314.0	9.0	0.52	3.9
12082		365.0	401.0	36.0	0.42	1.9
12083		106.0	118.0	12.0	0.66	3.6
12083		136.0	145.0	9.0	0.36	0.9
12083		160.0	205.0	45.0	0.57	2.1
12083	incl.	160.0	184.0	24.0	0.79	1.7
12083		259.0	289.0	30.0	0.57	4.5
12084		69.0	72.0	3.0	4.71	1.3
12084		90.0	99.0	9.0	1.01	8
12084		153.0	195.0	42.0	0.56	3.7
12084	incl.	156.0	180.0	24.0	0.7	5
12084		243.0	279.0	36.0	2.63	2.4
12084	incl.	249.0	252.0	3.0	21.1	1.2
12084		291.0	549.0	258.0	0.44	1.4

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int. <sup>3</sup> (m)	Au (g/t)	Ag (g/t)
12084	incl.	360.0	432.0	72.0	0.58	1.1
12084	incl.	507.0	546.0	39.0	0.76	2.2
12086		14.6	23.0	8.4	0.32	1
12086		173.0	179.0	6.0	1.8	5.2
12086		260.0	290.0	30.0	0.38	1
		Drillhol	es Complete	d by Carlyle		
N23-089		18.0	1001.0	983.0	0.37	1.11
	incl.	18.0	707.0	689.0	0.51	1.48
	incl.	18.0	566.0	548.0	0.60	1.75
	incl.	18.0	466.0	448.0	0.67	2.03
N23-090		20.0	251.0	231.0	0.41	2.86
	incl.	20.0	218.0	198.0	0.46	3.25
	incl.	20.0	188.0	168.0	0.52	3.71
	incl.	20.0	182.0	162.0	0.53	3.81
N23-091		18.1	764.0	745.9	0.45	1.67
	incl.	18.1	668.0	649.9	0.50	1.87
	incl.	18.1	632.0	613.9	0.53	1.93
	incl.	18.1	581.0	562.9	0.55	2.01
	incl.	32.0	149.0	117.0	0.80	3.06
	incl.	35.0	53.0	18.0	1.65	1.83
	incl.	110.0	149.0	39.0	0.94	6.10
	incl.	272.0	350.0	78.0	1.07	3.18
	incl.	317.0	350.0	33.0	1.41	3.44
N23-092		15.0	27.0	12.0	0.11	1.43
	also	219.0	225.0	6.0	0.14	0.55
	also	238.9	245.0	6.1	0.15	0.48
N23-093		10.0	105.3	95.3	0.40	1.06
	incl.	10.0	75.0	65.0	0.51	1.30
	incl.	10.0	54.0	44.0	0.69	1.76
	incl.	14.9	54.0	39.1	.0.75	1.90
	incl.	48.0	54.0	6.0	3.83	7.05
	incl.	96.0	105.3	9.3	0.41	1.13
N23-094		6.0	108.0	102.0	0.13	0.35
	incl.	6.0	93.0	87.0	0.14	0.36
	incl.	42.0	93.0	51.0	0.16	0.39
N23-095		39.0	92.0	53.0	0.19	0.35
	incl.	54.0	92.0	38.0	0.23	0.37
	incl.	54.0	63.0	9.0	0.57	0.43
	incl.	54.0	72.0	18.0	0.38	0.50

Hole ID <sup>2</sup>	Incl	From (m)	To (m)	Int.³ (m)	Au (g/t)	Ag (g/t)
N23-096		2.0	81.0	79.0	0.17	1.20
	incl.	2.0	45.0	43.0	0.26	1.89
	incl.	2.0	18.0	16.0	0.32	2.26
	incl.	2.0	9.0	7.0	0.34	1.51
	incl.	6.0	18.0	12.0	0.36	2.38
	incl.	31.7	45.0	13.3	0.40	3.08
N23-097		3.0	81.0	78.0	0.13	0.39
	incl.	3.0	21.0	18.0	0.16	0.68
	incl.	3.0	63.0	60.0	0.14	0.41
	incl.	33.0	63.0	30.0	0.17	0.31
	also	120.0	126.0	6.0	0.24	0.88
N23-098		9.0	54.0	45.0	0.15	0.42

Notes:

1. All holes are vertical, except for holes 92-03, 92-04, 92-05, 06-04, 06-06, 06-11, 06-12, 9001, 12063, 12064, 12072, 12074, and 12080

2. Widths reported are drill widths.

3. All assay intervals represent length weighted averages.

4. Hole lost at 112 m when entering favoured host rock.

5. No significant intersection in holes 9012, 9013, 10021, 10024, 10025, 11038, 11056, 12059, 12066, 12072, 12075, 12078, 12080, 12085, 12087 and 12088.

6. No assays recorded for holes 72-1, 72-3, 72-10, and 06-01

# **11. SAMPLE PREPARATION, ANALYSIS AND SECURITY**

A summary of the various preparation and analytical laboratories that carried out analytical work on samples from the Newton Property is summarized by year in Table 11-1.

Year	Sample Preparation Laboratory	Primary Assay Laboratory	Check Assay Laboratory
1972	Unknown	Unknown	
1982	Kamloops Research Assay Lab (KRAL)	KRAL, Kamloops	
1988	Min-En North Vancouver	Min-En North Vancouver	
1989	Min-En North Vancouver	Min-En North Vancouver	
1990	ACME, Vancouver	ACME, Vancouver	
1991	Vangeochem, Vancouver	Vangeochem, Vancouver	
1992	Unknown	Unknown	
1994	Min-En North Vancouver	Min-En North Vancouver	
1996	Min-En North Vancouver	Min-En North Vancouver	
1997	Min-En North Vancouver	Min-En North Vancouver	
2005	ACME, Vancouver	ACME, Vancouver	
2006	ACME, Vancouver	ACME, Vancouver	ACME, Vancouver
2009	ACME, Smithers, or Vancouver	ACME, Vancouver	ALS Chemex, North Vancouver
2010-2012	ACME, Vancouver	ACME, Vancouver	ACME, Vancouver and ALS Minerals, North Vancouver
2023	Bureau Veritas, Vancouver	Bureau Veritas, Vancouver	

Table 11-1 -	ANAI YTICAI	I ABORATORIES USED	- NEWTON PROJECT
	7 II		

# **Historical Samples (Pre-2006)**

Descriptions of the sample preparation or analytical protocols used by Cyprus in 1972, and in a few of the later year programs, are not mentioned in the available reports. Site security measures are also not mentioned in any of the available reports prior to the arrival of Amarc in 2009. It is assumed that sample preparation, analytical, and site security protocols consistent with industry standards of the day were in place during these programs.

For the 1982 Taseko drilling, Kamloops Research & Assay Laboratory Limited ("KRAL") performed the sample preparation and analytical work (Assessment Report-11001, 1982). Gold, silver, copper, and zinc were determined for drillholes 82-03 and 82-04; however, the procedures used by KRAL to perform the sample preparation and analysis work are not mentioned.

In 1988, 129 drill core samples (from 1972 Cyprus drill core) and 82 soil samples were collected and sent to Min-En Labs in North Vancouver (Assessment Report-18081, 1988). The core samples were crushed with a jaw crusher and pulverized by ceramic plated pulverizer or ring mill pulverizer. The soil samples were dried at 95°C and screened through an 80-mesh sieve to obtain the minus 80 mesh fraction for analysis. The gold content was determined by Min-En Labs using a special multi-acid digestion with Atomic Absorption Spectroscopy ("AAS") finish. Silver, copper, lead, zinc, antimony, and arsenic were determined by Min-En Labs using aqua regia plus HClO4 digestion with Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES) finish.

In 1992, 462 core samples were collected from five drillholes (hole 92-01 through 92-05) and assayed for gold and copper. The assay laboratory and the procedures are not mentioned in the available reports.

The core from the pre-2006 programs was likely split or sawn in half lengthwise, with one half sent for assay and the other half retained in the core box for archival purposes. Most historical samples are two metre in length. Table 11-1 lists the laboratories mentioned in the historical reports. In many cases, the laboratories and methods used are not described definitively and the original assay certificates are generally not available for review. Gold analysis on the drill core samples was likely by the fire assay fusion method on a one assay ton (30 g) sample followed by an AAS or gravimetric finish. Methods and laboratories used for analysis of drill core samples for other elements are also not fully documented. It seems that a variety of analytical methods, digestions, and finishes were used.

# High Ridge Samples – 2006

In 2006, the drill core was logged, cut with a diamond saw, and stored on site near the top of Newton Hill. The core was cut in half lengthwise using a gas-powered core saw. Most mineralized core was sampled in two metre intervals with a few exceptions to accommodate structural and lithological changes.

High Ridge used Acme Analytical Laboratories Ltd. ("Acme") of Vancouver, British Columbia, to prepare and assay all core samples collected on the Newton Project. A total of 936 samples were assayed for multiple elements including gold, copper, and silver by Acme, which used an aqua regia digestion of a 0.5 g sample followed by an Inductively Coupled Plasma – Mass Spectroscopy (ICP-MS) finish (Acme method code: Group 1DX). In addition, 81 pulp samples were re-assayed by Acme using the same method. It should be noted that gold was not assayed by fire assay (except for two re-assay pulp samples numbered 925 and 927). For the 2006 High Ridge samples, gold was determined by the multi-element assay method described above.

The coarse reject and pulp samples from this program were discarded shortly after the assays were received by High Ridge.

# Amarc Samples – 2009 Through 2012

The Amarc drill programs of 2009, 2010, 2011, and 2012 used the same sampling, sample preparation, analytical, site security, and sample storage protocols. Shipment security was expanded in the 2011 and 2012 programs.

The core was boxed at the rig and transported by truck to the logging facility on site where it was logged and sampled. The core was cut in half lengthwise using a diamond saw. One half was collected as an assay sample and the other half was retained in the core box. Most core samples are three metres in length with some exceptions made to accommodate structural and lithological changes. Core samples were placed in plastic sample bags, checked for sample sequence integrity, and then shipped along with external quality control ("QC") samples (standards, blanks and duplicates) by commercial carrier to the laboratory. In the last two drill programs, samples and external QC samples were collected in white sacks and placed into a sealed wooden tote for shipment. The half core remaining after sampling was transported to a secure facility at Gibraltar Mine (to hole 59) and at Mueller Electric in Williams Lake (holes 60-88) for long term storage.

Samples were shipped to the Acme laboratory facility located in Vancouver, British Columbia, for sample preparation with the exception of 2009 holes 9003 through 9014 which were processed at the Acme facility located in Smithers, British Columbia. Acme was the primary analytical laboratory used, and ALS Minerals, North Vancouver, British Columbia, was the check laboratory. Both the Acme and ALS Minerals facilities are independent of Amarc.

The following information regarding laboratory certification is published on the web site maintained by Acme:

Foreseeing the need for a globally recognized mark of quality in 1994, Acme began adapting its Quality Management System to an ISO 9000 model. Acme implemented a quality system compliant with the International Standards Organization (ISO) 9001 Model for Quality Assurance and ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories. On November 13, 1996, Acme became the first commercial geochemical analysis and assaying lab in North America to be registered under ISO 9001. The laboratory has maintained its registration in good standing since then. Vancouver expanded the scope of its registration to include the Smithers preparation facility in June of 2009, Yellowknife in April 2010, and Whitehorse in May 2010.

October 2011 the Vancouver laboratory received formal approval of its ISO/IEC 17025:2005 accreditation from Standards Council of Canada for the tests listed in the approved scope of accreditation (see link below). The lab will continue to add methods to this scope. The Santiago hub laboratory is also working toward ISO 17025:2005 accreditation and is expected to complete the accreditation process within the next year.

The following information regarding laboratory certification is published on the web site maintained by ALS Minerals:

ALS Minerals has developed and implemented at each of its locations a Quality Management System (QMS) designed to ensure the production of consistently reliable data. The system covers all laboratory activities and takes into consideration the requirements of ISO standards.

The QMS operates under global and regional Quality Control (QC) teams responsible for the execution and monitoring of the Quality Assurance (QA) and Quality Control programs in each department, on a regular basis. Audited both internally and by outside parties, these programs include, but are not limited to, proficiency testing of a variety of parameters, ensuring that all key methods have standard operating procedures (SOPs) that are in place and being followed properly, and ensuring that quality control standards are producing consistent results.

### Accreditation

Perhaps the most important aspect of the QMS is the process of external auditing by recognized organizations and the maintaining of ISO registrations and accreditations. ISO registration and accreditation provides independent verification for our clients that a QMS is in operation at the location in question. Most ALS Minerals laboratories are registered or are pending registration to ISO 9001:2008, and a number of analytical facilities have received ISO 17025 accreditations for specific laboratory procedures.

The half-core samples were crushed at Acme (Vancouver or Smithers) to greater than 80% passing 10 mesh (2 mm), then a 500 g sub-sample was split and pulverized to >85% passing 200 mesh (75  $\mu$ m). Prior to hole 11045, a 250 g sub-sample was split and pulverized to >85% passing 200 mesh. The coarse rejects and pulps from the assay samples are retained at the secure, long-term storage facility of HDSI at Port Kells, British Columbia.

The gold content was determined by 30 g fire assay fusion with ICP-AES finish (Acme method code: 3B01). The concentrations of copper, silver and 32 additional elements were analyzed using a 1.0 g sample aqua regia digestion with ICP-AES or ICP-MS finish (Acme method code: 7AX). For hole 9001, the first 39 samples were also analyzed for multiple elements using 1.0 g sample digested in aqua regia with ICP-AES finish (Acme method code: 7AR). For hole 9007, the samples were also analyzed for multiple elements using 1.0 g samples were also analyzed for routiple 9007, the samples were also analyzed for multiple elements using a 1.0 g sample and four acid digestion with ICP-AES or ICP-MS finish (Acme method code: 7TX).

Duplicate samples were assayed by ALS Minerals using similar methods to those employed by Acme. The gold content was determined using a 30 g fire assay with ICP finish (ALS method code: Au-ICP21). The concentrations of copper, silver and 49 other elements were analyzed with a 0.5 g sample aqua regia digestion with ICP-AES/ICP-MS finish (ALS method code: ME-MS41).

Core sampling by Amarc included: 1,443 samples in 2009, 2,474 samples in the late 2010 to early 2011 program, 1,557 samples in the late 2011 program, and 3,613 samples in 2012. In addition, 145 pairs of in-line quarter core field duplicates were taken in the late 2010 and early 2011 program, 95 in-line duplicates (quarter core for hole 11044 and coarse rejects for remaining holes) in the late 2011 program, and 211 in-line reject duplicates in 2012. The quarter core duplicates

(performed on all drillholes of late 2010 and early 2011 and hole 11044 of late 2011) and reject duplicates (hole 11045 onwards) were prepared and assayed by Acme using the same methods.

In addition, a total of 25 samples were selected from late 2011 Newton drill core rejects for determination of the gold content by the screen-metallics fire assay method (Acme method G602). A minimum 500 g of the coarse reject split was pulverized, weighed to the nearest gram and then sieved at 150 mesh (0.1 mm). The coarse fraction was weighed to the nearest 0.01 g, fire assayed in its entirety and the gold content weighed to the nearest 0.005 mg. A one assay ton aliquot of the fine fraction was subject to fire assay fusion with an ICP- AES finish, or a gravimetric finish if in excess of 30 ppm Au. The total gold in the coarse fraction, the fine-fraction gold concentration, and a weighted average gold concentration for the entire sample are reported in the results.

The sample preparation and analytical flow chart for the 2009 through 2012 drill programs is shown in Figure 11-1.



Figure 11-1 – SAMPLE PREPARATION AND ANALYTICAL FLOW CHART

# SUMMARY OF QUALITY ASSURANCE/QUALITY CONTROL MEASURES

Quality assurance ("QA") is a set of systems and measures whose purpose is to assure that the results meet the standards of quality. QC is the use of processes and tools to check and ensure that the desired level of quality is achieved in the results. Since quality assurance and quality control are closely related, they are often referred as QA/QC.

Amarc implemented and maintained an effective external QA/QC system consistent with industry best practice from 2009 to 2012. This program is in addition to the QA/QC procedures used internally by the analytical laboratories. Table 11-2 describes the types of external QA/QC sample types used in this program.

QC Code	Sample Type	Description	Percent of Total
MS	Regular Mainstream	Regular samples submitted for preparation and analysis at the primary laboratory.	90%
ST	Standard (Certified Reference Material or CRM)	Mineralized material in pulverized form with a known concentration and distribution of element(s) of interest. Randomly inserted using pre-numbered sample tags.	5% or 1 in 20
DQ/DX	Duplicate or Replicate	An additional split taken from the remaining pulp reject (DP), coarse reject (DX), ¼ core (DQ) or ½ core remainder. Random selection using pre-numbered sample tags.	5% or 1 in 20
SD	Standard Duplicate	Standard reference sample submitted with duplicates and replicates to the check laboratory.	<1%
BL	Blank	Basically, a standard with no appreciable grade used to test for contamination.	1%

Table 11-2 -	SUMMARY	OF FXTERNAL	QA/QC	SAMPLET	YPES USED
	001/11/1/ 11 ( 1				

Table 11-3 is a summary of the external QA/QC samples used by year.

# HISTORICAL QA/QC (PRE-2006)

There is no mention of external QA/QC samples inserted along with core samples for the historical drilling prior to 2006 in the available reports.

# HIGH RIDGE 2006 DRILL PROGRAM QA/QC

For the 2006 drill program, High Ridge re-assayed 81 pulp samples (pulp duplicates) for external quality control purposes. No external standards or blanks were inserted to control the assay results. In addition, gold was not assayed by the fire assay method (with the exception of two re-assay pulp samples - 925 and 927). Instead, gold was determined by digestion of a 0.5 g sample in Aqua Regia followed by an ICP-AES finish.

Year	MS	DP	DQ/DX	SD	ST	BL	ST%
Pre-2006	672	-	-	-	-	-	-
2006	934	81	236*	-	-	-	-
2009	1,443	75		5	77	23	5
Late 2010 - Early 2011	2,474	145	145*	11	144	108	5
Late 2011	1,557	95	95	7	93	73	6
2012	3,613	203	211	15	216	170	6
ALL	10,693	599	687	38	530	374	4

\* Quarter core samples taken by Amarc for gold fire assay and multi-element analysis.

### AMARC 2009 DRILL PROGRAM QA/QC

For the 2009 drill program, Amarc implemented a rigorous QA/QC program. Mr. C. Mark Rebagliati, P. Eng., a Qualified Person as defined under NI 43-101, supervised the drilling, quality assurance and quality control program. This program was in addition to the QA/QC procedures used internally by the analytical laboratories.

During this period, a total of 77 standards, 80 check duplicates, including 75 coarse reject duplicates (DX) and five standard duplicates (SD), and 23 coarse granitic blanks (BL) were included with the regular assay samples for external QC purposes (Table 11-3). In 2009, Amarc took 236 quarter core duplicate samples from some of the half core remaining from the 2006 High Ridge sampling program for re-analysis by a gold fire assay fusion method at Acme.

# AMARC LATE 2010 AND EARLY 2011 DRILL PROGRAM QA/QC

For the late 2010 and early 2011 drill program, Amarc continued with a similar QA/QC program to 2009. The major difference was that a field duplicate was taken from a quarter core sample instead of the coarse reject. During the period, a total of 144 standards, 145 duplicates and 108

blanks were included with the regular assay samples for external QC purposes. The blanks consisted of 61 certified pulp blanks and 47 coarse granitic blanks.

# AMARC LATE 2011 DRILL PROGRAM QA/QC

For the late 2011 drill program, Amarc continued with a similar QA/QC program. During this phase, a total of 93 standards (ST), 95 in-line quarter core duplicates (DQ) and coarse reject duplicates (DX), 95 inter-laboratory pulp duplicates (DP), and 73 blanks (BL) were included with the regular assay samples for external quality control purposes. The blanks consisted of 35 certified pulp blanks and 38 coarse granitic blanks.

In addition, 25 samples were selected from late 2011 Newton drill core rejects for gold fire assay screen analysis at 150 mesh (0.1 mm) to provide an indication of the "metallic" gold component. Eleven samples from drillhole 11055 were selected because they had higher than anticipated variability in the original in-line duplicate results. The remaining 14 samples were randomly selected. A scatter plot of the results of the gold metallics assays and the original gold assays is shown in Figure 11-2. The plus 150 mesh gold component of the total gold assay for the 25 samples is shown in red in Figure 11-3. The metallic gold component ranges from 0.4% to 23.9% with a median value of 5.4% for the samples in this study.

A scatter plot of the results of the gold metallics assays and the original gold assays is shown in Figure 11-2. The metallic gold component of the total gold assay for 25 samples is shown in red in Figure 11-3.



Figure 11-2 - SCATTER PLOT OF METALLIC AU VS. ORIGINAL AU ASSAY

As shown in Figure 11-2, two notable outliers occurred: 7.7 vs. 3.2 and 5.4 vs. 0.3 are from 11052-950731 and 11045-950182, respectively. They may indicate small gold "nuggets" were found in the original assay pulp, but not in the 500-gram metallic assay pulp. The reverse situation did not occur, presumably because the test population is quite limited. Most pairs, including the highest value pair in the test group (12.5 vs. 12.9) from 11045-950163, match quite closely. Ongoing inline duplicate gold results should be monitored to determine if any further metallic gold analyses are needed.



Figure 11-3 - METALLIC GOLD COMPONENT (RED)

# AMARC 2012 DRILL PROGRAM QA/QC

In the 2012 drilling program, a total of 216 standards (ST), 211 in-line coarse reject duplicates (DX), and 170 blanks (BL) were inserted and assayed along with the regular assay samples for external quality control purposes. The blanks consisted of 103 certified pulp blanks and 67 coarse granitic blanks.

# **STANDARDS**

Table 11-4 provides a list of the standards that were used in the 2012 exploration program. Monitoring of the results from the regular assay results for gold was controlled based on a statistical analysis determined from the round-robin analysis of the standards at a number of independent laboratories as follows:

### Mean ± 3 Standard Deviations

During the course of the regular assaying of the drill core samples, a standard is deemed to have failed when the gold result falls outside the control limits for the element of interest. The laboratory is notified, and the affected range of the samples is re-run for that element until the included standard passes (falls within the control limits). The silver analyses were not subjected to the same level of scrutiny as were the gold values, consequently the range of these values will be larger.

In respect of silver, only one of the selected standards shown in Table 11-4 had a certified recommended value for silver. Consequently, a recommended value was determined using the assay data received from the Acme laboratory. The mean silver value was determined after first removing significant outlier results. The upper and lower control limits were set at  $\pm$  12% of the mean silver value.

In summary, RPA concluded that the QA/QC methods used by Amarc met the current industry best practices. RPA recommended that the QA/QC protocols for the Newton Project be updated in future drilling and that sampling programs include certified reference materials for silver and monitor the results for departures from the recommended values.

Standard	Times Used	Au (g/t)	Ag (g/t)
CM-7	30	0.427	2.42*
CM-8	10	0.91	3.60*
CM-11A	46	1.014	1.89*
CM-12	54	0.686	4.04*
CM-13	8	0.74	3.38*
CM-17	6	1.37	14.90
CGS-29	62	0.228	1.96*

Table 11-4 - S	STANDARDS USED	IN THE 2012	DRILL PROGRAM
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Note: \* A certified recommended value for silver is not available for this standard.




Figure 11-4 - GOLD QUALITY CONTROL CHART (AMARC 2009-2012)



Figure 11-5 - SILVER QUALITY CONTROL CHART (AMARC 2009-2012)

### BLANKS

During the 2012 drilling program, a total of 170 external blanks, including 67 barren rock blanks (coarsely crushed granodiorite), and 103 commercial pulp blanks (BL-7 and BL-9), were inserted with the regular assay samples to monitor potential contamination. The assay results (Figure 11-6 and Figure 11-7) indicate that no significant cross-contamination occurred during sample preparation and assay.



Figure 11-6 - GOLD MONITORING CHART OF BLANKS (AMARC 2009-2012)



Figure 11-7 - SILVER MONITORING CHART OF BLANKS (AMARC 2009-2012)

### DUPLICATES

During 2012, 211 in-line reject duplicates (DX) were inserted and assayed along with the regular assay samples to monitor the repeatability (precision) of the primary assay laboratory. The results are shown in Figure 11-8 and Figure 11-9. Analyses of the inter-laboratory duplicate samples were performed for gold and 51 additional elements on original pulps by ALS Minerals in Vancouver using similar analytical methods to Acme.



Figure 11-8 - SCATTER PLOT OF GOLD IN-LINE DUPLICATE SAMPLES (AMARC 2012)



Figure 11-9 - SCATTER PLOT OF SILVER IN-LINE DUPLICATE SAMPLES (AMARC 2012)

#### **DENSITY DATA**

A total of 1,494 bulk density (or specific gravity, SG) measurements have been taken by site personnel using the water immersion method since 2010.

The procedures of the water immersion method are as follows:

- Dry, whole core samples, typical of the surrounding rock selected
- Weigh sample in air (Ma)
- Weight sample suspended in water (Mw)
- Read Mw quickly after balance stabilizes to minimize water incursion into rock pores
- Calculation of the specific gravity as per the formula: SG = Ma/(Ma Mw)

A summary of the original density results is shown in Table 11-5.

Year	Number of Samples	SG Median		
Pre-2010	-	-		
2010	384	2.69		
2011	425	2.7		
2012	685	2.68		
Overall	1,494	2.69		

Table 11-5 - SUMMARY OF DENSITY READINGS

### DATA ENVIRONMENT

All drill logs and surface exploration samples collected on the project site are compiled in an SQL database with tables that are compatible with Microsoft Access.

Drillhole logs are entered into notebook computers running the Amarc Access data entry module for the Newton Project at the core logging area on site. The core logging computers are synchronized on a daily basis with the master site entry database at the site geology office. Core photographs are also transferred to the site geology office computer on a daily basis. In the geology office, the logs are printed, reviewed, and validated and initial corrections made.

Drillhole data from the project site is transmitted to the Vancouver office on a weekly basis. There, the logging data are imported into the master SQL drillhole database and merged with digital

assay results provided by the analytical laboratories. A further printing, validation and verification step follows after import.

Edits to the drill logs are submitted to the site office for correction. Analytical re-runs are submitted to the analytical laboratories and corrections to analytical results within the database are made in the Vancouver office. Compiled data are exported to the site entry database, to resource modelling and other users.

### DATA PROCESSING

Project data are processed so that they can be rapidly assessed with respect to the requirements of ongoing exploration and timely disclosure of material information by Amarc management. In this regard, compiled drill data and assay results are made available to Amarc management, the technical team, and project consultants advancing the project immediately after the initial error trapping and analytical QA/QC appraisal processes are completed. The data are then subjected to more extensive, through-going validation, verification, QA/QC, and error correction processes. The findings of these longer-term reviews are assessed as to their impact on previously released data and the necessity for further disclosure if there is a material change.

#### CARLYLE 2023 DRILL AND METALLURGICAL SAMPLING PROGRAM QA/QC

During the Phase 1 drill program, 672 half core samples and 35 QA/QC samples were submitted for assay to Bureau Veritas in Vancouver, BC.

During the Phase 2 drill program 282 half core samples and 20 QA/QC samples were submitted for assay to Bureau Veritas in Vancouver, BC.

All samples from the Phase 1 and 2 drill programs were geochemically analyzed according to a fire assay fusion Au by ICP-ES method (FA330-Au) and a 1:1:1 Aqua Regia digestion ICP-ES/ICP-MS analysis method (AQ270). Bureau Veritas is an independent ISO 9001: 2008 certified lab, for gold, silver and base metal analysis using Inductivity Coupled Plasma (ICP), and Fire Assay (FA) methods.

QAQC samples inserted included standard reference materials, and blanks. Standards were sourced from CDN Labs of Langley, BC and included CDN-ME-42, CDN-GS-P8H, and CDN-BL-10. No issues with standard performance were noted during quality checks prior to interval reporting.

The remaining half core from both phases of the 2023 drill program after sampling was placed back into wooden core boxes, stacked on pallets, and is currently stored at the KiNiKiNiK Lodge facility, at coordinates 52.126480N, 123.689135W.

The Company submitted a master composite consisting of primarily felsic volcanic material of continuous drill core intervals from three of the 2023 drillholes for testing, which is the primary host rock of the Newton mineralization. Testing was carried out and supervised by Base Metallurgical Laboratories (BaseMet), Kamloops, B.C. under test program BL1338. The objective of the program was to conceptualize a preliminary process flowsheet that would produce gold and silver doré, and to evaluate the metallurgical performance of the mineralization. The testwork included gravity concentration, Whole-ore-leach (WOL) and flotation at various grind sizes followed by leach of the rougher concentrate and tailings. Jeremy Hanson, P.Geo the Qualified Person for Carlyle supervised and the submitted the material sampling and delivery of the material for metallurgical testing. Metallurgical Laboratories Ltd. Basemet is an independent metallurgical laboratory in Kamloops. BC. QA/QC is conducted in-house using certified reference standards and blanks, together with in-house metallurgical balance controls. Suitably trained technicians and professionals in the field of metallurgical testing completed and supervised the testing.

The QP believes that the sample preparation, security, analytical procedures, and quality control practices of Carlyle meet or exceed industry standards and that the data from the Carlyle drillholes are therefore acceptable for the estimation of mineral resources. Furthermore, the data collected by the previous owner, Amarc, also has the reliability needed for use in resource estimates.

# **12. DATA VERIFICATION**

### Introduction

Other than the drilling carried out by Carlyle in 2023, There had been no drilling and sampling since 2012, and the previous verifications carried out in 2012 remain relevant to determine if the data is of sufficient quality to support this Technical Report.

Additional verification was carried out in 2021 and 2023.

Michael F O'Brien P.Geo. is the QP for this section.

### Data Verification 2012 – Amarc

For the 2009 through 2012 drill programs, the following data verification and validation steps were completed by HDI staff during the preparation of the drillhole database:

- Print and review the merged sampling, analytical and QA/QC information as assay results are returned from the laboratory.
- Generate downhole charts with lithologic and selected assay element columns, for visual comparison and identification of possible errors.
- Generate external QA/QC charts to monitor standard performance, identify failures and request re-runs.
- Generate blank monitoring charts to identify possible contamination.
- Generate duplicate monitoring charts to monitor assay reproducibility.
- Correct mis-labelled and mis-entered data entries, keypunching errors, typos and any other errors found; and
- Verify SG data from the 2010 and 2011 drill programs against downhole plots and core photos and identify outliers.

### Data Verification 2012 – RPA

#### DRILLING, LOGGING AND SAMPLING PROCEDURES

During 2012, while the most recent drilling campaign was still underway, Mr. Reno Pressacco, Principal Consulting Geologist with RPA, carried out a site visit on June 19 and 20, 2012, accompanied by Ms. Elena Guszowaty and Mr. Fraser Adams. During the site visit, Mr. Pressacco examined existing site infrastructure and access. He visited the location of several surface drillhole collars and discussed diamond drilling procedures with the project geologist. RPA reported that the drilling at the Newton Project has been carried out to the highest industry standards employed at that time.

A small program of check assaying was carried out by RPA where a total of 10 samples of fresh half core from drillholes 12083 and 12072 were selected.

RPA carried out a program of validating the digital drillhole database by means of spot checking a selection of drillholes that intersected the mineralized material. Approximately 10% of the drillhole database was selected for validation. RPA discovered no material discrepancies in the drillhole database.

### Data Verification 2021 – RockRidge

A site inspection was conducted by the QP, Michael F O'Brien, MSc., P. Geo on June 24, 2021. During the field visit to the Property, traversed the central portion of the deposit on foot and examined float material from rehabilitated trenches and drill collars. The QP reviewed drill cores at the warehouse facility located at Williams Lake.

The locations of some drill collars were verified in the field, drill core reviewed from selected core intervals and assay intervals identified and related to the drill logs.

#### Site Inspection and Drillhole Collar Verification

The QP, Michael F O'Brien, Jeremy Hanson (of Hardline Exploration) and Andrew Strain (Professional Photographer) were transported by helicopter from Williams Lake Airport to the site. The helicopter was able to land safely close to the summit of Newton Hill. The team traversed along access tracks and examined outcrops and old trench lines. The trenches have been rehabilitated, so outcrop is obscured but float provided evidence of various volcanic rock types, including tuffs, agglomerates and vesicular felsic volcanics with a bleached and altered appearance.



Figure 12-1 - VIEW NORTHWEST OF NEWTON HILL



Figure 12-2 - VIEW FROM NEWTON HILL TOWARDS SCUM LAKE (ROCKRIDGE, 2021)

Four drillhole collar positions (wooden posts with and without collar identity tags) were checked in the field during the visit using a Garmin GPS Map 66i.



Figure 12-3 – COLLAR OF DH12057 (ROCKRIDGE, 2021)

Table 12-1 compares the collar locations against the drillhole collar database. The average difference is less than 3 meters which is an acceptable level of precision for coordinates and elevations derived using handheld commercial-grade GPS units.

BHID	xcollar	ycollar	zcollar	calibrated z	XCOLLAR	YCOLLAR	ZCOLLAR	dx	dy	dz
10019	457352	5738997	1308	1330.6	457353.6	5738997.7	1322.9	-1.6	-0.7	7.7
11036	457354	5738812	1280	1302.6	457355.0	5738808.6	1296.7	-1.0	3.4	5.9
11044	457446	5738801	1270	1292.6	457445.2	5738799.5	1284.8	0.8	1.5	7.8
12057	457447	5738840	1279	1301.6	457446.8	5738838.7	1290.0	0.2	1.3	11.6
							Average	-0.4	1.4	8.2

Table 12-1 – FIELD CHECKS – COLLAR LOCATIONS

#### **Core Verification**

A core inspection was conducted by the QP, Mr. Michael F O'Brien, MSc., P. Geo on June 24, 2021, at the core storage facility (Mueller Electrical) at Williams Lake.



Figure 12-4 – SELECTED CORE INSPECTION (ROCKRIDGE, 2021



Figure 12-5 – STACKED CORE ALONG BERM OF STORAGE YARD (ROCKRIDGE, 2021)

#### RockRidge Partnership & Associates

The cores are stacked inside a partially fenced industrial facility managed by Mueller Electrical. Despite being within a controlled perimeter which is locked at night, the cores at Williams Lake are not well secured as they are stacked outdoors (see Figure 12-5) in a general industrial area with several different activities are taking place and where they are at risk of disturbance by heavy industrial equipment and vehicles. The lids of most wooden core boxes have been removed, presumably during previous inspections and consequently the core has deteriorated due to weathering. Many boxes have rotted to the extent that they cannot be moved without a risk of disintegration and loss of material. The identifying markings on many boxes and sampling tags are no longer legible shows a typical example of core box labeling.

An unknown number of cores are stored at Gibraltar Mine and were not seen by the QP in 2021.



Figure 12-6 – K-SILICATE ALTERATION IN MAFIC FLOW (HOLE 11052)

#### RockRidge Partnership & Associates



Figure 12-7 – ARGILLIC ALTERATION IN MONZONITE (HOLE 9004)



Figure 12-8 – BANDED TUFF WITH OXIDIZED SULPHIDES (HOLE 11052)

Selected runs of five drillholes (9004, 11048, 11052, 12068 and 12079), a total of 1,404 metres were laid out and reviewed in the storage facility (see, Figure 12-6, Figure 12-7 and Figure 12-8, inclusive and Table 12-2).

Table 12-2 - REVIEW HOLE RUNS

Hole	From	То
9004	110	220.0
11048	0	350.0
11052	0	534.0
12068	0	210.0
12079	0	200.0

Core box labeling, distance markers, and assay tags were in poor condition. Some boxes had no legible identifying marks, and the core position was inferred from the adjacent boxes.

The geological data as logged was compared with the database record and visually inspected and in the QP's opinion, the identifiable cores and database are comparable.

### Data Verification 2024 – RockRidge

A site inspection was conducted by the QP, Michael F O'Brien, MSc., P. Geo on October 8th, 2024. During the field visit to the Property, in the company of Jeremy Hanson (of Hardline Exploration), Blake Mclaughlin of Axcap and Morgan Good of Carlyle, the QP traversed the central portion of the deposit by vehicle and on foot and examined float material from rehabilitated trenches and drill collars. The QP reviewed drill cores and inspected the current core storage facility located next to the Alexander MacKenzie Highway (BC 20 52° 7'34.62"N, 123°41'20.24"W).

### **Database Grade Verification**

The QP reviewed the grade database against Acme Labs Assay Certificates. In 2021, a selection of 1114 sample numbers from the 2012 assay certificates were selected at random and these compared with the drilling database. This comparison represents a total of 1,094 samples, which equates to approximately 10% of the total assay data in the database. 33 gold assays in the data base showed discrepancies with the assay certificates. The most significant discrepancies are

eight samples (956646 to 956654, inclusive excluding 956650) from drillhole 12084 from 309m to 330m depth.

### Verification of 2012 Sampling

Two complete drillholes (Hole 11045 and 11052, Figure 12-9) were check assayed by quarter coring (diamond saw) during the site visit undertaken by the QP in June 2021.

On receipt of the the check sampling assays, the checks and primary assay data were compared by means of tables and graphs.



Figure 12-9 – LOCATION OF TWO HOLES USED IN CHECK ASSAYS

An analysis after merging the original assay table and the check assays shows that the check and original samples are correlated considering they are equivalent to coarse duplicates, and they do not show significant bias. A scatter plot showing gold is presented in Figure 12-10 and silver in Figure 12-11.



Figure 12-10 – SCATTERPLOT OF AU VALUES.



Figure 12-11 - SCATTERPLOT OF AG VALUES.

Grade profiles showing grade vs. check assay grade is presented below for hole 11045 (Figure 12-12) and hole 11052 (Figure 12-13).



Figure 12-12 – DOWNHOLE ASSAY PROFILES FOR HOLE 11045



Figure 12-13 - DOWNHOLE ASSAY PROFILES FOR HOLE 11052

### Verification of Pre-2012 Data

The cores of the older holes have suffered extensive weathering and loss in transport between various storage facilities. Comparative re-sampling and quarter coring is not practicable and would be unlikely to provide unbiased comparison. Verification of pre-2012 vintage exploration holes has been restricted to checking of drill collar locations on plan and in the field and review of drill logs and assay sheets. No material discrepancies were identified by review of drill logs and location data, but the QP recognises that the verification of the pre-2012 is lacking and should be ameliorated through twin drilling and sampling next to selected older drill holes (see Item 26, Phase 1).

### **Topography Verification**

Topography data publicly available for the drilled portion of the property and sourced from the Shuttle Radar Topography Mission ("SRTM") was downloaded. This topography was used to build a digital terrain model, and 546 points were compared with the topography provided by the issuer that was used for geological modelling. A bias of +3.6 meters was noted with the SRTM appearing to be higher than the topography model used for geological modelling. The QP does not believe that a bias of 3.6 m is material at this stage of project development. A weathering surface modeled from downhole logs was used to terminate blocks in the model. This surface is located a significant

distance below the topography surface and therefore the volumetric impact of the topography surface is nil.

### Conclusions

Based on the data verification, the QP considers the geological logging, and assay data to be adequate to support a mineral resource estimate.

# 13. MINERAL PROCESSING AND METALLURGICAL TESTING

In 2023 Carlyle submitted a master composite consisting of primarily felsic volcanic material of continuous drill core intervals from three drillholes for testing (Table 13-1). The drill holes intersect the resource model along the eastern edge of the deposit. Testing was carried out and supervised by Base Metallurgical Laboratories ("BaseMet"), Kamloops, B.C. under test program BL1338. The objective of the program was to conceptualize a preliminary process flowsheet that would produce gold and silver doré, and to evaluate the metallurgical performance of the mineralization. The information in this section is a summary of the testwork completed under BL1338 for Carlyle.

A total of five intervals from N23-089, N23-090 and N23-091 drill core were submitted, and a subsequent master composite was generated through combination. The testwork included gravity concentration, whole-ore-leach ("WOL") and flotation at various grind sizes followed by leach of the rougher concentrate and tailings.

Hele	Composito ID	Interval					
поје	Composite ID	From	То	Length			
N23-089	A	140	203	63			
	В	380	446	66			
N23-090	С	101	158	57			
N23-091	D	29	89	60			
	E	275	347	72			

Table 13-1 – DRILL CORE INTERVALS

Composites A through E each contributed approximately 1/5<sup>th</sup> of the total 67 kg used to create the Master Composite. The head grades for each of the drill core segments ranged from 0.55 g/t Au to 0.95 g/t Au and the Master Composite average head grade measured 0.72 g/t Au (Table 13-2).

Sampla		Assays									
Sample	Cu	Fe	S	Au	Ag	CuOx	CuCN				
Master Composite Hd 1	0.045	2.92	2.65	0.66	2.7	0.001	0.005				
Master Composite Hd 2	0.045	3.00	2.62	0.78	2.6	0.001	0.006				
Average	0.045	2.96	2.64	0.72	2.7	0.001	0.006				
Method	FAAS	FAAS	LECO	FAAS	ICP	FAAS	FAAS				
Units	%	%	%	g/t	g/t	%	%				

#### Table 13-2 – MASTER COMPOSITE HEAD GRADE

#### Gravity test results

Two initial gravity concentration tests using a Mozley table were conducted on the master composite at 80% passing ( $P_{80}$ ) 75 and 150 microns. The highest recovery was at the coarser grind size with approximately 22.8% of the gold being recovered at a grade of 211.8 g/t (Table 13-3).

#### Table 13-3 – GRAVITY TEST RESULTS

Teet	um 1/90	Mass	Grade -	g/t	Recover	y - %
Test	μμικου	%	Au	Ag	Au	Ag
4	150	0.088	211.8	147	22.8	5.0
5	75	0.083	112.6	146	14.1	4.7

#### Initial Whole Ore Leach ("WOL") test results

A preliminary WOL investigation was completed at three grind sizes. The results for the material tested show that a primary grind size in the range of  $P_{80}$  75 microns provided the best results with 73.2% of the gold and 43.2% of the silver extracted (Table 13-4). To investigate the gold losses a 3-Stage Diagnostic leach test was completed on Test 3 WOL tailings. The results indicated that some of the gold may be locked in sulphide minerals and gangue requiring additional liberation.

Test	µm K80	um K80 NaCN pH		m K80 NaCN pH kg/t		48 hr Ex %	traction	Residue Assay g/t		
	•	ppm '	•	NaCN	Lime	Au	Ag	Au	Ag	
1	2700	1000	10.5	0.8	1.5	42.5	28.8	0.42	2.0	
2	150	1000	10.5	1.0	1.5	71.0	42.7	0.23	1.5	
3	75	1000	10.5	1.7	1.7	73.2	43.2	0.20	1.5	

Table 13-4 – WOL TEST RESULTS

#### Flotation + Leach Results

To provide better liberation and improve overall gold extraction a flotation/leach flowsheet was tested at  $P_{80}$  75 and 150 microns. At the coarser primary grind size approximately 81% of the gold and 72.5% of the silver was recovered to the rougher concentrate. With the finer primary grind the results improved with 88.5% of the gold and 82.6% of the silver recovered to a rougher concentrate. To investigate the potential overall recovery with cyanidation of the rougher concentrate and tailings a subsequent test at a primary grind of  $P_{80}$  75 was completed. Approximately 11.1% of the feed mass and 89.8% of the gold was recovered to the rougher concentrate. The rougher concentrate was reground to approximately  $P_{80}$  15 microns prior to a 2-hour pre-oxidation and 48-hour cyanide leach. The rougher tailings were leached at the target primary grind of  $P_{80}$  75 microns and achieved the maximum gold extraction after 24-hours. The overall gold and silver extraction for the master composite tested was 80.3% and 32.7%, respectively (Table 13-5).

Product	Weight A		say - % or g/t		Distribution - %			Leach Unit Extraction		Overall Extraction	
%		Au	Ag	S	Au	Ag	S	Au	Ag	Au	Ag
Ro Con	11.1	7.8	19.0	19.7	89.8	82.6	86.3	80.5	35.4	72.3	29.2
Rougher Tail	88.9	0.11	0.50	0.39	10.2	17.4	13.7	78.4	20.1	8.0	3.5
TOTAL										80.3	32.7

Tahlo	13-5	FI OT	ΓΔΤΙΟΝΙ		I EACH	RESUI	TS
Iane	13-0	FLUI	ATION	AND	LEAGH	RESUL	.13

#### Conclusions

Based on the preliminary metallurgical testwork on the Master Composite created from a few samples of Newton mineralization completed in 2024, the float/leach flowsheet resulted in an

overall gold and silver extraction of 80.3% and 32.7%, respectively. The master composite was created from a limited number of drill holes and the metallurgical testwork may not represent all styles of mineralization and the mineral deposit as a whole. Testwork on additional samples of continuous segments of drill core that range in head grade and spatially represent the material to be mined is recommended in the next stage of engineering to optimize the flowsheet and provide confidence in the recoveries. Based on the very limited testwork to date, there is insufficient data to comment on any processing factors or deleterious elements that could have a significant effect on potential economic extraction.

## **14. MINERAL RESOURCE ESTIMATES**

### Summary

The previous resource estimate for Carlyle, completed in 2022 by RockRidge, was primarily based on the historical database compiled in 2012, with additional grade data from four holes assayed after the 2012 estimate by RPA. This mineral resource estimate can be regarded as a historical estimate.

The current mineral resource estimate is an updated version, following an exploration program completed by Carlyle in the spring of 2022.

Mineralized material was classified into the Inferred Mineral Resource category based on data density, variography-derived search ellipses, lithological and structural modeling constraints, and an increased understanding of the deposit type. The resource volume was constrained by an optimized pit shell to meet the requirement for "reasonable prospects for eventual economic extraction." The mineral resource is summarized in Table 14-1, with a highlighted cut-off grade of 0.25 g/t Au.

Resource ir (Inf	n Optimized Pit erred)		Grade		Metal Content		
Cut Off	Mass	Au Ag AuEQ <sup>3</sup>			Au	Ag	
Au	t	(g/t) (g/t) (g/t)			(t. oz)	(t. oz)	
0.25	41,071,100	0.64	3.41	0.68	842,900	4,506,100	

Table 14-1 – SUMMARY OF MINERAL RESOURCES – NEWTON

Notes

1. Differences may occur in totals due to rounding.

 CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) and CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2019) were used for mineral resource estimation.

3. Metal prices used are US\$1950/Oz for Gold and US\$25/Oz for Silver.

4. Recovery factors used are 80.3% for Au and 32.7% for Ag.

5. Prices are in US\$ per Troy ounce.

6. Effective date for the Mineral Resource December 1, 2024.

### **Descriptions of the Database**

The database was provided by the issuer in the form of an Access database file. The records were verified to ensure the presence of assay, survey, and collar data for each drillhole. An audit of the database was conducted to create master data tables in CSV format. After excluding invalid data, the final dataset comprised 36,417 meters of drilling across 138 drillholes. Of these, 128 were drilled by previous operators and 10 by Carlyle. The dataset within the model footprint includes 31,659 meters of drilling from 106 holes, with 9 drilled by Carlyle. The model area contains 10,481 gold (Au) samples spanning a total drilling length of 29,896 meters, and 9,942 silver (Ag) samples over 28,731 meters.

For statistical analysis and grade estimation, missing assay data were treated as absent values. The database incorporates historical drilling data collected by previous operators prior to the exploration campaigns conducted by Amarc and Carlyle. The drillhole data are provided in the UTM NAD83, Zone 10 coordinate system.



A plan view showing the drillhole locations in the resource boundary is presented in Figure 14-1

Figure 14-1 – DRILLHOLE LOCATIONS

### **Geological Domain Interpretation**

The deposit has been reinterpreted using lithological logs from the 2023-2024 drilling campaign in the drillhole database, along with the updated surface geological map and vertical section interpretations. While the new model is primarily based on the drilling data from the previous estimate, it provides an updated understanding of the distribution and controls of mineralization at Newton.

The initial structural model was created using implicit modeling with Leapfrog Geo software. Lithological solids were then modeled by flagging the drillhole data with a code to isolate specific portions of each drillhole with unique identifiers. Significant effort was dedicated to refining and updating the wireframe solids to accurately reflect interpreted lithological and tectonic boundaries. An updated topography digital terrain model was also added using DEM data from the SRTM mission. More lithological units were modeled compared to the previous model, and the volumes of the modeled lithology solids represent an update of the 2022 model.

Key modeling elements in the deposit model are:

Structure (see Figure 14-2.)

- Newton Hill Fault: a major fault with a ≈370m displacement downdip to the west.
- South Graben Fault: a major fault with a ≈600-650m north down displacement truncating mineralization to the south.
- **Ruby Fault**: a fault with a ≈170m sinistral displacement moving mineralized blocks to the northwest.
- Roxanne Fault: a major fault with a ≈450m displacement truncating mineralization to the east.

Lithology (see Figure 14-4)

- **Felsic wireframe solids** consists of solids for the main felsic flows and tuffs, and minor felsic ignimbrites that coalesce and bifurcate.
- **Epiclastic solids** consists of solids of the supracrustal epiclastic rocks, volcanic wackes, conglomerates and mafic epiclastics.
- Mafic volcanic solids consists of solids of the supracrustal mafic volcanic package.

- Intermediate dyke solids consists of solids of the plagioclase phyric porphyry intrusives, mostly monzonitic and quartz monzonite dykes.
- Quartz Feldspar porphyry solids consists of solids of the intrusive quartz-feldspar porphyry units.

A wireframe surface of the overburden contact was also created from drill logs and was used to inform the block model.



Figure 14-2 – NEWTON STRUCTURE MODEL

Modeling of the structure provided fault-bounded blocks which were used to compartmentalise the lithology model. Structure modeling generated eight separate fault blocks. Only three of the fault blocks (FB1, FB4 and FB7) contained significant gold grades within three large blocks of felsic volcanic rocks displaced by the west-dipping Newton Hill fault as well as some lateral displacement on the Ruby fault. The models honour the lithologic and tectonic information documented in the drillhole logs. (Figure 14-3)



Figure 14-3 – NEWTON FAULT BLOCKS



Figure 14-4 – SECTION N5738700 OF LITHOLOGY MODEL

The felsic units contain almost all the significant gold and silver mineralization. Figure 14-5 and Figure 14-6 illustrates the high grades in the felsic units by means of box plots showing grades for gold and silver per lithologic unit.



Figure 14-5 – BOXPLOT OF GOLD PER LITHOLOGIC UNIT



Figure 14-6 – BOXPLOT OF SILVER PER LITHOLOGIC UNIT

There are several syn- to post-mineralization dykes that intersect the three blocks of felsic volcanic material. Within the felsic lithological units, three domains were established using a grade shell (or numeric interpolant) method, with the trend aligned to the observed mineralization trend and a nominal gold mineralization cut-off grade of 0.4 g/t (Figure 14-7). Additionally, three more domains were created outside the 0.4 g/t grade domains, regardless of lithology.



Figure 14-7 – GRADE DOMAINS IN FELSIC UNITS

Inspection of the geometry of lithological and mineralized units revealed compelling evidence to support three dimensional palinspastic reconstructions of the Newton Hill and Ruby fault displacements (Figure 14-8). Palinspastic reconstruction is an un-faulting technique that translates geological units along observed vectors back to pre-deformed (faulting or folding) position. The same translational vectors were used to project the drillhole composites to their pre-deformed positions.

Geo-statistical examination as well as block model Interpolation was carried out in the predeformed positions. Interpolated blocks were transformed back to the current faulted positions. This approach assumes that deformation occurred after mineralization. Variography modelling in pre-deformed space is more likely to reflect the pre-deformed spatial uncertainty.



Figure 14-8 – SECTION SHOWING DISPLACED HIGH-GRADE MINERALIZATION

Interpretation of the observed geometry indicates approximately 370m of normal displacement along the Newton Hill fault and 165m of sinistral strike slip movement along the Ruby fault, with corresponding vectors to locate domains and data into pre- and post-faulted space. (See Figure 14-9 and Figure 14-10).

Using the pre-deformed model, the 3 fault block domains (Dom1,4 and 7) inside the 0.4g/t Au grade shells align to form a single coherent volume assumed to represent the position of the mineralization prior to faulting. The other three poorly mineralized domains located outside of the

0.4g/t Au grade shells inside fault blocks 1,4 and 7 also formed a single coherent volume after reconstruction. For estimation purposes, the two domains were coded "IN" and "OUT". The result is two final domains that exist in un-faulted space in which gold and silver estimates could be completed before translating back to the current spatial configuration (See Figure 14-11).

The QP believes that the palinspastic reconstruction approach has improved the estimation process and is appropriate for the deposit.



Figure 14-9 – UN-FAULTING OF DOMAIN IN FAULT BLOCK 1


Figure 14-10 - UN-FAULTING OF DOMAIN IN FAULT BLOCK 4



Figure 14-11 – RELATIVE POSITIONS AFTER PALINSPASTIC RECONSTRUCTION

### **Compositing Methodology**

The drillhole database was coded per interpreted domain such that only data falling within the domain boundaries was composited to homogenize sample support. The method of equalizing sample length is not the only criteria for standardizing sample support.

An analysis of the distribution of the sample lengths for the gold samples (Figure 14-12) indicated that a nominal three metre core length was most appropriate in calculating the composites. This was the predominant sample length and allowed the original features of the deposit as it relates to data resolution to be incorporated into the estimate.

Target composite length of 3m was employed which permitted composite lengths to change on a hole-by-hole basis to ensure all data within a mineralized domain was made available to the estimate and that very short composites were eliminated without discarding data. Un-sampled intervals were not assigned a default value. The QP believes that the compositing procedure is appropriate for the data and the deposit and is an adequate basis for mineral resource estimation.



Figure 14-12 – HISTOGRAM OF SAMPLE LENGTH

### **Grade Capping**

The impact of high-grade assays must be evaluated and adjusted to minimize the risk of overestimation caused by high-grade outlier values. The composite values were examined for the potential influence of high grades, which were then adjusted through capping prior to estimation.

Restricting the effect of extreme grades is considered more appropriate than completely excluding the outliers from estimation, if these values are not the result of sampling or assay errors and represent a legitimate part of the sample distribution.

To determine the appropriate capping values for gold and silver in each of the four domains, a combination of cumulative coefficient of variation plots and log probability plots as well as decile analyses (Figure 14-13 and Figure 14-14) was used.

Decile analysis is an empirical approach used for mineral resource datasets to assess grade distribution and guide cutting decisions. The dataset is divided into deciles, and the "40/10" rule is applied: cutting is recommended if the last decile contains more than 40% of the total metal and the last percentile holds more than 10%. A typical cutting limit is the highest value from the previous percentile.

For the Newton dataset:

- In the **Au-IN domain**, the last decile holds 31% of the metal, and the last percentile contains 9%, so no cutting was applied.
- In the **Au-OUT domain**, the last decile accounts for 37%, and the last percentile holds 12%. After cutting, these were reduced to 36% and 11%, respectively.
- The **Ag-IN domain** initially had 41% in the last decile and 13% in the last percentile. After cutting, these values decreased to 40% and 10%.
- The **Ag-Out domain** showed 42% in the last decile and 12% in the last percentile, which were reduced to 40% and 9% post-cutting.



Figure 14-13 – CV, LOG PROBABLILITY and DECILE ANALYSIS PLOTS FOR GOLD



Figure 14-14 - CV, LOG PROBABLILITY and DECILE ANALYSIS PLOTS FOR SILVER

Summaries of the gold and silver capping grades are presented in Table 14-2., Table 14-3 and Table 14-4 detailing the impact that grade cutting had on the values of gold and silver for the two domains of the Newton Project. The QP believes that the capping strategy is appropriate for mineral resource estimation of this deposit.

Domain	Cutting Value (g/t)	No of Samples Cut	Percent Samples Cut
Au_IN	11.15	1	0.002%
Au_OUT	3.11	11	1.4%
Ag_IN	41.10	9	2.7%
Ag_OUT	16.20	13	2.5%

Table 14-2 – SUMMARY OF CUTTING VALUES

#### Table 14-3 – DESCRIPTIVE STATISTICS FOR GOLD

Gold (g/t)	De	omain Au Insi	de	Domain Au Outside			
	Raw Data	aw Data Composite Data		Raw Data	Composite Data	Cut Composite	
Count	1559	1734	1734	7290	6670	6670	
Mean	0.873	0.804	0.804	0.155	0.153	0.151	
SD	1.001	0.823	0.823	0.300	0.248	0.208	
CV.	1.147	1.024	1.024	1.938	1.620	1.382	
Variance	1.003	0.677	0.677	0.090	0.061	0.043	
Minimum	0.001	0.104	0.104	0.001	0.001	0.001	
Q1	0.458	0.434	0.434	0.044	0.049	0.049	
Q2	0.616	0.578	0.578	0.096	0.100	0.100	
Q3	0.952	0.855	0.855	0.192	0.192	0.193	
Maximum	16.56	11.152	11.150	11.19	7.11	3.11	

Table 14-4 - DESCRIPTIVE STATISTICS FOR SILVER

Silver (g/t)	De	omain Ag Insi	de	Domain Ag Outside			
	Raw Data	Composite Data	Cut Composite	Raw Data	Composite Data	Cut Composite	
Count	1558	1733	1733	6832	6364	6364	
Mean	4.320	4.084	3.948	1.307	1.285	1.254	
SD	8.378	6.775	5.245	2.420	2.075	1.662	
CV	1.939	1.659	1.328	1.852	1.615	1.325	
Variance	70.188	45.898	27.507	5.858	4.307	2.763	
Minimum	0.250	0.250	0.250	0.050	0.050	0.050	
Q1	1.400	1.433	1.433	0.250	0.250	0.250	
Q2	2.400	2.436	2.436	0.700	0.713	0.711	
Q3	4.400	4.233	4.233	1.500	1.526	1.523	
Maximum	221.60	131.06	41.10	93.20	59.83	16.20	

### **Bulk Density**

The Newton database included 1,782 density measurements in total. Values that were unmistakably erroneous were deleted from the data set. Clearly erroneous values were removed from the dataset. Specific gravities were estimated using an inverse distance squared method with an anisotropic search oriented horizontally. The search range was adequate to ensure that a value could be estimated for every block in the project area. A histogram of specific gravity (SG) values is shown in Figure 14-15.

The QP believes that the density data has been appropriately prepared in an industry standard manner and is adequate to allow the estimation of the bulk density in this deposit.



Figure 14-15 – HISTOGRAM OF DENSITY MEASUREMENTS

### **Trend Analysis**

Before modeling experimental variograms, an analysis of the general continuity of mineralization trends in three dimensions was conducted. Radial basis function (RBF) interpolation was employed to create volumetric fields from the irregularly spaced metal grade data. The RBF interpolant was generated in Leapfrog software using gold grades, without applying any trends. A 3-dimensional contour map of gold grades was produced, with fixed grade intervals of 0.2 g/t.

Slices were taken through the RBF interpolant in east-west and north-south orientations as well as horizontally. Example sections are presented in Figure 14-16, Figure 14-17 and Figure 14-18. Overall, the gold values are distributed as relatively large zones bordered by faults with grades of less than 1 g/t Au that enclose areas of slightly elevated gold grades. Although poorly defined, a major trend could be observed in all three planes with a general orientation that is roughly parallel to the Newton-Hill fault dipping at about 25° with a long axis at a strike of roughly NNW-SSE.



Figure 14-16- GOLD CONTOURS AT SECTION 5738700N



Figure 14-17 – GOLD CONTOURS AT SECTION 457450E



Figure 14-18 – GOLD CONTOURS AT BENCH 1180m

### Variography

Experimental semi-variograms were calculated and modeled for gold and silver in each reconstructed domain. One or two structure spherical models were fitted. All domains had enough samples to create stable experimental semi-variograms. Mild anisotropy was observed for the most part and therefore directional variogram models were considered applicable for this study.

The nugget values (i.e., the sample variability at very close distance) were established from downhole variograms. The determined nugget values average 37% of the total sill value for gold in the IN domain and 62% in the OUT domain. The silver nugget values were 15% for the IN domain and 45% for the OUT domain. Note that the sill represents the sample variability at a distance beyond which there is no significant correlation. The variogram continuity models created for gold and silver in both domains are presented in Figure 14-19, Figure 14-20, Figure 14-21 and Figure 14-22.



Figure 14-19 – VARIOGRAM MODELS FOR Au\_IN DOMAIN



Figure 14-20 - VARIOGRAM MODELS FOR Au\_OUT DOMAIN



Figure 14-21 - VARIOGRAM MODELS FOR Ag\_IN DOMAIN



Figure 14-22 - VARIOGRAM MODELS FOR Ag\_OUT DOMAIN

The variogram model parameters used for grade estimation of gold and silver are summarized below in Table 14-5.

F	PARAMET	ER	GOLD DOMAIN		SILVER DOMAIN	
General	Vario	gram Name	Au_IN	Au_OUT	Ag_IN	Ag_OUT
	Va	ariance	0.566	0.060	30.322	2.664
General	Ν	lugget	0.051	0.038	1.819	0.912
	Norma	ised Nugget	0.090	0.630	0.060	0.343
		Dip	25	25	25	25
Direction	D	ip Azi.	280	280	280	280
	Pitch		20	20	20	20
	Sill		0.040	0.022	3.942	1.097
	Normalised sill		0.07	0.37	0.13	0.4117
Structuro 1	St	ructure	Spherical	Spherical	Spherical	Spherical
Structure	Range (m)	Major	42	120	42	120
		Semi-major	14	80	14	80
		Minor	8	36	8	36
		Sill	0.0453		5.7612	
	Normalised sill		0.08		0.19	
Structure 2	Structure		Spherical		Spherical	
	D	Major	80		80	
	Range (m)	Semi-major	54		54	
	(11)	Minor	33		33	

Table 14-5 – VARIOGRAM MODEL PARAMETERS

The QP believes that the variography used for grade estimation is appropriate for this deposit.

### **Block Model Construction**

An orthogonal block model was created within each domain wireframe to encompass the full extent of the Newton mineralization. The block model was not rotated, but a sub-blocking approach was utilized to accurately represent the volume of each domain. A block size of 15mX x 15mY x 3mZ was chosen to best reflect the data density, deposit shape, and composite length, while also minimizing the number of blocks lacking data support. As a general guideline, it is undesirable to have more than five unsupported blocks between data points, which was mostly achieved, except along the outer edges of the models where data density was lower. The basic geometrical parameters of the block model are summarized in Table 14-6.

Туре	Easting (X)	Northing (Y)	Elevation (Z)
Minimum Coordinates	456600	5738270	560
Maximum Coordinates	457725	5739335	1400
Number of Blocks	75	71	280
Parent Block Size	15	15	3

#### Table 14-6 – BLOCK MODEL PARAMETERS

Sub-blocks to a minimum size of 3m in X, and Y were applied to fill the domain wireframes. Parent blocks were estimated using ordinary kriging. Parent cells were discretized at 3X, 3Y and 1Z. Sub-block grades were assigned from parent blocks. Estimation into irregular volume sub-blocks was avoided to eliminate risk of variable change of support for the estimates.

The metal grade estimation work involved two successive steps for the "IN" domains and one for the "OUT" domains. The first step used with the "IN" domain considered a search ellipsoid which was equal to the variogram range. This was doubled in size for the second step and tripled for the third step. A minimum of eight composites from two different drillholes were required to estimate a block in the first step. In the second step the requirement was six composites from two drillholes and the third step requires four samples from two drillholes. The "OUT" domains were estimated with two steps which used the variogram range and eight composites from two drillholes in the first pass and twice the variogram range with six composites for the second pass. The search orientation ellipses were defined based on the orientation of the ellipsoids in the zones as modelled during the variogram modelling process. (See Table 14-7).

The selection of the search radii was guided by modelled ranges from variography and was established to estimate a large portion of the blocks within the modelled area with limited extrapolation. The parameters were established by conducting repeated test resource estimates and reviewing the results as a series of plan views and sections.

"Hard" domain boundaries were used along the contacts of the un-faulted mineralized domains. Only data contained within the respective domain was allowed to be used to estimate the grades of the blocks within the domain in question, and only those blocks within the domain limits were allowed to receive grade estimates. An example cross section is presented in Figure 14-23.

General		D	omain Insic	Domain Outside		
		Pass 1	Pass 2	Pass 3	Pass 1	Pass 2
	Major	80	160	240	120	240
Ellipsoid Ranges	Intermediate	54	108	160	80	160
	Minor	33	66	72	36	72
	Dip	25	25	25	25	25
Ellipsoid	Dip Azi.	280	280	280	280	280
	Pitch	20	20	20	20	20
Number of Samples	Minimum	8	6	4	8	6
	Maximum	16	16	16	16	16
Drillhole Limit	Samples/Hole	5	4	3	5	4



Figure 14-23 – SECTION 5738700N SHOWING BLOCK MODEL

### **Block Model Validation**

The resource block model was validated through a series of visual inspections, comparing the interpolated block model grades with the drillhole composite grades, which included:

- A comparison of block grades with the composites within those blocks; and
- A comparison of average assay grades with average block estimates across various directions, using swath plots.

Figure 14-24 presents a comparison of gold block estimates versus gold assay grades from the composites within those blocks for all mineralized domains combined. On average, the estimated block grades closely match the assay data, with a strong correlation of 0.751 R<sup>2</sup>, which is typical for this deposit type. It should be noted that the block estimated grades are smoother than the assay data. Conditional bias is evident from the regression line in the scatterplot, where estimates tend to be slightly higher at lower composite grades and marginally lower at higher composite grades. This is a normal result of ordinary kriging for this deposit type.

A second validation was performed by comparing the average assay grades from the drillholes with the average block estimates along different directions in the block model. De-clustered average assay grades were calculated and compared with the average block estimates along east-west, north-south, and horizontal swaths. The results were found to be satisfactory. (See Figure 14-25, Figure 14-26 and Figure 14-27).



Figure 14-24 – SCATTERPLOT OF Au BLOCK ESTIMATES VS. COMPOSITES



Figure 14-25 - SWATH PLOT OF Au IN X



Figure 14-26 - SWATH PLOT OF Au IN Y



Figure 14-27 – SWATH PLOT OF Au IN Z

### **Mineral Resource Classification**

The Newton mineral resources were classified in accordance with the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014). All mineralized material within each domain was categorized as an Inferred Mineral Resource, based on factors such as data density, search ranges, grade continuity observed from variography, and a conceptual Lerchs-Grossman pit shell constraining volume (Figure 14-28). Additionally, the classification was informed by experience with similar deposits.



Figure 14-28 – SECTION OF BLOCK MODEL SHOWING PIT OUTLINE

#### **RESPONSIBILITY FOR ESTIMATION**

Mr. Michael F O'Brien, P. Geo is the QP for this section.

### **Mineral Resource Statement**

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a mineral resource as:

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

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines an inferred mineral resource as:

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

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

The reader is cautioned that a portion of the resource estimates are in the Inferred category, which category may be considered geologically speculative. The known mineralization has not yet been determined to be economic ore and there is no guarantee that the resources will be upgraded to reserve status.

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines an indicated mineral resource as:

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

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve".

All the Newton mineral resources is classified as inferred resources.

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a measured mineral resource as:

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

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

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

No resources were classified as measured or indicated. The "reasonable prospects for economic extraction" requirement generally imply that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade considering extraction scenarios and processing recoveries. The QP considers that the Newton mineralization is amenable to open pit extraction. The mineral resources are reported at a cut-off grade considering the likely open pit mining extraction scenario that would be used to mine this mineralization. The pit optimization utilized is based on assumed offsite costs, metal recovery, and metal prices presented in Table 14-8.

PARAMETER	UNIT	VALUE
Gold Price	US\$/ounce	\$1,950.00
Silver Price	US\$/ounce	\$25.00
Pit slope	Degrees	50°
Gold Recovery	%	80.3
Silver Recovery	%	32.7
Ore mining cost	\$/t	\$2.20
Waste mining cost	\$/t	\$2.00
Overburden removal	\$/t	\$1.50
Processing plus G&A	\$/t	\$ 12.00

Table 14-8 – PIT OPTIMIZATION INPUT PARAMETERS

The classified mineral resource estimates for the Newton deposit are reported for a cut-off of 0.25 g/t and are presented in Table 14-9 The block estimates are presented at a range of cut-offs to demonstrate sensitivity to cut off grades.

Cut Off Sensitivity			Grad	e	Metal Content		
Cut Off	Mass	Au	Ag	AuEQ <sup>3</sup>	Au	Ag	
Au	t	(g/t)	(g/t)	(g/t)	(t. Oz)	(t. Oz)	
0.20	51,345,300	0.56	3.08	0.59	916,200	5,089,400	
0.25	41,071,100	0.64	3.41	0.68	842,900	4,506,100	
0.30	35,728,700	0.69	3.68	0.74	796,100	4,221,400	
0.35	32,354,400	0.73	3.92	0.78	760,700	4,077,900	
0.40	30,483,900	0.75	4.07	0.81	738,300	3,990,900	

Table 14-9 – GRADE AND TONNAGE SENSITIVITY

Notes

1. Differences may occur in totals due to rounding.

2. Metal price used are US\$1950/Oz for Gold and US\$25/Oz for Silver

3. Recovery factors used are 80.3% for Au and 32.7% for Ag

4. All prices are in US\$ / troy. Oz.

Table 14-10 shows the block estimates inside pit shells generated at different Au prices to demonstrate sensitivity to metal prices.

Metal P	rice Sensitivity	Grade			Metal Content			
Au	Mass	Au	Ag	AuEQ <sup>3</sup>	Au	Ag	AgEQ	
\$Au/Oz	t	(g/t)	(g/t)	(g/t)	(t. Oz)	(t. Oz)	(t. Oz)	
\$1850	40,316,300	0.642	3.443	0.686	831,900	4,462,600	889,376	
\$1950	41,071,100	0.638	3.413	0.682	842,900	4,506,100	900,237	
\$2050	46,658,200	0.627	3.247	0.669	941,000	4,870,500	1,003,007	
\$2150	48,401,000	0.624	3.192	0.665	970,900	4,967,500	1,034,706	

Table 14-10 – SENSITIVITY TO METAL PRICE

Notes

1. Differences may occur in totals due to rounding.

2. Metal price used for Silver is US\$25/Oz

3. Recovery factors used are 80.3% for Au and 32.7% for Ag

4. All prices are in US\$ / troy. Oz.

#### The mineral resource for the Newton Deposit is summarized in Table 14-11.

Resource i Pit (In	n Optimized Iferred)		Grade		Metal Content		
Cut Off	Mass	Au	Ag	AuEQ <sup>3</sup>	Au	Ag	AuEQ <sup>3</sup>
Au	t	(g/t)	(g/t)	(g/t)	(t. Oz)	(t. Oz)	(t. Oz)
0.25	41,071,100	0.64	3.41	0.68	842,900	4,506,100	900,200

Table 14-11 – SUMMARY OF MINERAL RESOURCES – NEWTON

Notes

1. Differences may occur in totals due to rounding.

 CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) and CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2019) were used for mineral resource estimation.

3. Metal price used are US\$1950/Oz for Gold and US\$25/Oz for Silver

4. Recovery factors used are 80.3% for Au and 32.7% for Ag

5. Prices are in US\$ per Troy ounce.

6. Effective date for the Mineral Resource Update December 1, 2024

The QP has considered various factors, including environmental, permitting, legal, title, taxation, socio-economic, marketing, political, and other relevant issues, when considering the Mineral Resource estimates. At this time, the company has no reason to believe that these factors will materially affect the Mineral Resources. Given the current stage of exploration and discovery at the Newton deposit, no studies have been conducted to assess whether mining, infrastructure, or other relevant factors could materially impact the Mineral Resources. Since the previous estimate metallurgical testing has been completed and the data was used in the pit shells that constrain the mineral resource estimate.

The Qualified Person (QP) believes that the mineral resource estimates for the Newton project were generated using industry-standard methods, and that the results are reasonable and appropriate for this technical report.

## **15. MINERAL RESERVE ESTIMATES**

There are no Mineral Reserves on the Newton Property.

# **16. MINING METHODS**

# **17. RECOVERY METHODS**

# **18. PROJECT INFRASTRUCTURE**

# **19. MARKET STUDIES AND CONTRACTS**

# 20. ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

# 21. CAPITAL AND OPERATING COSTS

# 22. ECONOMIC ANALYSIS

## 23. ADJACENT PROPERTIES

Taseko Mines' New Prosperity copper-gold project and Prosperity Deposit is located 40 km to the south of the Newton deposit but adjacent to Carlyle's property holdings.

In late 2019, the Tŝilhqot'in National Government and Taseko entered into a confidential dialogue, with the involvement of the Province of British Columbia, in order to obtain a long-term resolution of the conflict regarding Taseko's proposed New Prosperity copper-gold mine, acknowledging Taseko's commercial interests and the Tŝilhqot'in Nation's opposition to the project.

This dialogue has been supported by the parties' agreement, beginning December 2019, to a [erie] of one-year [tand]till] on certain out[tanding litigation and regulatory matter] relating to Ta\_eko'] tenure] and the area in the vicinity of Te2tan Biny. The standstill agreement was extended for a fourth one-year term in December 2022, with the goal of providing time and opportunity for the Tŝilhqot'in Nation and Taseko to negotiate a final resolution (https://www.tasekomines.com/properties/new-prosperity/#timeline).

As of the effective date of this technical report Taseko and the Tŝilhqot'in Nation have not been able to reach an agreement on any proposed future development of the New Prosperity Deposit, nor has Taseko received the necessary provincial or federal permits required to proceed with development.

The QP has been unable to independently verify the information on the New Prosperity property, but the New Prosperity mineralization is unlikely to be related to the mineralization on the Newton Property.

## 24. OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

### **25. INTERPRETATION AND CONCLUSIONS**

The QPs believe exploration on the Newton Property to date has successfully identified a mineralized system that exhibits characteristics typical of bulk-tonnage, strata-bound, low to intermediate sulphidation epithermal gold-silver deposits. The mineralisation (disseminated gold and associated base metals) is primarily hosted by thick sequences of late Cretaceous-aged permeable felsic volcaniclastics and flows and contemporaneous felsic intrusions, emplaced into a structurally active graben environment. The host rocks show strong, widespread sericite- quartz alteration with variable siderite and several percent pyrite and/or marcasite. Additional mineralization is hosted to a lesser degree by intrusive rocks of intermediate and felsic composition. Initial studies suggest that the gold occurs predominantly as high fineness electrum and is preferentially associated with marcasite-bearing alteration.

The drilling completed to date has outlined a significant, gold-silver deposit over an area of approximately 800 m by 800 m and to a depth of approximately 560 m from surface. The deposit is coincident with a NW trending magnetic low and occupies a restricted area within an extensive, plus seven square kilometre hydrothermal system (as indicated by the outline of the 8 MV/V contour of the IP chargeability anomaly) that exhibits widespread metal enrichment, and which remains to be fully explored. Drill results to date not only indicate that there is potential to expand the current bulk-tonnage gold resource but also suggest that there are possibilities to discover structurally controlled zones of higher-grade gold mineralization and copper-gold porphyry-style mineralization in proximity to, and possibly genetically related to the Newton mineralized system.

Given the association of gold mineralization with felsic units, there are other mapped occurrences of felsic volcanic rock units to the northwest of the deposit and south of the NHF that have not received the same level of drilling as the main resource area. This association would prompt a recommendation for a thorough investigation of all interpreted or mapped felsic volcanic occurrences on the Property.

The QP has reviewed the QA/QC programs employed by Amarc and Carlyle during the most recent drilling campaigns and assaying programs and found them to meet current industry best practices.

During the 2022 site visit, discrepancies were noted between collar elevations in the drillhole database and the current topographic data. Although these discrepancies were not deemed to have a material impact on the mineral resource estimate, any further work will benefit from a new high resolution topographic data set.

The QP has applied grade caps to the estimation domains that were used to prepare this Inferred Mineral Resource estimate. Review of the distribution of gold and silver grades suggested that capping is warranted.

Examination of contour plots of gold grades for selected sections and benches through the deposit reveal that a weak but discernable mineralization trend appears to be present in the data examined. A grade-block model was prepared using the modeled domains to ensure proper coding of the model. "Hard" domain boundaries were used along the contacts of the mineralized domain model. Only data contained within the respective domain models were allowed to be used to estimate the grades of the blocks within the domain in question, and only those blocks within the domain limits were allowed to receive grade estimates. Only the capped, composited grades of the drillhole intersections were used to derive an estimate of a block's grade.

A series of domain wireframe solids were created in three-dimensional modeling software that outlined those portions of the deposit that demonstrate continuity of mineralization. These three-dimensional solids were used as one of the constraints in the preparation of the Inferred Mineral Resource estimate.

A conceptual pit shell was generated using a Lerchs-Grossmann optimizer as an additional constraint in the preparation of this Inferred Mineral Resource estimate. A 50° overall pit wall slope angle was applied.

The Inferred Mineral Resources in this Technical Report were estimated in accordance with the definitions contained in the CIM Definition Standards on Mineral Resources and Mineral Reserves (CIM definitions) that were prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 10, 2014.

The mineralized material for each domain was classified by the QP into the Inferred Mineral Resource category based on the search ellipse ranges obtained from the variography study, the
application of an open pit shell along with a constraining volume, and previous experience with precious metal deposits.

The Inferred Mineral Resources are presented in Table 25-1. At a cut-off grade of 0.25 g/t Au, a total of 41,071,100 tonnes are estimated to be present at an average Au equivalent grade of 0.68 g/t (842,900 contained oz Au) and (4,506,100 contained oz Ag).

|--|

Resource in Optimized Pit (Inferred)		Grade			Metal Content	
Cut Off	Mass	Au	Ag	AuEQ <sup>3</sup>	Au	Ag
Au	t	(g/t)	(g/t)	(g/t)	(t. oz)	(t. oz)
0.25	41,071,100	0.64	3.41	0.68	842,900	4,506,100

Notes

1. Differences may occur in totals due to rounding.

 CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) and CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2019) were used for mineral resource estimation.

3. Metal prices used are US\$1950/Oz for Gold and US\$25/Oz for Silver.

4. Recovery factors used are 80.3% for Au and 32.7% for Ag.

5. Prices are in US\$ per Troy ounce

6. Effective date for the Mineral Resource December 1, 2024.

## **EXPLORATION POTENTIAL**

Much of the large Newton sulphide-bearing alteration zone, as defined by Amarc's 2010 IP survey, has not been thoroughly explored. There is a clear relationship between the felsic volcanoclastic units and disseminated gold mineralization at the Newton Gold Deposit. Felsic volcaniclastic units mapped on surface and modeled in 3D based on historic drilling indicate that these felsic units persist at depth but have only received a limited amount of drilling. Of the widely spaced drilling completed NW of the most intensely drilled portion of the Newton Deposit, 9 of the 10 drillholes completed in 1972 by Cyprus, intersected intervals of felsic volcaniclastic rocks. Of these 9 holes, 5 were not analyzed for gold and/or silver, and 4 were partially sampled and analyzed for gold only. At that time, Cyprus was primarily interested in the copper potential at Newton, and they did not conduct any gold analyses. Of the partially sampled holes, drillhole 72-06 contains two high grade intersections. Of particular note is drillhole 72-03 which intersected a 211m interval of felsic volcaniclastic rock and although there are indications this interval was

sampled, likely for copper, gold analyses were not conducted. In 1987, Rea Gold resampled the 1972 drill core, but details and results of this sampling could not be found.

The main part of the Newton deposit is also coincident with a NW trending magnetic low that extends from the eastern side of the resource model, approximately 1km to the northwest (See Figure 25-2).

The Newton Deposit and felsic volcaniclastic units immediately NW of the most intensely drilled portion of the Newton Deposit are coincident with this NW trending magnetic low. As part of the recommendation in their 2022 technical report (O'Brien et al, 2022), RockRidge recommended further drilling be carried out in this area to confirm mineralization identified in historical drilling. In 2023, Carlyle completed seven drillholes, northwest and north of the Newton Deposit. Based on favourable gold results from this drilling, Carlyle outlined two new target areas, Halo and Sunrise (See Figure 25-2).

At Halo, three drillholes (N23-93 to 95) were completed approximately 400 metres north of the Newton resource confirming and extending gold mineralization identified in historic drillhole 10030. A fourth drillhole (N23-96) was completed north of the Newton resource and approximately 200m south of Halo intersected mineralization suggesting that the mineralization at Halo may extend to the south toward the Newton Deposit. Further drilling is recommended to define the extent of mineralization at Halo (Carlyle News Release, February 21, 2024, Dube, 2024).

At Sunrise, Carlyle completed a short exploration drillhole (N23-98) in a sparsely drilled area northwest of the Newton Deposit and peripheral to a broad area with elevated gold in soil and chargeability anomalies that correlate with untested felsic volcanics. Drillhole N23-98 intersected anomalous gold mineralization hosted in strongly altered felsic intrusive rocks (Carlyle News Release, February 21, 2024, Dube, 2024).

The Newton Deposit and the felsic volcaniclastic units located immediately northwest of its most extensively drilled section remain priority targets. This is due to mineralization identified in historical drilling, as well as the presence of a magnetic low and felsic units, which have been shown to host higher-grade mineralization. A drill plan recommendation consisting of 12 drillholes northwest of the Newton resource totalling 4500m is shown in Figure 25-1 and up to 9 infill

drillholes have been budgeted totalling 2,900m. Further drilling is also recommended to investigate both Halo and Sunrise target areas consisting of four holes totalling 1,600m.

Significant risk factors to the mineral resource project and available ameliorations are summarized in Table 25-2. Any or all of these items could cause the project to fail.

Risk Factor	Potential Impact (high/moderate/low)	Management and Amelioration
Metal Prices	high	External factors, to be ameliorated by prudent development planning.
Tonnage and Grade	moderate	Current categorization of the mineral resource as inferred flags the level of uncertainty. Infill drilling and improved geology and evaluation modelling should address the risk and opportunity.
Metal recovery	moderate	Metallurgical testwork and geo- metallurgical modelling
Environmental and Community	moderate	Prudent environmental monitoring and engagement with stakeholders



Figure 25-1 – RECOMMENDED DRILL PROGRAM



Figure 25-2 – EXPLORATION POTENTIAL

# 26. RECOMMENDATIONS

Pending the completion of the Company's transaction to acquire a 100% interest in the Newton Project, the authors recommend the Company carry out a two-phase program consisting of an initial phase focussing on resource expansion drilling concurrent with a comprehensive metallurgical testwork program based on a larger, more representative sample of the Newton Deposit mineralization. The estimated cost of the proposed Phase 1 program would be approximately \$4,100,000.

The Phase 1 resource expansion and infill drilling program would be designed to accomplish a number of objectives including:

- Expanding upon known mineralized zones and new discoveries of gold systems on the Property beyond the current resource limits
- Increasing the currently delineated gold-silver resource by improving the grade definition and upgrading the resource classification through infill drilling and twin drilling of selected pre-2012 holes.
- Obtaining a larger and more representative sample for follow up metallurgical and geotechnical testwork

The Phase 1 drill program would potentially consist of:

- Drill testing areas within or immediately adjacent to the significant plus seven square kilometre hydrothermal system as outlined by the 8MV/V contour of the IP chargeability anomaly where felsic volcanic units are projected, or have the potential, to occur, including areas where felsic volcanic units are projected, or have the potential to occur, the Halo and Sunrise target areas (approximately 6,100m).
- Infill diamond drilling to further delineate potentially economic mineralization and twindrilling for selected pre-2012 holes (approximately 2,900m).
- Additional detailed structural modelling completed within and proximal to the currently defined resource to assess the potential presence, and projected location, of zones of high-density veins and/or mineralized fractures. Such zones have the potential to host

higher-grade, structurally controlled mineralization that would increase the tenor of the resource. As part of this exercise, detailed three-dimensional modelling of vein and fracture density is recommended to develop possible vectors toward prospective structural settings. Resulting targets should then be tested by diamond drillholes oriented appropriately to the projected plane of the controlling structures.

• Generation of sample material for an expanded metallurgical and geotechnical testwork program.

Prior to commencing any further drilling, the following actions are also recommended.

- Acquisition of a detailed current digital terrain model to better define the topography is recommended using Lidar or detailed RPAS survey.
- Other mapped felsic volcanic occurrences surrounding the Newton deposit should be fully evaluated either on surface or by drilling, particularly NW of the footprint of the current resource model in the Halo and Sunrise target areas where felsic units have been mapped on surface and coincident with the NW trending magnetic low NW of the Newton Deposit. Much of this area has yet to receive an equivalent level of drilling as the main resource area.
- The Authors recommend continuing with the QA/QC protocols previously recommended by RPA in 2012 for the Newton Project in relation to future drilling so that sampling programs include certified reference materials for silver and, in accordance with established protocols, the results be monitored for departures from the recommended values with respect to the silver standards.

A budget of \$4,100,000 is estimated for the Phase 1 program and is presented in Table 26-1 below.

Table 26-1 – PROPOSED PHASE 1 RESOURCE EXPANSION DRILLING AND METALLURGICAL TESTWORK BUDGET

Item	C\$
Resource Expansion and Infill Drilling (9,000m @ \$400/metre)	\$3,600,000.00
Detailed Topography	\$50,000.00
Metallurgical Testwork	\$350,000.00
Structural Modeling	\$15,000.00
Permitting/Community Relations/Environmental Studies	\$35,000.00
General and Administration	\$50,000.00
TOTAL	\$4,100,000.00

Based on the outcome of the Phase 1 Resource Expansion and Infill Drill Program, a follow-up Phase 2 program is proposed and would include an update of the Newton mineral resource incorporating the results of the Phase 1 drilling and metallurgical testwork. Utilizing the parameters derived from the updated mineral resource estimate and metallurgical testwork, RockRidge recommends the Company proceeds to undertake a full PEA of the Newton Deposit. **The total Phase 2 budget would be approximately \$350,000.** 

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# 28. DATE AND SIGNATURE PAGE

This Technical Report titled "Technical Report on the Updated Mineral Resource Estimate for the Newton Project, Central British Columbia, Canada" and effective dated December 1, 2024, was prepared and signed by the following authors:

Dated at Pit Meadows, B.C.	"Michael O' Brien"
March 28, 2025	Michael O'Brien M.Sc., P.Geo.

**Consulting Geologist** 

Dated at Lake Country, B.C.

March 28, 2025

Metallurgical Engineer

"Kelly McLeod" Kelly McLeod B.Eng., P.Eng.

Dated	at	Haliburton	Ont.
Dated	a	riandurion,	Ont.

March 28, 2025

"Douglas Turnbull" Douglas Turnbull, H.B.Sc., P.Geo.

**Consulting Geologist** 

Michael O'Brien, P. Geo was the QP responsible for sections 11-12 and 14. Kelly McLeod, P.Eng. was the QP responsible for Section 13, Douglas Turnbull, P. Geo was the QP responsible for Section 1-10 and 15-27

### CERTIFICATE OF QUALIFIED PERSON

I, Douglas Turnbull, P. Geo., do hereby certify that:

- 1. I am a consulting geologist and President of Lakehead Geological Services Inc. of 1032 Cameron Lane, Algonquin Highlands, Ontario, K0M 1S0.
- 2. I graduated with an Honours Bachelor of Science degree in Geology from Lakehead University in Thunder Bay, Ontario in 1988.
- As of the effective date of this technical report, I was registered as a Professional Geologist with the Engineers and Geoscientists of British Columbia since 1992, License #19959 and I am currently registered with the Association of Professional Geoscientists of Ontario since 2023, License #3786.
- 4. I have worked as a geologist for more than 30 years since my graduation from university and have been involved in all aspects of exploration of precious and base metal deposits.
- 5. 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.
- I am responsible for sections 1-10 and 15-27 of the "NI 43-101 Technical Report on the Updated Mineral Resource Estimate for the Newton Project, Central British Columbia, Canada", with an effective date of December 1, 2024 (the "Technical Report").
- 7. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report, including those sections for which I am directly, responsible, contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
- 8. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 9. I am independent of Axcap Ventures Inc., Carlyle Commodities Corp. and the Property, as Independence is defined by Section 1.5 of NI 43-101.
- 10. I was a co-author of the previous technical report completed on the Newton Project in 2022 titled "Technical Report on the Updated Mineral Resource Estimate for the Newton Project, Central British Columbia, Canada on behalf of Carlyle Commodities"
- 11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Signing date: March 28, 2025 Algonquin Highlands, Ontario, Canada

"Douglas Turnbull"

Douglas Turnbull, B.Sc., P. Geo.



## CERTIFICATE OF QUALIFIED PERSON

I, Michael F. O'Brien, P.Geo., do hereby certify that:

- I am an associate principal consultant with RockRidge Partnership & Associates, with a business address at 13693 230A Street, Maple Ridge, BC, Canada, and an independent consultant and director of Red Pennant Communications Corp. (EGBC Permit 1001377) a British Columbia Corporation, with a business address at 81-1380 Pinetree Way, Coquitlam, BC, V3E 3S6.
- This certificate applies to the technical report entitled "TECHNICAL REPORT ON THE UPDATED MINERAL RESOURCE ESTIMATE FOR THE NEWTON PROJECT, CENTRAL BRITISH COLUMBIA, CANADA, NI 43-101 Technical Report", with an effective date of December 1, 2024 (the "Technical Report").
- I am a graduate of the University of Natal, (B.Sc. Hons. Geology, 1978) and the University of the Witwatersrand (M.Sc. Engineering, 2002).
- I am a member in good standing of Engineers and Geoscientists British Columbia (#41338).
- I am a member in good standing of the South African Council for Natural Scientific Professions (South Africa, 400295/87). My relevant experience is 40 years of experience in operations, mineral project assessment and I have the experience relevant to Mineral Resource estimation of metal deposits. I have estimated Mineral Resources for veinassociated epithermal gold, greenstone-hosted gold, diatreme complex epithermal gold deposits, porphyry copper-gold, volcanogenic massive sulphide deposits and shear zone-hosted gold and base metal deposits.
- I am a "Qualified Person" for the purposes of National Instrument 43-101 ("NI 43-101").
- My recent personal inspection of the Property was on October 8, 2024, and I reviewed drill cores and the surface features of the deposit.
- I am responsible for Sections 1, 11, 12, 14, 25, 26 and 27 of the Technical Report.
- I am independent of Axcap Ventures Inc., Carlyle Commodities Corp. and the Property, as Independence is defined by Section 1.5 of NI 43-101.
- I was an author of the previous technical report completed on the Newton project in 2022 titled "Technical Report on the Updated Mineral Resource Estimate for the Newton Project, Central British Columbia, Canada on behalf of Carlyle Commodities".
- I have read NI 43-101 and the sections of the Technical Report that I am responsible for have been prepared in compliance with NI 43-101.
- I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.
- As of the date of this certificate, to the best of my knowledge, information and belief, Technical Report, including those sections for which I am directly responsible, contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Signed and dated 28<sup>th</sup> day of March 2025

"Michael F. O'Brien"

Michael F. O'Brien, M.Sc., P.Geo.



### **Certificate of Qualified Person**

I, Kelly S. McLeod, P.Eng., do hereby certify that as an author of this report entitled "Technical Report on the Updated Mineral Resource Estimate for the Newton Project, Central British Columbia, Canada", with an effective date of December 1, 2024 prepared for Axcap Ventures Inc. do hereby certify that:

- 1. I am currently employed as President with K-Met Consultants Inc., with an office at 14650 Oyama Road, Lake Country, B.C., V4V 2C7.
- 2. I am a graduate of McMaster University (1984) with a Bachelor of Engineering Metallurgy.

I am registered as a Professional Engineer in the province of British Columbia, permit number 15868. I have worked as a metallurgical engineer for over 20 years since my graduation. My relevant experience for the purpose of the Technical Report is Metallurgy and I have recently worked on the following projects: Madsen Gold Project Feasibility Study, Independent Technical Report for PureGold Mine, Premier Gold Project, Macassa Mill Expansion EPCM Project, Valentine Gold Project, Springpole Feasibility Study, Curraghinalt Gold Project, and Spanish Mountain Project

- I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 4. I have not visited the Newton Project site.
- 5. I am responsible for section 13 of this Technical Report.
- 6. I am independent of the Issuer and related companies applying all the test set out in Section 1.5 of NI 43-101.
- 7. I have not had any involvement with the property that is the subject of the Technical Report.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- 9. At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains Section 13 in the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated 28th day of March 2025

"Kelly S. McLeod"

Kelly S. McLeod, P.Eng.



K-Met Consultants Inc., 14650 Oyama Road, Lake Country, B.C., Canada, V4V 2C7