S-K 1300 Technical Report Summary CK Gold Project

Laramie County, Wyoming USA

Prepared for:

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1 Executive Summary

1.1 Property Summary and Ownership

Gustavson Associates, LLC (Gustavson) was commissioned by U.S. Gold Corp., (US Gold) to prepare a Preliminary Feasibility Study (PFS) for the CK Gold Project (Project). This is a Technical Report Summary (TRS) summarizing the findings of the PFS in accordance with Securities Exchange Commission Part 229 Standard Instructions for Filing Forms Regulation S-K subpart 1300 (S-K 1300). The purpose of this TRS is to report exploration results, mineral resources and mineral reserves for the CK Gold Project. The effective date of this report is November 15, 2021.

The CK Gold Project is located in Laramie County, Wyoming, in the southeastern portion of the state, approximately 20 miles west of Cheyenne. It is centered in the north half of Section 36, T14N, R70W. The property encompasses approximately 1,120 acres of mineral leases on Section 36, south half Section 25 and northeast quarter Section 35. Additionally, to accommodate the mine footprint for facilities, primarily the tailings storage facility, which cannot be accommodated on State Section 36, an option agreement for a further 712 acres on portions of Section 25 and Section 31 has been secured with the private landowner. Unless otherwise specified, all units are imperial and U.S. dollars

1.2 Mineral Resource Statement

Mark C. Shutty, CPG and Christopher Emanuel, SME-RM are the Qualified Persons responsible for the mineral resource estimation in Leapfrog and Vulcan software, relying on the geologic database accumulated over the project life. In the QPs opinion, the resources presented reasonably represent the in-situ resources for the CK Gold Project using all available data as of the effective date. Mineral Resources are reported at a gold equivalent grade (AuEq) cutoff grade, which considers metal recovery and pricing. Cutoff grade varies with expected recovery for delineated material types, but averages 0.009 ounces per short ton (oz/st) AuEq, equivalent to 0.31 grams per metric tonne (g/t) AuEq. The resource is constrained inside an optimization pit shell which, combined with the cutoff grade, represents reasonable prospects for economic extraction. Table 1-1 and Table 1-2 contain the tabulation of the Mineral Resources for the CK Gold Project on the effective date of this report.

Table 1-1 Mineral Resource Statement

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tons (000's)	Oz (000's)	oz/st	lbs (millions)	%	Oz (000's)	oz/st	Oz (000's)	oz/st
Measured (M)	30,600	580	0.019	120	0.196	1,540	0.050	759	0.025
Indicated (I)	51,200	534	0.010	160	0.156	1,670	0.033	817	0.016
M + I	**81,800**	**1,110**	**0.014**	**280**	**0.171**	**3,220**	**0.039**	**1,580**	**0.019**
Inferred	22,500	235	0.010	68.3	0.152	323	0.014	357	0.016

[1]Resources tabulated at a cutoff grade of (0.0107 – 0.0088) AuEq oz/st, 0.009 AuEq oz/st average
[2]Note only 3 significant figures shown, may not sum due to rounding

Table 1-2 Mineral Resource Statement (Metric)

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tonnes (000's)	Oz (000's)	g/tonne	Tonnes (000's)	%	Oz (000's)	g/tonne	Oz (000's)	g/tonne
Measured (M)	27,800	580	0.649	54.4	0.196	1,540	1.729	759	0.850
Indicated (I)	46,400	534	0.358	72.5	0.156	1,670	1.119	817	0.547
M + I	**74,200**	**1,110**	**0.467**	**127**	**0.171**	**3,220**	**1.347**	**1,580**	**0.660**
Inferred	20,400	235	0.358	31.0	0.152	323	0.492	357	0.545

[1]Resources tabulated at a cutoff grade of (0.37 – 0.30) AuEq g/t, 0.31 AuEq g/t average
[2]Note only 3 significant figures shown, may not sum due to rounding

The estimates of Mineral Resources may be materially affected if mining, metallurgical, or infrastructure factors change from those currently anticipated at the CK Gold Project. Estimates of Inferred Mineral Resources have significant geological uncertainty and it should not be assumed that all or any part of an inferred mineral resource will be converted to the measured or indicated categories. Mineral Resources that are not Mineral Reserves do not meet the threshold for reserve modifying factors, such as estimated economic viability, that would allow for conversion to Mineral Reserves.

1.3 Mineral Reserve Statement

Mineral Reserves are based on an open pit mine design and production schedule using reasonable design parameters. Measured Mineral Resources within the mine design and schedule convert to Proven Mineral Reserves and Indicated Mineral Resources convert to Probable Mineral Resources. Metal prices used in cutoff grade calculation and economic analysis are $1,625/oz gold, $3.25/lb. copper and $18/oz silver. The Mineral Reserves are reported at a variable cutoff grade, as recovery varies by material type. Average cutoff grade is 0.009 oz/st AuEq (0.31 g/t AuEq). Table 1-3 and Table 1-4 contain the tabulation of the Mineral Reserves for the CK Gold Project as of the effective date of this report.

Table 1-3 Mineral Reserves Statement

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tons (000's)	Oz (000's)	oz/st	lbs (millions)	%	Oz (000's)	oz/st	Oz (000's)	oz/st
Proven (P1)	29,600	574	0.019	118	0.198	1,440	0.049	757	0.026
Probable (P2)	40,700	440	0.011	130	0.160	1,220	0.030	679	0.017
P1 + P2	**70,400**	**1,010**	**0.014**	**248**	**0.176**	**2,660**	**0.038**	**1,440**	**0.020**

[1]Reserves tabulated at a cutoff grade of (0.0107 – 0.0088) AuEq oz./st, 0.009 AuEq Oz/st average
[2]Note only 3 significant figures shown, may not sum due to rounding

Table 1-4 Mineral Reserve Statement (Metric)

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tonnes (000's)	Oz (000's)	g/tonne	Tonnes (000's)	%	Oz (000's)	g/tonne	Oz (000's)	g/tonne
Proven (P1)	26,900	574	0.664	53	0.198	1,440	1.664	757	0.876
Probable (P2)	37,000	440	0.370	59	0.160	1,220	1.027	679	0.571
P1 + P2	**63,800**	**1,010**	**0.494**	**112**	**0.176**	**2,660**	**1.295**	**1,440**	**0.700**

[1]Reserves tabulated at a cutoff grade of (0.37 – 0.30) AuEq g/t, 0.31 AuEq g/t average
[2]Note only 3 significant figures shown, may not sum due to rounding

There are no known relevant factors that would materially affect the estimation of Mineral Reserves that are not discussed in this report.

1.4 Geology and Mineralization

The Silver Crown Mining District, where the Project is located, is underlain by Proterozoic rocks that make up the southern end of the Precambrian core of the Laramie Range. Metavolcanic and metasedimentary rocks of amphibolite-grade metamorphism are intruded by the approximately 1.4-billion-year-old Sherman Granite and related felsic rocks. Within the project area, foliated granodiorite is intruded by aplitic quartz monzonite dikes, thin mafic dikes and younger pegmatite dikes. Shear zones with cataclastic foliation striking N60°E to N60°W are found in the southern part of the Silver Crown district, including at CK Gold. Copper and gold mineralization at the Project occurs primarily in unfoliated to mylonitic granodiorite. The granodiorite typically shows potassium enrichment, particularly near contacts with quartz monzonite. Mineralization is associated with a N60°W-trending shear zone.

CK Gold mineralization has been interpreted as a shear-zone controlled, disseminated and stockwork gold-copper deposit in Proterozoic intrusive rocks. Most of the mineralization is in granodiorite, with lesser amounts in quartz monzonite and thin mafic dikes. Hydrothermal alteration is overprinted on retrograde greenschist alteration and includes a central zone of silicification, followed outward by a narrow potassic zone, surrounded by propylitic alteration. Higher grade mineralization occurs within a central core of thin quartz veining and stockwork mineralization that is surrounded by a zone of lower-grade disseminated mineralization. Disseminated sulfides and native copper with stockwork malachite and chrysocolla are present at the surface, and chalcopyrite, pyrite, minor bornite, primary chalcocite, pyrrhotite, and native copper are present at depth. Gold occurs as free gold.

1.5 Metallurgical Testing

Metallurgical test work was carried out over many years by various companies, including a test work program at SGS, Canada, in 2008-2010 which established that flotation was the most suitable method to process CK Gold mineralization. In 2020, US Gold carried out a drilling program, with seven holes located across the deposit, specifically for new samples for metallurgical test work. Three composites were prepared, namely sulfide, oxide and high-grade oxide. These samples were tested at two laboratories, KCA in Reno, USA, and Base Metals in Kamloops, Canada. This work confirmed and improved upon the SGS results with gold recovery in a range of 67-74% and copper recovery of 83-88% for the majority sulfide material. Copper concentrate of 21-25%Cu was achieved with high values of gold, (50-80 g/t Au) and silver, (50-60 g/t Ag). Preliminary cyanidation of the flotation tailings suggests that gold recovery could be increased to over 90% using a two-stage flotation-cyanidation process. This will be further investigated in the Feasibility Study and may present an opportunity for the project. This work is provided in Section 10.2 of this PFS report. The test work reports by SGS, KCA and Base Metals are all available from US Gold.

1.6 Mine Design, Optimization and Scheduling

The CK Gold Project is planned as an open pit mine with a mine production life of approximately 9.5 years. Two independent mine planning and sequencing studies have been accomplished and the studies show broad agreement. Lerchs-Grossmann Pit optimization analysis was performed using reasonable design and economic parameters and the result used to guide the mine design process.

Four pit phases were designed and material movement scheduled on an annual basis. Pit design parameters are based on a geotechnical drilling program and detailed stability analysis. A contractor mining operating model is used for mine operations, tailings disposal, and site support. The Project owner operates the process plant, provide supervision of contractors, mine planning, ore control and provides general site administration (G&A). This hybrid owner/contractor model is used to leverage the regional mine contractor expertise and reduce initial project capital costs.

1.7 Mineral Processing

The Engineering design work was developed by Alquimia/Innomet in Santiago, Chile, who were selected based on their in-depth experience with flotation copper concentrators. They developed flowsheets, general arrangement drawings and capital and operating costs based on the SGS test work, and updated with the latest results from Base Metals, as well as specific comminution test work by Hazen Research in

Denver, Mineralogy by FLSmidth in Salt Lake City and Thickening /Filtration test work by Pocock International, also in Salt Lake City.

The current process flowsheet uses a single stage crushing plant receiving run of mine (ROM) ore and stacking crushed ore on a reclaim feeder equipped stockpile. The semi-autogenous grinding (SAG) mill is fed crushed ore at a nominal rate of 20,000 short tons per day (stpd) (18,150 tonnes per day) and is in closed circuit with a ball mill, two pebble crushers and two banks of cyclones, which produces a product for flotation. A flotation circuit, with regrind after rougher flotation, will produce a bulk floatation concentrate. Tailings will be thickened and dried using filter presses for dry stack disposal. Opportunities exist to eliminate equipment and reduce capital cost through various measures, such as the elimination of ball mills from the circuit, elimination of a pebble crusher and cyclone bank and optimization of the tailings preparation, resulting in less filtration.

1.8 Environmental, Permitting and Community Impact

Current exploration activities are fully permitted through the Wyoming Department of Environmental Quality, Permit # DN0440. Planned surface disturbance of 40 acres during current exploration activities is fully bonded for reclamation purposes. US Gold conducts concurrent reclamation and practically all exploration disturbance has been reclaimed at the end of the 2021 field season. The practice of concurrent reclamation is envisioned for the proposed operation. The Project is in the process of compiling the information required for the eventual permit applications. No permit applications for mine construction or operation have been submitted to any regulators at this time.

The CK Gold Project will occupy state-owned and private land. Construction and operation of the mine will require various permits issued at the state and local levels. The agency with primary jurisdiction over development and operation of the Project is the Wyoming Department of Environmental Quality (DEQ). The applicable permits required under this agency include:

- Permit to Mine
- Air Quality Permit to Construct and Operate
- Industrial Siting Construction Permit
- Stormwater Permit
- Permit to Construct Water Supply and Wastewater Facilities
- Operator Certification for Drinking Water Systems

Additional permits will be needed from the following agencies:

- State Engineer’s Office Permits for Water Use and Water Related Facilities
- State Historical Preservation Office
- State Fire Marshall
- Laramie County

Two streams flowing through the Project site have been classified as “Waters of the United States” by the US Army Corps of Engineers (ACoE). However, none of the planned project infrastructure would impact these surface waters, therefore no major federal permitting will be required. Following the submission of a wetland survey and site inspections by the ACoE the footprint of the project was deemed non-jurisdictional in February 2021.

Environmental baseline studies began in October 2020, post a pre-Application Meeting with the Wyoming DEQ, to establish the pre-mining site conditions and fulfill the information requirements of the permit application documents to be submitted to the DEQ and other applicable regulators. These studies are ongoing with a full 12-month dataset and will continue through 2022 until the permit application is submitted.

Geochemical testing of mine rock and tailings samples indicate that the tailings will not be acid generating, nor will the majority of waste rock and pit wall rock. Therefore, the risk of metal leaching from waste rock, tailings and pit walls, and associated potential impacts on water quality, are not expected to be significant. This finding will be confirmed through ongoing geochemical testing.

Waste rock and tailings generated during mining and mineral processing will be deposited on site in engineered facilities. The tailings will be filtered to extract as much moisture as feasible for water conservation and recycling back to the plant prior to their deposition. This will assist in maximizing their structural strength and avoid the need for tailings dams and their associated structural stability risks. Furthermore, fine tailings stacked in the tailing storage facility (TSF) will be contained and buttressed with coarse run-of-mine rock from open pit mine to assure long-term stability and dust control.

US Gold has also reached out and provided Project information to various additional local entities which may be affected by and/or interested in the project, including: Laramie County; City of Cheyenne; City of Laramie; neighboring residents and property owners west of the Project site; Wyoming State Parks; Wyoming Game and Fish Department; Wyoming School Boards Association; University of Wyoming; Granite Canyon Quarry, which operates an aggregate quarry 3-miles south of the Project site; and the Ferguson, Sutherland and King Ranches, cattle ranching operations on and around the Project site. There are no indigenous, Native American or Bureau of Indian Affairs lands adjacent to the Project, and no indigenous or Native American cultural sites are known to exist within the Project area.

A closure and reclamation plan will be prepared in accordance with the requirements of the DEQ's Land Quality Division, as part of the Permit to Mine application. The closure objective as currently foreseen is to reclaim most of the site to enable the resumption of its current use of cattle grazing. Progressive reclamation will be practiced during the life of mine to reclaim portions of the Project site as soon as feasible prior to the end of mining, securing corresponding early releases in bonding obligations. Cattle grazing will continue as feasible during mining on Project areas not directly affected by mine operations. At the end of mineral processing operations, the mineral processing plant and support structures and facilities would be dismantled or demolished, and their footprints revegetated. The waste rock and tailings facilities would be regraded to the extent necessary to achieve long-term stability, covered and revegetated. Certain structures, roadways and/or wells may be left in place if requested by the landowners or State Lands Office.

Plans have been drawn up for the eventual back-filling of the open pit, however there are compelling reasons and initial evidence to suggest that the open pit can, with some modifications, be utilized as a long-term water storage facility as part of the network feeding the city of Cheyenne. Studies suggest that due to the growth in demand for water in the area, additional water storage facilities will be required to harvest water during the months when run-off is available. The CK Gold Project open pit could provide such storage as it appears that the excavation will hold water without deleterious effects on the water circulated. This may well avoid costly and invasive expansions to the existing storage impoundment in the Curt Gowdy State Park at the Crystal and Granite Lake reservoirs, or the construction of new impoundments. For the purpose of the base project case, pit backfill is not conducted based on the reasonable assumption that the end use of the CK Gold property does not include backfill of the final excavation.

1.9 Capital Costs, Operating Costs and Financial Analysis

An after tax, discounted cash flow model was developed to assess the economic performance of the CK Gold Project. This analysis relies on the mining schedule, capital and operating cost estimates, and recovery parameters contained within this report. The model assumes 100% equity funding, a 5% discount rate, a gold price of $1,625/oz, copper price of $3.25/lb. and silver price of $18/oz. The results of the analysis are shown in Table 1-5 and Table 1-6. The positive economic outcome of the financial analysis is used to delineate the CK Gold Mineral Reserve.

Table 1-5 Economic Results

Key Project Indicator	Value
Pre-Tax Economics ($ Millions)	
IRR	39.4%
Cash Flow (Undiscounted)	$500
NPV 5% Discount Rate	$323
Payback (Years)	2
After Tax Results	
IRR	33.7%
Cash Flow (Undiscounted)	$421
NPV 5% Discount Rate	$266

Table 1-6 Project Details

Key Project Indicator	Value
Gold Ounces Sold (000's)	678
Copper Sold (Million Lbs.)	172
AuEq Ounces Sold (000's)	1,030
Initial Capital ($ Million)	$222
Sustaining Capital ($ Million)	$15
Avg. Cash Cost of Production ($/oz AuEq)	$786
All in Sustaining Cost ($/oz AuEq)	$800

A sensitivity analysis on metals pricing indicates additional potential for this project at higher metals pricing, Table 1-7. Additionally, the sensitivity indicates the robustness of the project with positive economic outcomes at reduced metals pricing.

Table 1-7 Metal Price Sensitivity

Metals Pricing		Pre-Tax			After Tax		
Gold Au/oz.	Copper Cu/lb.	NPV M$'s	IRR %	Payback Years	NPV M$'s	IRR %	Payback Years
$1,825	$3.65	$438	52.4%	1.7	$384	44.6%	1.8
$1,725	$3.45	$396	46.0%	1.8	$325	39.3%	2
$1,625	**$3.25**	**$323**	**39.4%**	**2.0**	**$266**	**33.7%**	**2.2**
$1,525	$3.05	$251	32.6%	2.2	$205	27.9%	2.5
$1,425	$2.85	$179	25.4%	2.6	$144	21.7%	2.9

1.10 Conclusions and Recommendations

1.10.1 General Recommendations

U S Gold's CK Gold Project focuses on the historical Copper King deposit in the Silver Crown Mining district, the subject of sporadic mining activity for over 100-years. The CK Gold Project demonstrates a very low waste to ore ratio, the absence of a large pre-strip period to expose mineralization, simple low cost-mineral extraction, and proximity to key infrastructure and support services, which all favor positive project economics.

With a life of mine cash cost per equivalent gold ounce of $786/oz, the margin compared to both the study price, set at $1,625 per gold ounce and the gold price at the time of writing of approximately $1,800 per gold ounce, indicates robust project economics. The fact that the bulk of the revenue is split between sales of gold and copper suggest that the project may be less sensitive to cyclical swings in the prices of either individual metal. A unique feature of the CK Gold Project is its proximity to growing population centers and infrastructure, which may further offer opportunities to bolster revenue through the sale of waste rock as aggregate. Investigations have proven the non-mineralized rock to be of very good quality for aggregate products. Only a minor benefit for the aggregate potential has been recognized in this study, and more work is warranted to assess the full potential. To move bulk rock tonnages some additional arrangements would need to be made but there is more than 30 million tons of rock available that could retail, as crushed and clean aggregate, at between $16 and $18 per ton and this potential value has not been fully captured in this study.

U S Gold elected to focus on data capture to support a feasibility study and permit application with its 2020 and 2021 field season activities. The resource model shows that there are potential extensions to the mineralization at depth and to the southeast of the deposit and these should be investigated. Additionally, there is uncertainty as to the genesis of the mineralization with the deposit not neatly fitting a porphyry or Iron oxide copper gold (IOCG) type depositional model. The company is set to support study work with the University of Wyoming, and we recommend that efforts continue to better understand the geological setting and assess district potential.

In reviewing the Project, we conclude that the type of mining, rate of mining and mineral processing technology selected in the PFS study is appropriate. While there is evidence to suggest that improved gold recoveries can be readily obtained through the implementation of flotation, followed by cyanidation of the flotation tailings, there are other factors and considerations which make the application of such technology difficult to assess. Not least of these considerations is public perception of the use of cyanide gold recovery. With the potential to recover an additional 180,000 gold ounces with the addition of a cyanide circuit, we recommend that trade-off studies be conducted but tend to agree with US Gold management that further studies and permitting be advanced without the inclusion of a cyanide circuit, under current price assumptions.

1.10.2 Specific Work Plan

To advance the CK Gold Project it is recommended that a feasibility study is conducted to better define Project parameters and to advance engineering and planning for the CK Gold Project. The goal of the recommended Feasibility Study is to provide the directors of US Gold to make an informed decision about the development of the Project. The estimated budget to complete this Feasibility Study is $500,000 based on the work completed to date on the Project.

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2 Introduction

2.1 Terms of Reference and Purpose of the Report

Gustavson Associates, LLC (Gustavson) was commissioned by U.S. Gold Corp, (US Gold) to prepare a Preliminary Feasibility Study (PFS) for the Copper King Gold project ("CK Gold Project" or the "Project"). This report is a Technical Report Summary (TRS) which summarizes the findings of the PFS in accordance with Securities Exchange Commission Part 229 Standard Instructions for Filing Forms Regulation S-K subpart 1300 (S-K 1300). The purpose of this TRS is to report exploration results, mineral resources and mineral reserves. The effective date of this report is October 15, 2021.

The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in Gustavson's services, based on:

i) information available at the time of preparation,
ii) data supplied by the client, and
iii) the assumptions, conditions, and qualifications set forth in this report.

Any opinions, analysis, evaluations, or recommendations issued by Gustavson under this report are for the sole use and benefit of US Gold. Because there are no intended third-party beneficiaries, Gustavson (and its affiliates) shall have no liability whatsoever to any third parties for any defect, deficiency, error, omission in any statement contained in or in any way related to its deliverables provided under this Report.

2.2 Sources of Information

The information, opinions, conclusions, and estimates presented in this report are based on the following:

- Information and technical data provided by U.S. Gold
- Review and assessment of previous investigations
- Assumptions, conditions, and qualifications as set forth in the report
- Review and assessment of data, reports, and conclusions from other consulting organizations and previous property owners.

These sources of information are presented throughout this report and in the References section. The qualified persons are unaware of any material technical data other than that presented by US Gold.

2.3 Qualified Persons and Details of Inspection

Below is a list of the qualified persons involved in the preparation of this TRS and details of their inspection of the property.

- Mr. Donald Hulse, P.E., SME-RM V.P. and Principal Mining Engineer for Gustavson, is a Qualified Person as defined by S-K 1300. Mr. Hulse acted as project manager during preparation of this report and is specifically responsible for report Sections 6, 7, 8 and 17. Mr. Hulse is independent of US Gold.

Mr. Hulse conducted a site visit of the property on October 21, 2020 and July 26, 2021, where he was able to view ongoing exploration activities, geological logging and data capture. Mr. Hulse has attended the large majority of weekly coordination meetings with the principal contributors to the project.

- Mr. Christopher Emanuel, SME-RM, Senior Mining Engineer for Gustavson, is a Qualified Person as defined by S-K 1300 and is specifically responsible for Sections 2, 3, 4, 5, 9, 12, 13, 15, 16, 18 – 25. Mr. Emanuel is independent of US Gold.

  Mr. Emanuel conducted a site visit on June 13th, 2021. During the site visit a general inspection of the site was conducted. Drill pads and collars from the 2020 exploration campaign were visited, current infrastructure consisting of access roads, water storage and environmental monitoring systems were observed. U.S. Gold's core processing and storage facility was visited, core and Reverse Circulation (RC) chips from previous campaigns were observed.

- John A. Wells BSc. MA, SAIMM, CIM-RM, Consultant Mineral Processing, is a qualified Person as defined by S-K 1300 and is specifically responsible for Sections 10 and 14. Mr. Wells designed and oversaw the gathering of mineral sample for testing, the development of 2020-2021 test programs, and the interpretation of results. Mr. Wells also was engaged in the election of the process plant design engineering firm, overseeing the work accomplished, checking, and verifying the designs and estimates included in the study. Mr. Wells has not visited the Project, but visited facilities engaged in the test work and maintained virtual contact with the process engineering design firm.

- Mark Shutty Mark C. Shutty, B.Sc. is an independent Consulting Geologist, Member of American Institute of Professional Geologists (11664), Member of Geological Society of Nevada and Member of Society of Economic Geologists. Mr. Shutty has previously held the positions of Senior Geologist and Resource Geologist. He is a Qualified Person for S-K 1300 technical reporting and mineral inventory disclosure and is specifically responsible for Section 11. He has over 16 years of combined experience in exploration, mining and resource geology, working on a variety of projects across North America, including porphyry copper-gold deposits.

  A CK Gold Project site visit, including US Gold's logging and core storage facilities in Cheyenne, Wyoming was conducted between July 26-27, 2021, by geologist and independent QP, Mark C. Shutty, CPG. The visit entailed a field component, including a complete property tour, inspection of outcropping mineralization in the discovery area, US Gold and historical drillhole monument/pads lead by Hard Rock Consulting LLC's (HRC) J.J. Brown, Director, Geology & Exploration, and US Gold's Kevin Francis, VP Exploration & Technical Services. Alford Drilling LLC was drilling hole CK21-11c at the time of the visit enabling inspection of on-site drilling, new core and sample handling. Additional time was spent with HRC's geologists and technicians reviewing current (CK21-11c) and archived drill core (2007-7008 & 2020) and RC chips (2020), as well as logging, sampling, chain-of-custody and QAQC procedures.

2.4 Previous Reports on the Project

This is the first TRS U.S. Gold has submitted for the CK Gold Project and authors are not aware of any other TRS submitted by prior owners of the project. However, US Gold did publish a Technical Report and Preliminary Economic Assessment for the CK Gold Project in December 2017. This previous Technical Report did disclose a mineral resource for the project under the reporting requirements of the Canadian Securities Administrators National Instrument 43-101 (NI-43-101). The CK Gold Project was formerly referred to as the Copper King Project.

3 Property Description and Location

3.1 Property Location

The CK Gold Project is in Laramie County, Wyoming, in the southeastern portion of the state, approximately 20 miles west of Cheyenne. It is centered in the north half of Section 36, T14N, R70W. The property footprint is approximately 453 hectares, which is subject to surface disturbance. It includes the S ½ of Section 25, the NE ¼ of Section 35, all of Section 36, and north 2/3 of Section 31. A regional and project map is shown in Figure 3-1 and Figure 3-2.

Figure 3-1 Regional Map

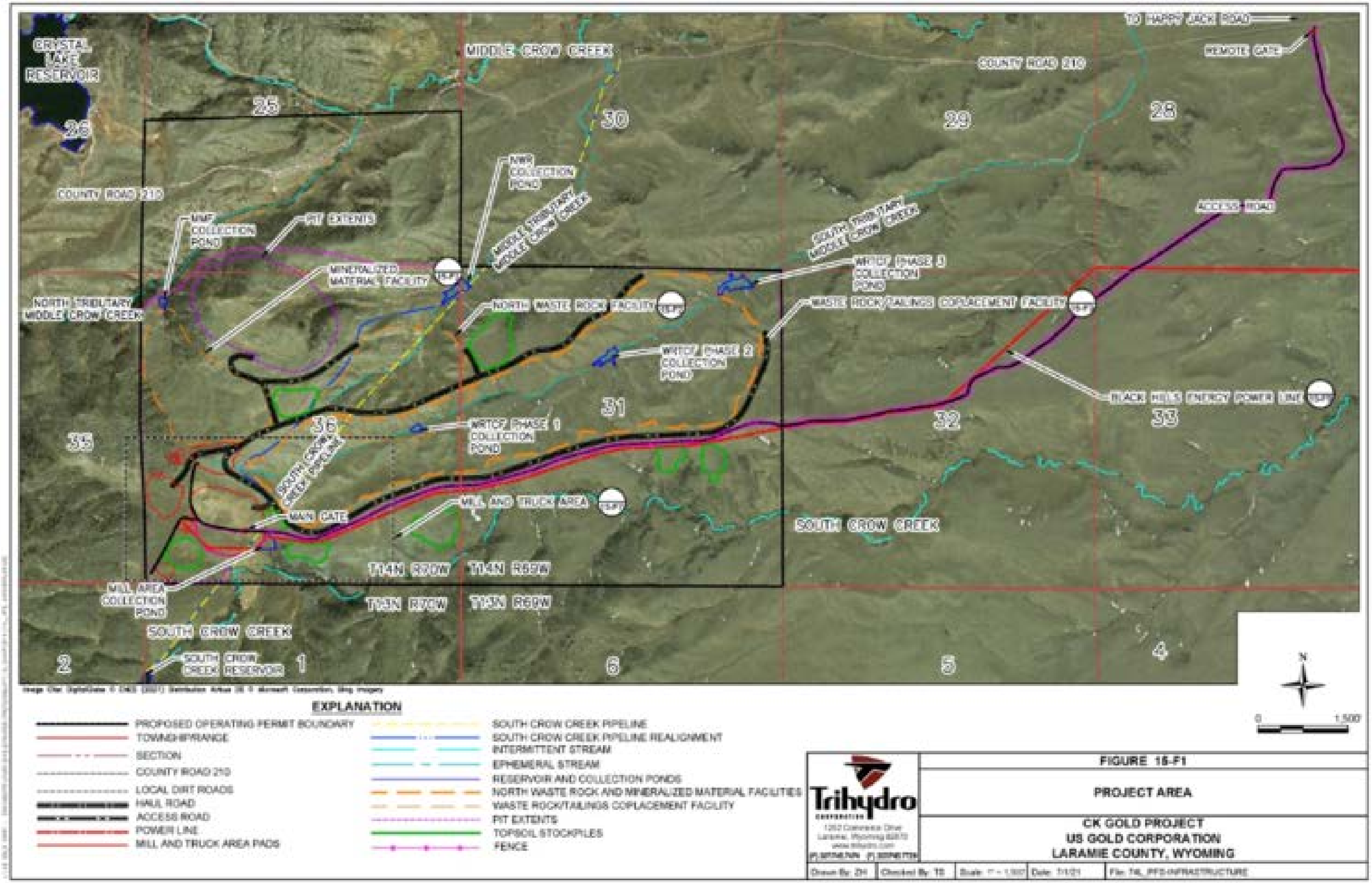

Figure 3-2 Project Map

3.2 Mineral Titles, Claims, Rights, Leases and Options

The Copper King property consists of two State of Wyoming Metallic and Non-metallic Rocks and Minerals Mining Leases which are listed below. Both mineral leases listed can be renewed for successive 10-year terms if certain conditions are met.

Lease #0-40828 for 640 acres (259 hectares) which includes all of Section 36, T14N, R70W. is a 10-year lease that expires February 1, 2023. The current annual rental is $2.00 per acre, $1,280 total. The lease is a 10-year lease that expires February 1, 2023.

Lease #0-40858 for 320 acres (130 hectares) which includes S½ Section 25 T14N, R70W and 160 acres within NE¼ Section 35, T14N, R70W. The current annual rental is $2.00 per acre, $1,280 total. The lease is a 10-year lease that expires February 1, 2023.

Surface Lease Option Agreement Section 31 and Section 25. An option agreement to lease surface rights for project development was executed in August 2021 contemplating the use of a portion of 288 hectares (712 acres) for project development activities.

The surface of S½ Section 25 and NE¼ Section 35 is privately owned. An easement agreement providing access has been negotiated with Ferguson Ranch Inc. on the S½ Section 25, T14N, R70W, and also the W½ Section 31, T14N, R69W. The original access easement was first signed in November 2006, but replaced and superseded by one effective May 1, 2009, the agreement is for a one-year period and is renewable annually for an additional four years and has been extended to cover both the 2020 and 2021 field seasons. Annual payments on the easement agreement are $5,000 for the first year and $10,000 for the next four years if the agreement is renewed. U.S Gold reports that the agreement has been renewed for the current year. Additionally, a new temporary easement preferred by the landowner was establish and celebrated in 2021. This new easement follows the same path as the proposed project access and is subject of the Option Agreement on the land lease and ROW.

The surface of Section 36 is owned by the State of Wyoming and is currently leased for agricultural use to Ferguson Ranch Inc. As part of the terms for its surface-use lease option agreement with Ferguson Ranch Inc. U.S. Gold has determined an arrangement to compensate the Ferguson Ranch for loss of grazing. Prior to mining development, upon the celebration of the Option Agreement and exercising the Lease for the land, annual payments identified in the Option Agreement would be split between the State of Wyoming and the surface lessee based on a sliding scale (per current agreement based on a formula provided by the Wyoming Office of State Lands and Investments).

The surface of Sections 25 and 35 is owned by various private owners. While the open pit expands onto a small portion of the southern part of Section 25, there is no planned activity on Section 35. At the time of writing, U.S. Gold is under contract for the purchase of 14 hectares (35 acres), The Darnell Property, and it expects to close on that purchase in November 2021. This property is immediately west of Section 36 in the NE ¼ Section of Section 35. There are no plans to incorporate this land into the project area and it is contemplated to be a buffer between the mine and other residents in the area.

3.3 Environmental Impacts, Permitting, Other Significant Factors and Risks

During 2021, US Gold is conducting a field exploration program consisting of exploration drilling, soils, geotechnical and hydrological investigations. This program is fully permitted and the CK Gold Project currently holds a Department of Environmental Quality issued Exploration Permit # DN0440, TFN73064 which includes cumulative bonding notice to the value of $114,000 dated June 14th, 2021. In addition, an exemption of Stipulation 5 of US Gold's mineral lease 0-40828 was obtained from the Wyoming Game and Fish Department, addressing mineral lease terms that exclude activity in sensitive mule deer habitat between November 15th and the end of April each year. Preliminary discussion with Game and Fish have been held to investigate measures that can be taken if the project proceeds to development to allow year-round activity. Discussions identified that mitigation measures are reasonable to accomplish, such as programs to install wildlife friendly fencing, invasive species (e.g. cheatgrass) mitigation, and land swaps.

Current surface disturbance from exploration activities, including roads and test sites is 40 acres. Costs associated with the reclamation of the exploration disturbance are bonded through cash payments to the state, recoverable upon inspection and release by the DEQ. U S Gold conducts ongoing reclamation and 2021 end of season reclamation is ongoing and will be measured by drone survey as operations conclude in November 2021, covering most of the exploration activities to date.

3.4 Royalties and Agreements

The CK Gold Project is subject to a production royalty of 5%, payable to the Office of State Lands for use by the State to fund appropriate education trust accounts. The royalty is calculated based upon the gross sales value of product sold less applicable deductions for costs incurred for processing, transportation and related costs beyond the point of extraction from the open pit mining operation. Once the project is in operation, the Board of Land Commissioners has the authority to reduce the royalty payable to the State. Prior to commercial production a royalty of $2.00 per acre is payable to the Office of State Lands.: In addition to the permitting requirements and associated interaction with the DEQ and other state and local agencies, development of the CK Gold Project will require certain agreements with other local entities, including: (1) Ferguson Ranch for land use rights and easements for access road, power line and water supply well(s) and pipeline; (2) City of Cheyenne Board of Public Utilities for a water supply agreement, and an agreement to relocate an existing water pipeline crossing Section 36 and easement for the power line; and (3) a power supply agreement with Black Hills Energy, a subsidiary of Black Hills Corporation.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Topography, Elevation and Vegetation

The CK Gold Project is located on the eastern flank of the Laramie Range where the granite and granodiorite peaks, and rolling hills are bound to the east non-conformably by shallow eastward dipping sedimentary rocks of the White River Formation. The Laramie Range is an approximately 125-mile-long mountain range between Laramie and Cheyenne, WY that trends north from the Colorado-Wyoming border towards Casper, WY. East of the CK Gold Project area, towards Cheyenne, WY, the topography transitions to flatter plains along the western margin of the Great Plains physiographic province.

The gradually sloping sedimentary deposits on the flank of the Laramie range that is situated at the eastern edge of the Rocky Mountain Province, created what was referred to as a land bridge allowing the main east-west rail line to pass the area, avoiding difficult mountainous terrain. Elevations within the Laramie Range in the vicinity of the property reach over 8,000 ft (2,438m) above mean sea level, while the city of Cheyenne, located on the western edge of the Great Plains Province, is at an elevation of 6,100 ft (1,859m). Within the CK Gold Project property, elevations range from about 6,800ft to 7,300ft (2,073m to 2,225m) with generally low to moderate relief. The exception is the northwest portion of the property, which covers a moderate to steep, northwest facing slope that bottoms at 6,900ft. (2,103m) elevation in a northeast flowing intermittent stream drainage.

Elevations at the CK gold Project, and within the immediate mineral resource area, range from 6,950ft. to 7,175ft. (2,118m to 2,188m). The currently identified mineral resource is exposed at surface along a west-northwest trending ridge, and the topography is conducive to open-pit mining methods.

Vegetation is sparse to moderate with sagebrush and prairie grasses on the gentle south and east facing slopes and small conifers on the steeper north facing slopes.

4.2 Accessibility and Transportation to the Property

The property is located approximately 20 miles (32km) west of Cheyenne and is accessible from the paved State Road 210 to the County Crystal Lake Road, which is a maintained gravel road. The new access entryway adopted in 2021 is approximately 2 miles (3.2km) off the pavement on the Crystal Lake Road and crosses Ferguson Ranch Land, subject of the ROW Option Agreement. From the entrance the proposed access is approximately 4 miles (6.4km) of single track gravel road which will be upgraded and maintained for the project life. Alternatively, the property can be accessed from the west side by the Buford exit on the interstate 80 and taking North Buford Road and the SR-210 to Crystal Lake Road to the same turn off. Alternative routes have been investigated, envisioning a shorter route to the south to connect to the Buford Road and the Interstate 80 highway. An alternate south access would require additional agreements and right of ways to be established which may be pursued if the bulk sale of mine rock is pursued.

4.3 Climate and Length of Operating Season

According to the NOAA 1981-2010 climate norms for Cheyenne, the area can expect an annual precipitation of 16.3”, winter temperatures averaging from 17 to 41°F and summer temperatures from 53 to 79°F. Mining operations will be viable year-round with occasional interruptions due to inclement weather. The average annual precipitation for the area is estimated to be 17.7 inches.

4.4 Infrastructure Availability and Sources

Given the proximity to Cheyenne, the state capital of Wyoming and the Front Range metropolitan area, personnel needs, delivery of consumables, and infrastructure needs are available both locally and regionally. This should not pose a material negative impact to the project, on the contrary the infrastructure allows relatively easy access to major mine supply centers, the closest being Denver, Colorado, Salt Lake City, Utah and Gillette, Wyoming. The area has access to a Union Pacific railroad line, intersection of 2 major interstate highways I-80 and I-25, and a regional airport.

High voltage powerlines are approximately 1.5 miles (2.4km) from the current project area. A connection to the local power provider, Black Hills Energy and easement for transmission lines has been identified and scoped. While there is a nearby line serving the local population discussions with Black Hills Energy contemplate a new 24.9KV line tapping off an existing sub-station transformer feeding a 16-mile (26km) overhead line to the project site, also serving a new sub-division (Whispering Hills). Water to meet project demand has been identified and potential well sites investigated. Minor water sources have been identified around the project site from monitoring well locations, and additional deeper well sites will be investigated in upcoming fields seasons with a view to securing an independent water supply. However, water is available to purchase from the City of Cheyenne from its infrastructure running along North Crow Creek less than a mile away from the project site. Additionally, a pipeline to access purchased water runs across the property and the Cheyenne Board of Public Utilities (BOPU) have been approached with a view to relocating the 100-yr old cast iron pipeline and a water supply for the early years of the project. BOPU are reluctant to commit to the suppling the mine in the longer term due to the limited availability within their system and uncertainties regarding the long-term demand for the city. Other entities have been approached with a view of securing the long-term water needs for the project, likely adding water to the BOPU system from other wells allowing raw water to be extracted upstream of the city.

5 History

The CK Gold Project was originally known as the Copper King Mine. It was first discovered in 1881, along with the Climax and Potomac lodes, by James Adams. The deposit was developed and a 160ft (48m) shaft was sunk, along with construction of a mill and smelter by the Adams Copper Mining and Reduction Company. However, no production figures are available from this period. The Ferguson Ranch, which presently owns or leases most of the surface land in the CK Gold Project's Project area, was homesteaded in 1874 by the first native-born children of settlers to the area (Angus Journal, 1996).

The Copper King Mine was noted as idle by the State Geologist in 1890 when Wyoming attained statehood and assumed ownership of the associated section of land (Section 36). In 1911, C.E. Jamison, the State Geologist of Wyoming, mentioned several active copper and gold mines within the Silver Crown Mining District (SCMD) and in close proximity to the CK Gold Project, including the Dan-Joe Prospect, Comstock Mine, Fairview Mine, Louise Mine, Little London Mine, Bull Domingo Prospect and several additional unnamed prospects.

Mineral rights transferred several times over the next century, starting with the Otego Mining Company in 1907, followed by the Hecla Mining Company until about 1910. By 1910, production at the Copper King Mine had reached 316st (287t tonnes), producing 27 ounces (oz) gold, 483oz silver and 25,782lbs. (11,700kg) of copper. From 1890 to 1938 there were at least 8 drilling campaigns totaling 37,500ft. (11,430m) of drilling. Excavation of numerous prospect pits as well as development of 2 adits also likely occurred during this time.

The American Smelting and Refining Company (ASARCO) acquired the property in 1938 and performed the first major drilling campaigns on the Project site. It was subsequently acquired by the Copper King Mining Company in 1952. ASARCO re-optioned the property in 1970. Henrietta Mines Ltd gained rights to the property in 1972. At some point prior to 1987, Henrietta's interest was folded into Wyoming Gold, Inc., which was jointly owned by William C. Kirkwood and Caledonia Resources Ltd., the parent company of Henrietta. Royal Gold, Inc. entered into an option agreement to buy Wyoming Gold in 1989. Compass Minerals, Ltd. then acquired the property in 1993. Saratoga bought it in 2006. Strathmore acquired the issued and outstanding shares of Saratoga in 2012 and was subsequently purchased by Energy Fuels. Energy Fuels then sold the property to U.S. Gold in 2016.

5.1 Historical Exploration and Production

ASARCO completed 5 exploration holes for 427m in 1938, 2 of the holes yielding significant gold and copper mineralization. Copper King Mining then completed 6 more holes in 1952-54 for 802m of drilling, which was partially subsidized by the U.S. Bureau of Mines. When ASARCO took control again in 1970, they conducted soil geochemical sampling, geologic mapping, IP and aeromagnetic surveys, and 8 additional core holes totaling 874m.

Henrietta completed the first reserve and resource estimate in 1973, after they had completed an 11-hole drilling campaign for 3,766ft. (1,148m) of drilling, a control survey, geologic mapping, IP and vertical-intensity magnetic geophysical surveys, geochemical soil sampling, re-logging of historical core holes, and preliminary metallurgical studies.

A second reserve estimate was done by John Nelson of Kirkwood Oil and Gas around 1986. It does not appear any additional drilling was done prior to this estimate; however, the company did collect 228 surface geochemical samples in 1982 and the Colorado School of Mines Research institute had done some metallurgical work on the property in 1980.

Caledonia undertook a new drilling campaign in 1987 of 25 holes for 9,980ft. (3,042m), designed to improve confidence and prove reserves within the known extents of the deposit. They also funded a three-sample preliminary metallurgical study that year. Results were used to create a preliminary resource estimate that was published in the Wyoming State Geological Survey Bulletin 70. Tenneco Minerals Company then produced a reserve estimate in 1988. In 1989 both FMC Gold Company and Royal Gold, Inc. funded metallurgical studies and produced reports that discussed a small exploration campaigns, likely completed in that year, but whose results have not been available. The FMC study was completed by Kappes, Cassiday & Associates (KCA) and references some work done to collect and test mine dump samples in 1986 and 1987. It is believed that the Royal Gold report, completed by Hazen Research, Inc in 1989., used the same metallurgical sampling composites in its study. It also includes 2 holes drilled for 154m that year, however this data is also lost.

Compass funded an aeromagnetic survey over the area and 25 new drill holes for 9,202ft (2,805m) in 1994. They also conducted two metallurgical studies in 1994 and 1996 by Metallurgy International and a preliminary resource study by Mine Development Associates (MDA).

Mountain Lake Resources then funded a ground magnetometer and VLF-EM geophysical survey, drilled 8 holes for 1,445m, including two 2 metallurgical test holes, and a metallurgical study by the Colorado Minerals Research Institute in 1998.

MDA completed a technical report for in 2006, 27 holes for 18,297ft (5,577m) were drilled during the spring and summer of 2007, and MDA created an updated report for them to include these results through October 31, 2007. Saratoga completed another 8 holes in 2008 for 2,185m.

Further work was commissioned by Saratoga focused on flotation methods to extract gold and copper, as reported in 2009 by SGS, Canada Inc. In a report dated December 8, 2010, a test program conducted on oxide material from the Copper King deposit with the objective of determining a flotation flowsheet to maximize recoveries of Au and Cu. The oxide portion of the resource is fairly minor; however, the work was completed to follow on from the successful results obtained on sulfide samples where a 26% copper concentrate was produced containing 98 grams per ton of gold. Oxide concentrate produced was reported as being expected to be marketable, however further work was identified to support these conclusions.

6 Geological Setting, Mineralization and Deposit

Much of the text in this report section is taken directly from “Updated Technical Report and Preliminary Economic Assessment, Copper King Project” prepared by Mine Development Associates for U.S. Gold with a report date of December 5, 2017. Most of the original text appears as written with minor edits for clarity and edits to add additional commentary or interpretation. The original reference sources that Mine Development Associates relied upon are referenced in the following text.

6.1 Regional Geology

The following discussion of regional geology is taken from Hausel (1989 and 1997) and Klein (1974).

The Copper King project and the surrounding Silver Crown Mining District are situated within the southeastern foothills of the Laramie Range along the eastern edge of the Rocky Mountain Province. The Laramie Range forms an elongate, 200km-long, north-south anticlinal uplift cored by Precambrian rocks and flanked by upwarped Phanerozoic sedimentary rocks. The Precambrian rocks can be divided into a northern Archean terrane (Wyoming Province) and a southern Proterozoic terrane (Colorado Province). These terranes meet near the center of the Laramie Range, where a 906-square kilometer anorthosite batholith, dated at 1.42-1.53 billion years old (“Ga”), intrudes the projected trend of the Mullen Creek-Nash Fork shear zone (Hausel, 1997).

The Archean rocks of the Wyoming Province include gneiss, migmatite, granite, and supracrustal successions of metasedimentary and metavolcanic rocks. The gneiss and migmatites have been dated at about 2.9 to 3.0 Ga (Johnson and Hills, 1976), while the granites typically date between 2.54 and 2.65 Ga. Copper and associated base-metal mineralization within the Wyoming Province are primarily found within pendants of metasedimentary and metavolcanic rocks.

The Colorado Province, which contains the Silver Crown Mining District, consists of Proterozoic amphibolite-grade mafic to intermediate metavolcanic and associated metasedimentary rocks that are about 1.8 Ga (Peterman and others, 1968). These rocks are intruded by 1.39 to 1.42 Ga granite, which includes the Sherman Granite and related felsic phases (Peterman and others, 1968). Steeply dipping and/or faulted Paleozoic and younger sedimentary rocks flank the eastern edge of the Precambrian rocks. Sub-horizontal Tertiary sedimentary deposits overlie the older sedimentary rocks and overlap the Precambrian core.

The Silver Crown Mining District is located in a belt of northeast-trending, foliated, intermediate-composition igneous rocks of Precambrian age which forms the eastern border of the Sherman Granite. The dominant rock type is a foliated granodiorite that exhibits significant potassium enrichment in close proximity to the Sherman Granite. Outcrops of older metasedimentary rocks, primarily quartzite and quartz-biotite schist, and amphibolitized mafic rocks, are located along the east side of the district, while an isolated area of younger hybrid felsic rocks occurs in gradational contact with the granodiorite 0.5 miles (0.8km) to the west of the Copper King Mine. Aplitic quartz monzonite dikes ranging in width from about 3ft. to 30ft. (1m to 9m) occur throughout the mining district, and there is some potassium enrichment of the granodiorite country rock along the often-gradational contact with the younger aplitic dikes. Pegmatites ranging from about 3ft. to 30ft. (1m to 9m) in width are found throughout the district and cut all Precambrian rock types. Paleozoic and Mesozoic sedimentary rocks are in fault contact with the Precambrian rocks along the eastern border of the district. Tertiary arkosic sediments blanket a large portion of the area. The generalized geologic map of Figure 6-1 shows the general relationship of Proterozoic metasedimentary and metavolcanic rocks with the Sherman Granite on the eastern flank of the Laramie Range but does not display the extent of igneous rocks present in the Copper King area.

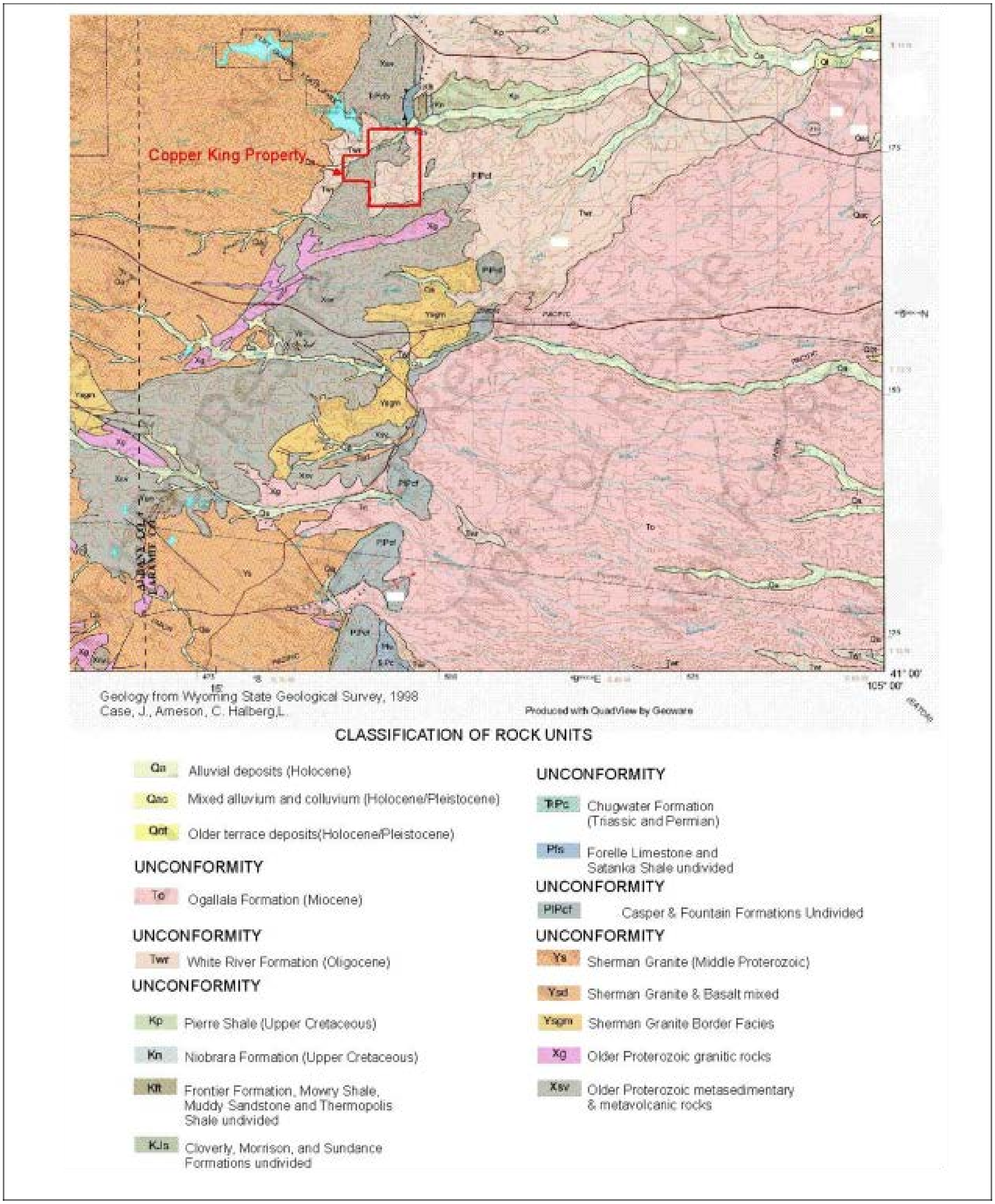

Figure 6-1 Surface Geology Map

Precambrian-age shear zone tectonites occur in elongate, fairly continuous outcrops that range up to 400ft. (120m) in width and approximately 4,000ft. (1,200m) in length. The tectonites post-date almost all Precambrian rocks, although some pegmatites were apparently intruded post-tectonically. The shear zones are often expressed as topographic highs due to the greater resistance of the annealed zones. Outcrop characteristics vary with respect to the parent types. Aplitic quartz monzonite and pegmatites are sheared to a fine crystalline rock, while an intensely foliated mylonitic gneissic rock is produced from shearing of the foliated granodiorite and hybrid felsic rocks. Quartz veinlets and epidote are commonly present parallel to the cataclastic foliation. Fractures are often coated with hematite, manganese oxides and, less often, copper carbonates (Klein, 1974).

The major structural trend in the northern two-thirds of the Silver Crown Mining District is generally N25°E, which parallels the northeast trend of the Sherman Granite boundary and the gneissic foliations observed in the granodiorite (Klein, 1974). The southern one-third of the district, in which the Copper King property is located, is characterized by shear zone cataclastic foliation trends between N60°E and N80°W. Klein (1974) states that the cataclastic foliations may be a direct result of the intrusion of the Sherman Granite or slightly later Precambrian stresses and dislocation deformation along trends of existing gneissic foliation.

6.2 Property Geology

Much of the following description is taken from Klein (1974) and Hausel (1997).

Intermediate-composition metavolcanic and associated volcanogenic metasedimentary rocks, thought to be 1.6 to 1.9 Ga, form the basement at the Copper King Mine. About 0.8 to 1.6km east of the mine along the northern boundary of Section 36 are outcrops of fine-grained, distinctly to poorly foliated quartz-biotite schist and fine- to medium-grained massive quartzite as well as rhyolite, diabase, and finely laminated epidote hornfels. They were intruded by calc-alkaline granodiorite and quartz monzonite intrusions, which host the gold-copper mineralization at Copper King. The granodiorite is fine- to coarse-grained and generally equigranular to slightly porphyritic. It grades from unfoliated to gneissic. Much of the granodiorite exhibits potassium enrichment, particularly near contacts with aplitic quartz monzonite. Weakly porphyritic, distinctively pink aplitic quartz monzonite dikes cut all crystalline rocks and can be up to about 30ft. (9m) wide and 800ft. (244m) long. Where they intrude foliated granodiorite, there are contact zones of potassium enrichment up to 12m wide. Post- mineralization pegmatite and aplite veins are also present. Many dikes of mafic composition also cut the granodiorite and are in some places cut by pegmatite dikes. Contacts between the schist or quartzite and the foliated granodiorite, pegmatite, and quartz monzonite are sharp. The entire volcanogenic suite was extensively intruded by the Sherman Granite a few kilometers west of Copper King about 1.4 Ga. According to Hausel (1997), the Copper King stock may have been emplaced at about this time. During or after emplacement of the Sherman Granite, extensive shearing produced mylonitic shear zones with generally a N60°E to N80°W trend in the vicinity of the Copper King Mine. The Copper King mineralization is controlled by a N60oW-trending shear zone.

Although the foliated granodiorite was metamorphosed to amphibolite grade, regional retrograde metamorphism resulted in greenschist alteration throughout the Silver Crown district. Later hydrothermal alteration in the form of propylitic and potassic alteration overprinted the greenschist metamorphism. The hydrothermal alteration is associated with sulfides in the district (Hausel, 1997).

Recent work by US Gold has provided more details of the structural setting of the Copper King deposit. There is a strong west-northwest fabric to the deposit, expressed as foliation in the host granodiorite and as parallel pegmatite dikes. Downhole televiewer data from 2020 drilling, coupled with ground magnetics geophysics and surface mapping show the northern deposit margin is a west-northwest, steep northeast dipping fault zone (Northwest fault). Gold and copper mineralization is stronger to the south of this fault, and weak at best to the north. Mineralization tends to mimic the west-northwest fabric and remains open at depth and to the south.

On the east side of the deposit, the previously documented Copper King fault forms a hard boundary to mineralization. Host granodiorite occurs to the west of the fault, and unmineralized metasedimentary and metavolcanic rocks occur to the east. The fault is exposed in several prospect pits north and east of the deposit and has been defined by drillhole intersections at depth. Previous interpretations of the Copper King fault suggest the fault is normal with a down-to-the-east dip slip offset. Drillhole intercepts, however, show the Copper King fault to be steeply west dipping, though whether the offset is dip slip or oblique is not yet established. Mineralization terminates against the Copper King fault, and it is not clear if the fault is post-mineral or served as an aquitard for mineralizing fluids. Any potential offset of the mineralization and host granodiorite would be southeast of the deposit, under post-mineral White River cover in an area yet to be explored.

Mineralization on the northwest end of the deposit seems to be controlled by a northeast striking, northwest dipping fault (NE-1 fault) interpreted from RC drillholes. This fault, like the Northwest fault, confines higher-grade gold and copper mineralization to the southeast, with lower grade mineralization to the northwest. Small amounts of higher grade mineralization occur along the plunge line of the intersection between the Northwest and NE-1 faults.

A major northeast striking, southeast dipping fault (NE-2 fault) zone cuts through the middle of the deposit, separating it into two distinct concentrations of higher-grade mineralization. Gold mineralization is much lower grade along this fault zone and it also carries surface oxidation to depths of 400 feet or more below surface along its trace. It is not yet clear if this fault zone is post mineral or acted as an aquitard.

There are several other faults of lesser importance in the immediate deposit area and surrounding areas. Most of these have been interpreted from geophysical data, as much of the Copper King project area south of the deposit is covered by Tertiary White River Formation. Figure 6-2 displays the major faults within the Copper King deposit itself.

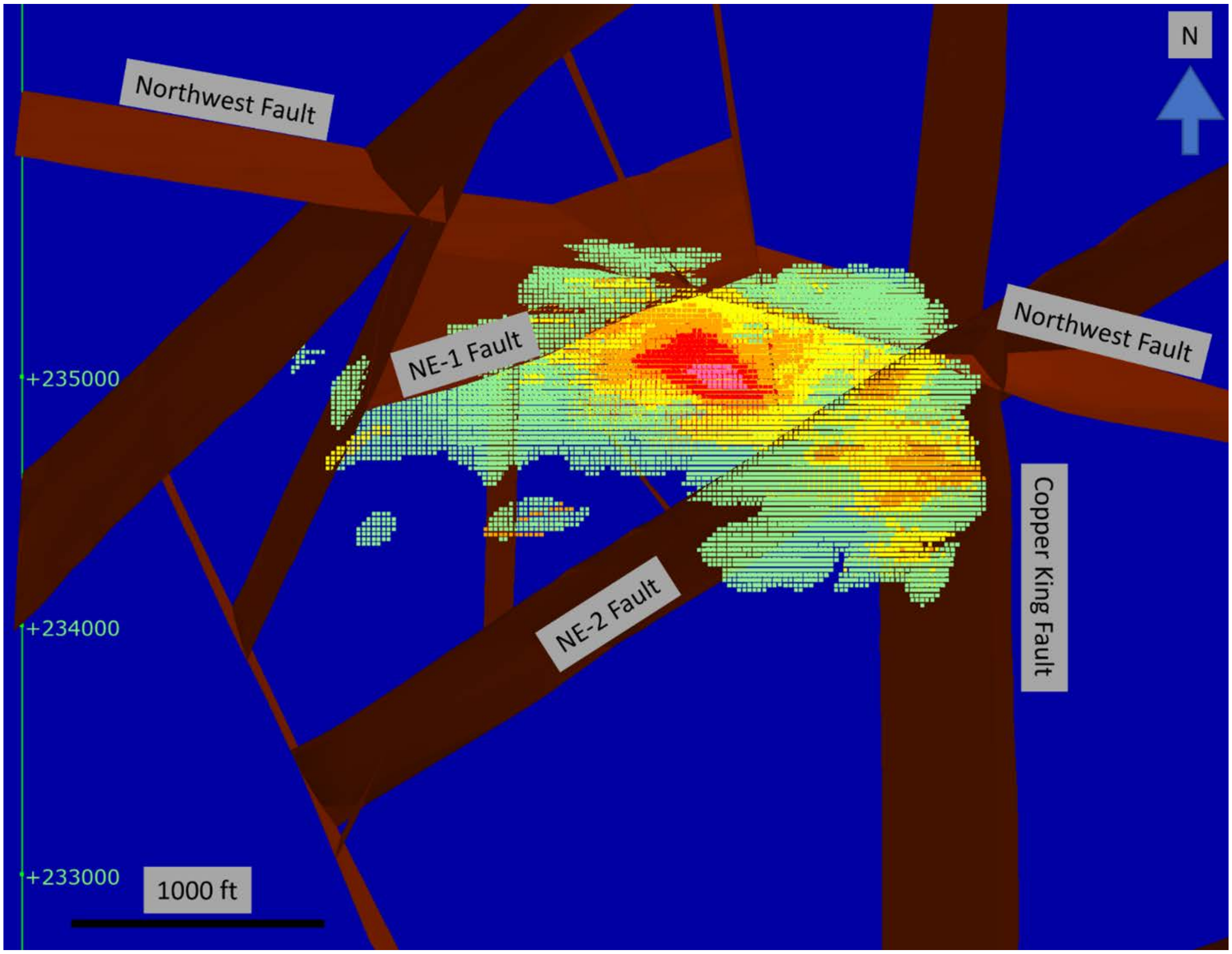

Figure 6-2 Fault Map, Blocks indicate mineralization low metal values (green) to high values (magenta)

6.3 Deposit Types

The Copper King deposit is thought by some to be a Proterozoic porphyry gold-copper deposit (Hausel, 1992, 1997; Carson, 1998), and is included in a list of undeveloped porphyry copper deposits by Long (1995). Others (Klein, 1974) categorized the Copper King deposit as a structurally controlled base and precious metal deposit in a Precambrian shear zone.

Work to date by US Gold does not provide a lot of geochemical or physical evidence for a porphyry copper deposit model, but the intense and sometimes tightly confined shearing-foliation does lend itself to the shear zone model. Geochemically, the Copper King deposit has a geochemical signature much like an IOCG (iron oxide copper-gold) deposit, less abundant rare earth metals. US Gold has engaged the University of Wyoming to investigate further genetic studies of the Copper King deposit.

The presence of stockwork and disseminated mineralization, the uniformity of metal content in the mineralized intercepts, and the association of propylitic and potassic alteration zones do suggest a similarity to the porphyry copper model. However, the apparent lack of an associated large porphyry intrusion, the rather small size of both the mineralized and altered zones, the Proterozoic age, and the apparent structural control exerted by the associated shear zone suggest that the appropriate model may be one of shear-zone related mineralization. In determining the mineral resource for Compass Minerals in 1995, MDA had modeled higher-grade shear-zone related mineralization within a larger shell of disseminated and stockwork mineralization (Ristorcelli et al., 1995).

While modern exploration in the Silver Crown district has focused on the Copper King gold-copper deposit, there are also several gold-copper-silver occurrences in the district that represent permeable fracture fillings and re-healed silicified generally N20°E-trending fractures (Hausel, 1997). Examples are the Comstock Mine in SW/4 Section 13, T14N, R70W and the Dan Joe prospect in N/2 Section 24, T14N, R70W (Hausel, 1997), neither of which is located on the property controlled by Saratoga. Klein (1974) noted that the Comstock-type fracture fillings and the Copper King-type shear zone deposit differ in whether the shears are open or healed and in orientation of the structures but are similar in ore and gangue mineral paragenesis and replacement features.

According to Klein (1974), there are two occurrences similar to the mineralization at Copper King in the Silver Crown district, one in the east-central portion of Section 14 and one in the SW/4 of Section 35, neither located on the property of the Issuer.

6.4 Mineralization

According to Klein (1974) Copper King is a structurally controlled base-precious metal deposit in silicified portions of a Precambrian shear zone in granodiorite. According to Soule (1955), most of the primary gold-copper mineralization is in relatively fine-grained, equigranular gneiss (foliated granodiorite) composed of quartz, orthoclase, microcline, oligoclase, biotite, and hornblende with occasional epidote, hematite, and magnetite. Although most of the mineralization is in silicified, rehealed, mylonitic granodiorite, lesser amounts of primary copper minerals are present in aplitic quartz monzonite and hybrid felsic rocks (Klein, 1974). The mineralization tends to occur proximally to the monzonite dikes (Shrake, 1988). The deposit is elongate and ovoid in shape.

According to Nevin (1973) and Hausel (1982, 1997), and visually confirmed by the Saratoga drill hole geology, alteration zoning is evident, with a central zone of quartz veinlets and silicification extending outward into a narrow zone of potassic alteration (secondary biotite and K-spar with muscovite, sericite, epidote, and sulfides), enclosed outward by a zone of propylitic alteration (secondary epidote, chlorite, sulfides, and quartz). The zone of silicified foliated granodiorite that is the primary host for mineralization is about 762m long with an average width of 152m (Hicks, 1972). It appears that the hydrothermal alteration overprinted regional retrogressive metamorphism that had produced widespread greenschist alteration in the Silver Crown district (Hausel, 1997). Carson (1998) studied the mineralogy of six rock samples from Copper King and concluded it “possesses all the features of a weakly to moderately deformed and recrystallized small, low-grade, sub-economic porphyry copper system” or that it could “represent leakage from a larger and similar but higher-grade porphyry system related to a quartz monzonite porphyry stock at depth.” Carson (1998) identified potassic, propylitic, and phyllic- argillic alteration in the samples he studied. He proposed that the potassic and propylitic alteration are related to the porphyry system, whereas the phyllic alteration is later and related to structurally controlled alteration and mineralization. Although the deposit has been deformed and recrystallized, most of the mylonitic foliation and deformation appear to be pre-mineralization (Carson, 1998). In the better mineralized areas, quartz occurs as numerous veinlets, and there is a direct quantitative relationship between the quartz veinlets, chalcopyrite, and gold content (Soule, 1955).

Mineralization is present as disseminated sulfides and quartz/sulfide stockworks with malachite and chrysocolla and native copper present at the surface and chalcopyrite, pyrite, minor bornite, primary chalcocite, pyrrhotite, and native copper at depth (Soule, 1955; Hausel, 1997; and Clark, 2008). The mineralization is low in pyrite and high in magnetite (Nevin, 1973). Spectrographic analysis identified traces of lead, zinc, tungsten, and titanium dioxide in the mineralization (Hausel, 1997). Covellite and molybdenite have also been reported by Klein (1974). Little to no molybdenum analyses exist for the project; however, those assays that do exist from early in the project history showed low values. Sphalerite is present in intervals enriched in Zinc. Precious metal concentrations are directly proportional to sulfide content, particularly chalcopyrite (Klein, 1974). Gold occurs as free gold in grains 10 to 250 microns in size (Mountain Lake Resources Inc., 1997) or as electrum grains (F.L. Schmidt, 2021). Although mineralization is in general low grade, supergene ores with rich masses of chalcocite were selectively mined in the past (Ferguson, 1965, cited in Hausel, 1997)

Oxidation occurs within the upper 100ft. (30m) below the topographic surface and a mixed zone of weak oxides and remnant sulfide, often associated with increased metal grades, occurs within the core of the deposit up to 250ft. (75m) below the oxide boundary. Chalcopyrite is the dominant sulfide mineral though chalcocite and native copper are enriched within the mixed oxide/sulfide zone and oxide zones, respectively.

The Copper King deposit consists of a near-surface, central core of high-grade (>1.71g Au/t) mineralization, 575ft. (175m) long, 160ft. (50m) wide, and 500ft. (150m) thick, associated with moderate to pervasive silicification and near-vertical thin, sulfide-bearing quartz veins and stockwork. The high-grade core is surrounded by a large envelope of low-grade disseminated mineralization, 760m long along its N60oW strike, up to 1,000ft. (300m) wide at the widest part, and over 1,100ft. (330m) in thickness. The low-grade mineralization is open along strike, both to the northwest and southeast, and also at depth, where historic core holes have encountered mineralization to a depth of at least 1,000ft. (305m). Gold and copper mineralization within the lower-grade portion of the deposit is uniformly consistent in tenor both along strike and at depth. Historic and Saratoga drill holes have intercepted > 820ft. (250m) of continuous gold and copper mineralization in which over 90% of the individual gold assays range between 0.3g Au/t and 1g Au/t. grade and the copper values range between 0.1% Cu and 0.3%Cu.

According to Klein (1974), based on drill core observation, apatite, fluorite, and calcite occur in the altered, foliated granodiorite associated with the shear zones, possibly indicating that the original magma or the hydrothermal fluids were rich in volatiles.

Noting that any hypothesis is highly speculative given the lack of direct evidence, Klein (1974) proposed that the origin of the Copper King base and precious metals could be either:

- Deposition from residual fluids related to an intrusion introduced into a cataclastic zone, or
- Remobilization of metals from a previously existing deposit by cataclasis.

He also speculated that the fluids may have come from a final phase of the Sherman granite or from a currently unexposed Precambrian intrusion. The potassic and silicic enrichment in the ore zone cannot be directly linked to intrusive fluids, but its occurrence in shear zones could link it to metamorphic recrystallization with the copper and magnetite being derived from the granodiorite and associated amphibolitized mafic rocks seen in the district (Klein, 1974). Based on similarities to other Precambrian mineralization in the Laramie Range and Front Range, Klein (1974) concluded that the Copper King deposit was a Precambrian metallic concentration of either magmatic segregation or disseminated type in which the metals were partially redistributed into adjacent sheared rocks during later Precambrian cataclasis. Hausel (1997) favored the hydrothermal/intrusive origin of a porphyry system. Mountain Lake Resources Inc. (1997) interpreted the Copper King mineralization as being hydrothermal in origin with the shear zone seen in the deposit having served as the feeder structure. They suggest that there could be additional mineral zones at depth associated with splays from the main feeder zone.

7 Exploration

7.1 Summary of Exploration Activities

The CK Gold Project was reportedly discovered in 1881, high-graded and saw limited mining. The first exploration work reported is drilling by ASARCO in 1938. Several additional rounds of drilling have been conducted since that time. In the 1972 Henrietta Mines Ltd. acquired the property and completed a comprehensive program of exploration and development. In addition to drilling, an I.P. survey, geologic mapping, geochemical sampling, and metallurgical testing were conducted (Nevin, 1973). Drilling campaigns were conducted by Saratoga since 2006 and Strathmore since 2012, with a hiatus in drill exploration until the acquisition by US Gold for Energy Fuels in 2016, US gold conducted drilling in 2017, 2018, 2020 and is currently concluding its 2021 drilling program, focused on data collection to support post PFS and feasibility studies in 2022.

7.2 Exploration Work - Drilling

The drilling record prior to 1997 is incomplete and much of the historical core is lost. Contemporary drilling reports as well as comparisons to recent drilling have been used to support the use of the pre 1997 drilling. In 2020, historical drill hole collars were located, surveyed and the results compared closely to their location in the historical drilling database.

Figure 7-1 indicates a total of 173 holes with a total drill length of 29,997m have been drilled on the Copper King property. Figure 7 1 shows the location of all holes within the Copper King mineral resource area. An additional six historic holes totaling 1,085m are in the database but outside of the current resource area.

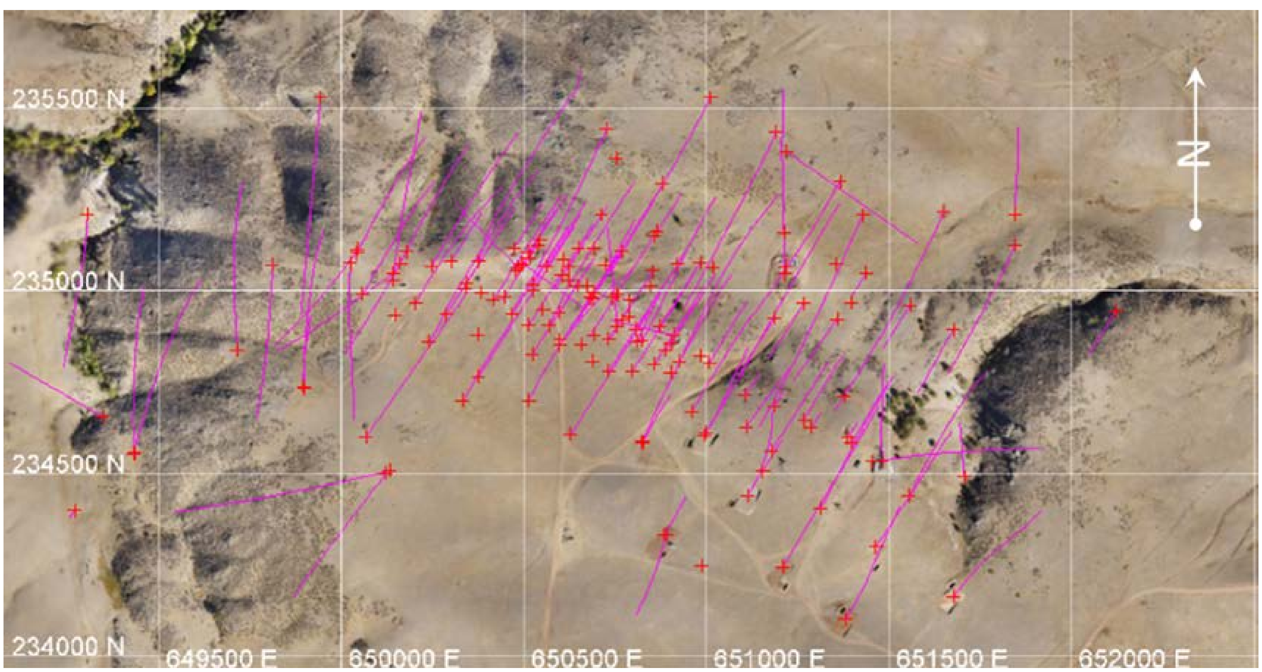

Figure 7-1 Drill hole Map

7.2.1 US Gold 2021 Drilling Campaign

US Gold began a drilling campaign in July of 2021 consisting of 48 holes and 40,930ft. (12,475m), comprised of reverse circulation, rotary and core drilling. The primary purposes of this campaign are to continue to refine hydrologic and geotechnical subsurface conditions, and minor exploration immediately southeast of the proposed project. Thirteen monitoring wells totaling 5,600 feet are proposed for sub-surface groundwater studies. Results from this campaign were not available by the effective date of this report and are not included in this study and are aimed at providing data for a later feasibility study. There have been no findings or observations during the 2021 exploration and data gathering program that would materially affect the findings of this study.

7.2.2 US Gold 2020 Drilling Campaign

In October of 2020, US Gold was carrying out a drill program at the Project. Part of that work included surveying new drill hole collars and historical drill hole collars U.S. Gold was able to locate in the field and flag.

All historical collar coordinates (pre-2020) were loaded into a handheld GPS unit and visited in the field. Those that were clearly identifiable (cement, tags, drill pipe, etc) were flagged with a lath and flagging, with the hole name written on the lath. These collars were then surveyed at the same time as the 2020 holes, on October 21st, 2020.

Surveying was completed by Topographic Land Surveyors of Casper, WY and the results certified by Professional Land Surveyor Aaron Money, #14558. Survey method was Real Time Kinematic GPS using a Trimble R10 GNSS GPS system.

Drill hole collars from each of the historical programs dating back to 1938 were identified in the field and resurveyed confirming the locations recorded in the drilling database.

Comparison of the new collar surveys with the old coordinates showed small variability in X and Y coordinates, typically less than 5 feet and around 25 ft at most, and a bit more in elevation (around 25 ft at most).

Two permanent survey control points were placed on the project for future use.

7.2.3 US Gold 2020-2017

US Gold completed two RC drilling programs in 2017 and 2018. RC drilling was comprised of four holes in 2017 and eight holes in 2018, totaling 12,040ft. (3,670m). Both programs were designed to investigate magnetic and IP anomalies generated by geophysical surveys. Drilling was completed by AK Drilling of Butte, Montana using a Foremost MPD 1500 RC drill. Samples were collected on 5ft. (1.5m) intervals from the discharge of a rotary splitter attached to the drill. A chip tray was also filled from cuttings for geologic logging and archived. Samples were delivered to Bureau Veritas of Sparks, Nevada for analysis.

A rotary, reverse circulation and diamond core drill program was begun in September 2020, and 30 drill holes totaling 21,810ft. (6,647m) were completed by early December 2020. Core drilling totaled 10,561ft. (3,219m) and rotary drilling totaled 10,538ft. (3,312m). The focus of US Gold's work was to generate metallurgical composites, collection of geotechnical data and mineral resource expansion.

Core drilling was completed by Alford Drilling using an LF90 drill rig. HQ core was recovered using a split tube core barrel system to minimize core damage. Holes are monumented using braided steel cable and tag embedded in a concrete pad at the drill hole collar.

7.2.4 Saratoga 2007 – 2008

The focus of Saratoga's drilling campaign was to expand the mineralized body outlined in previous campaigns, provide material for metallurgical testing and future geotechnical studies. The diamond drill program began in 2007, paused over winter and completed in 2008, 35 holes were completed for a total length of 25,462ft (7,760m). Logan Drilling, based in Nova Scotia, Canada, was the drilling contractor, and a Longyear Fly 38 skid rig drilling NQ-size core (4.76cm diameter) was used.

7.2.5 Historical Drilling

There is limited information on drilling and sampling procedures for the ASARCO, Copper King Mining, and the USBM drill programs. The original geology logs are not available although Nevin (1973) provides summary geology logs for all but the ASARCO 1938 drilling and assay sheets for all of these drill programs. The assay sheets include collar coordinate information, bearing and dip of hole, sample intervals and Au, Ag and Cu assay data. Defense Minerals Exploration Administration documents (0647_DMA) include identical logs for the ASARCO which only contain assays and recoveries for ASARCO diamond drill holes A-1 through A-5 and state they were assayed by Federal Mining and Smelting Co Wallace Testing Plant in Wallace, Idaho.

Previous attempts to locate the drill core from ASARCO's, and the U.S. Bureau of Mines ("USBM") drill programs that had been housed at the USBM in Denver were unsuccessful. According to Mountain Lake Resources Inc. (1997), the core from Henrietta's holes was destroyed.

Soule (1955) reported that drilling by the USBM was done by contract and that all three holes were core holes, but no further information was provided in his report.

Henrietta Mines drilled seven rotary holes for a total of 482m and 6 core holes for 666m. Several of the holes were started as rotary and finished as core. Boyles Brothers Drilling Company of Golden, Colorado was the drilling contractor.

Compass Minerals drilled 21 rotary holes and five diamond core holes. Hole CCK-16 was drilled rotary to a depth of 152m and then cored with NX core to a total depth of 341m. Notes on the geologic log indicate the core was split before logging. Hole CCK-19 was cored for its entire length with HQ core. Holes CCK-24 and CCK-25 were both started with RVC drilling, changing to NX core at 136m and, 136m, respectively. Hole CCK-26 was cored completely with NX core. There are no further details about Compass's drilling program.

There are few details on the Caledonia or Mountain Lake drill programs. No drill logs are available for the Caledonia holes; the collar locations were taken from a map. The Caledonia holes ranged from 220ft (65m) to 550ft. (170m) in depth and were intended to confirm the results of prior drilling. A report by Gemcom (1987) describes the Caledonia drilling as spaced 50ft (15m) apart through the mineralization, sampled every 10ft. (3m) and assayed for gold. Gemcom entered and verified the Caledonia drilling data. Drill logs of the Mountain Lake holes are available which do contain collar and drill orientation data. Summary geology from the Mountain Lakes drill holes were entered into the database.

Besides Henrietta's core hole H-1, as mentioned above, has no evidence that any of the other holes drilled on the Copper King property were down-hole surveyed.

There is inherent risk associated with these legacy drilling programs (pre 2007 drilling) with limited available information. These risks are errors in collar location, downhole orientation, assay grade precision and accuracy, and database transcription errors. Comparisons to recent infill drilling continue to support the use of the legacy holes. In order to acknowledge the risk, no legacy holes are used in the classification of measured resources.

7.3 Exploration Work, Non-Drilling

7.3.1 Geophysics

Magnetic and two induced polarization (I.P.) surveys were completed in the early 1970's. The magnetic survey measured vertical intensity using a Jalander instrument on 200ft. (60m) line spacing and stations. Two significant positive anomalies are present. One, about 800ft. (245m) wide and 1,500ft. (460m) long in a northwest direction and a magnitude of 500 gammas above background coincides with the principal mineralization direction. The anomaly is believed to be caused by the presence of magnetite in the mineralized rock.

The initial I.P. survey showed a resistivity high extending northeast through the CK deposit following a trend of thin overburden and chargeability high of 18 ms against a background of 6 ms. The second I.P. survey was by McPhar Geophysics Inc using a Scintrex I.P. R-7 unit over the principal mineralized area. Line spacing was 300 to 800 ft. (90m to 240m). Five north-south lines and two east-west lines were run. Dipole spacing was 200ft. (60m). An anomaly, principally a moderate to shallow metal factor anomaly, was detected trending east-northeast to the principal mineralized area. Both I.P. surveys established that the ore itself does not respond well to I.P. Chargeabilities and frequency effects for the two methods are low and do not duplicate each other as expected.

In 1994, an aeromagnetic survey was conducted on the property for Compass Minerals by Pearson, deRidder & Johnson, Inc. Flight lines were flown at a nominal altitude of 300ft. (90m) above ground level, with north-south lines spaced 660ft. (200m) apart and east-west lines spaced 1320ft. (400m) apart. Several major magnetic trends and features were observed. The primary mineralized area around the Copper King Mine is identified as a magnetic high.

In 1997, Gilmer Geophysics, Inc. supervised and interpreted a ground magnetic survey and a VLF-EM survey. The ground survey was laid out using GPS and total survey technologies with principal directions oriented N33E and N57W. This orientation was chosen in order to cross mapped features at right angles. Line spacing was 200ft (60m) between the N33E lines. Total field ground magnetometer data were obtained using two GEM Systems GSM-19 units used in “walking mag” mode obtaining data every 2 seconds resulting in station spacings of 2ft. to 10ft. (0.5m to 3m) along survey lines. The VLF-EM data was obtained using an IRIS T-VLF instrument.

In June 2017, Magee Geophysical Services, supervised by Jim Wright of Wright Geophysics, completed a ground magnetic survey over the Copper King project. 70 line-miles (113km) of magnetic data were surveyed, using real-time corrected differential GPS and Geometrics Model G-858 magnetometers. Lines were spaced 160ft. (50m) apart and oriented N30E across the project. Magnetometers were mounted on a backpack with data collected every two seconds. Data interpretation by Jim Wright essentially duplicated the 1997 Gilmer survey. A strong magnetic anomaly was demonstrated over the Copper King deposit along with several magnetic anomalies to the east and south of the deposit. A prominent anomaly at the southeast corner of the project, called the Fish Anomaly, was tested by RC drilling in 2017, along with a couple others to the east of the Copper King deposit.

In October 2017, an induced polarization (IP) survey was completed over the Copper King project area by Zonge International and interpreted by Wright Geophysics. A total of eleven lines were completed using a standard 9-electrode dipole-dipole array with a dipole length (a-spacing) of 1,082ft. (330m) as designed by Wright Geophysics. Data were acquired in the time-domain mode using a 0.125 Hz, 50 percent duty-cycle transmitted waveform. Data were acquired along eleven lines oriented north-south. Stations were located using a Garmin hand-held GPS, model GPSMAP 64CSx. The GPS data were differentially corrected in real-time using WAAS corrections. Accuracy of the GPSMAP 60CSx typically ranges from 6ft. to 16ft. (2m to 5m) Line control in the field utilized UTM Zone 13N NAD27 datum. Measurements were made for continuous line-coverage at n-spacing of 1 through 7. Data were acquired in the time-domain mode using a 0.125 Hz, 50 percent duty-cycle transmitted waveform. Chargeability values (IPm) represent the Newmont Window with integration from 450 to 1100 milliseconds after transmitter turnoff. A discussion of the time-domain acquisition program is presented with the digital data release. IP anomalies identified to the west of the Copper King deposit were tested by RC drilling in 2018.

7.3.2 Geochemical

Nevin (1973) reports the results of soil geochemistry. Forty-four soil geochemical samples were taken on 100ft. and 200ft. (30m and 60m) centers in widely separated traverses as a pilot study. All were analyzed for copper and arsenic and some were analyzed for gold, zinc, silver and mercury. Three copper populations were sampled. Absolute background has values of about 20 ppm; a high background population in proximity to the mineralized rock has values of about 500 ppm; four samples taken in thin soil directly over the mineralized rock returned values of more than 1,000 ppm. Gold values appear to be a useful indicator of mineralization. Zinc, silver and arsenic had little contrast between mineralized and unmineralized areas. Mercury was found to have good contrast and was recommended for further investigation.

7.4 Geotechnical Data, Testing and Analysis

Prior to 2020, no previous geotechnical work was completed at the Project. US Gold retained Piteau Associates of Reno, Nevada to design, complete and analyze a geotechnical program that included field outcrop mapping, on-site geotechnical core logging, rock testing and sampling, televiewer data validation and interpretation. Four days were spent reviewing existing drill core and mapping surface outcrops at the CK Gold project. Surface mapping focused on joint and fracture set characterization for integration with sub-surface derived data.

Five geotechnical core holes were completed (CK20-16c to 20c) totaling 4,685 ft (1,428 m). Core from these holes was logged on-site, run by run, in a designed-for-purpose logging trailer by Piteau staff or consultants. Geologists completing the geotechnical logging also completed needed rock characterization testing and selected geomechanical samples for third party testing. Logging parameters included core recovery, hardness, RQD, RMR, fracture frequency, joint condition and angle, degree of breakage and degree of alteration.

Point load index (PLI) testing was completed in the field by Piteau staff on the five geotechnical core holes and two metallurgical holes (CK20-06c and 07c). A total of 1,065 PLI tests were completed on whole core during geotechnical logging.

Geomechanical samples were collected at chosen intervals by Piteau staff during the course of logging. These samples were utilized for characterization of the intact rock strength. 13 samples were collected for uniaxial compressive strength, 15 for triaxial compressive strength, 11 for indirect tensile strength and 25 for discontinuity direct shear testing. Sample testing was completed at the Wood Group, PLC Rock Mechanics Laboratory in Hamilton, Ontario, Canada. In addition, one fault gouge sample from CK20-16c was taken and tested at Golder Associates Geotechnical Laboratory in Denver, Colorado. Piteau Associates integrated the results of this testing into their mine design recommendations.

Piteau Associates also validated, processed and interpreted down-hole televiewer data from 13 holes completed in 2020, including the five geotechnical core holes and holes CK20-01c, 03c, 04cB, 05c to 07c, 09rc and 21c. Initial processing and structure picking was completed by Ken Coleman with US Gold for major faults and contacts, followed by Piteau work for joint and fracture set characterization. As stated previously in Section 7.7, televiewer surveys were completed by either COLOG or DGI Geoscience.

7.5 Hydrogeology

Prior to 2020, no previous hydrogeologic work was completed at the Project. During its 2020 drilling program, US Gold and its consultants Neirbo Hydrogeology and Dahlgren Consulting completed a limited water characterization and hydrogeology program. Several designed for purpose drill holes were completed and data were collected from holes designed primarily for other uses.

Seven water characterization wells (MW-xx series) were drilled and completed in 2020, five by DrillRite Drilling of Spring Creek, Nevada and two by McRady Drilling of Cheyenne, Wyoming. DrillRite drilling was completed using reverse-circulation methods and McRady work was completed using conventional rotary methods. A total of 2,755 ft (840 m) were drilled and completed. Holes were completed as water wells, screened and cased at proper intervals with a locking cover and monuments placed at surface. These wells are checked regularly for water levels and water quality.

Eight core and RC holes designed for metallurgical, resource expansion and geotechnical purposes were also utilized for hydrogeologic purposes. These holes totaled 7,511 ft (2,289 m) and consisted of two metallurgical core holes, one RC resource expansion hole, and five geotechnical core holes. The two metallurgical core holes (CK20-04cB and CK20-06c) were kept open, cased and capped similar to the water characterization wells. These two holes are utilized for water quality sampling and obtaining water levels. Televiewer surveys were completed in these two holes as well to aid in hydrologic and geotechnical studies.

Three geotechnical core holes (CK20-17c, 18c, 19c) and one RC hole (CK20-09rc) had vibrating wire piezometers (VWPs) installed in them. Packer testing was also completed on the core holes, along with televiewer surveys for all. The two remaining geotechnical core holes, CK20-16c and 20c, had only packer testing completed along with televiewer surveys.

Packer testing was completed by Alford Drilling under the supervision of a Neirbo Hydrogeology consultant. VWP installation was completed and supervised by Call & Nicholas, Inc. of Tucson, Arizona. Televiewer surveys were completed by staff of either COLOG or DGI Geoscience at the same time as downhole gyroscopic surveying at the end of drilling each hole. Additional details on the current program are available in Section 13.3.1.

8 Sample Preparation, Analysis and Security

8.1 Sample Preparation

8.1.1 US Gold 2021 – 2017

Ordinarily core was collected by the geologist 4 times per 24-hour shift and returned to the core logging facility. The core processing steps were as follows:

- Core is washed and scrubbed
- Core is aligned in the box to represent the original condition of the core as accurately as possible (i.e. all fractured/broken ends are matched an rotated to fit back together)
- Core is washed and scrubbed again
- Beginning and ending depths are marked on top of the inside core boxes while core dries
- When core is dry we mark it top to bottom with blue and red orientation lines, blue on the left, red on the right, depths are marked and labelled in black on one-foot increments
- Core is logged for recovery, RQD, and fracture frequency per-run, and this information is recorded on the log sheet, along with any structural features significant enough to be recorded at the resolution of the log sheet
- Gross lithology breaks are identified and recorded in the graphic lithology log column
- Core is inspected in greater detail as sample intervals are selected on a nominal 5-foot sample interval within consistent lithologies, and sample breaks on lithologic (or other appropriate, i.e. significant variation in alteration type or intensity) contacts with a minimum sample interval of 1 ft.
- Assay sample intervals are marked in green, with a line perpendicular to the core axis indicating the top and bottom of the interval, and the sample ID marked on the core (if possible) parallel to core axis.
- Sample ID's are scribed on silver sample tags, which are stapled to the core box on the left hand side of the core
- Detailed information is recorded for each sample interval on the core log sheet (rock type, oxidation, alteration, mineralization, sulfide content, mineral content, veins, fracture, etc.
- Magnetic susceptibility meter measurements
- Assay samples are recorded on the assay sample inventory form for the lab. Core boxes in which each assay interval is contained is indicated on the log sheet (sample intervals often cross box boundaries)
- Logged core is transferred from the logging table to the photo station, re-wetted, and photographed
- Photographed core boxes are reunited with their lids and moved either to the back of a waiting truck for transport to the pick-up area at the back of the lot, or to a secondary staging area near the garage entrance to be moved to the back of the lot at a later time.

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8.1.2 CK Gold Bureau Veritas

RC samples collected in 2017 and 2018 were collected on five-foot intervals from the discharge of a rotary splitter attached to the drill. Samples were then delivered to Bureau Veritas lab in Sparks, Nevada for analysis. QAQC samples were prepared and also delivered to Bureau Veritas by US Gold staff.

A red cut line was drawn along the midline of the core by geologist and a blue line which indicates core direction was drawn next to it. The core was sawn by Bureau Veritas in Reno, NV and the half core containing the blue line was sampled. Sample tags were affixed to the inside of each core box and the sample number written on the core. Typically, samples were 5ft. (1.5m) long, broken at lithologic or important geologic feature contacts.

Ordinarily core was collected by the geologist 4 times per 24-hour shift and returned to the core logging facility. The core was housed in the garage of a residential home in Cheyenne, WY or placed in the backyard prior to shipping. Shipping was by a commercial carrier using chain of custody documents and delivered to Bureau Veritas in Reno, NV.

8.1.3 Saratoga

The core from the 2008 drill program was logged in the spring/summer of 2008, contemporaneous with the drilling, though sampling was delayed until fall 2009 due to budgetary constraints.

Saratoga sampled the 2007 and 2008 drill core on approximate 5ft. (1.5m) intervals, although sample intervals did range from 1 to 10ft. (0.3 to 3m) as warranted by the geology. Due to the pervasive alteration and potential for mineralization observed throughout all drill holes, the core was continuously sampled with no gaps in the sample sequence. The samples were collected principally by sawing the core in half, though some intervals, due either to the hardness of the rock or the unavailability of the saw, were split with a hydraulic splitter. In those cases where the sample intervals were fractured and many of the core pieces were too small to either saw or split, the sample technician sampled the core using a trowel, a small shovel, or by hand. One half of the core was bagged and sent for assay, while the remaining half was placed back into the core box and put into storage.

The geologic logging process for the first 15 core holes of the 2007 drill program included core photography and geotechnical rock quality ("RQD") measurements along with structural and lithologic determinations. Missing from the logging process was the recordation of core-recovery data.

For the remaining 2007 core holes and all of the 2008 drill holes, core photography, RQD and core-recovery measurements, geologic logging, and sampling were conducted in an open-sided shed. Some of the core was exposed to the weather due to limited covered space.

The proposed drill hole locations were located in the field by Western Research and Development ("Western"), a professional survey company based out of Cheyenne, Wyoming. Western used a LYCA XLS 1200 GPS survey instrument, which has a <0.5ft (0.15m) accuracy. Upon completion of the drill program, Western returned to the project site and re-surveyed the actual drill collars.

8.1.4 Historical Exploration

According to Soule (1955) and the photocopied data provided to MDA, the ASARCO 1938 core samples were sampled on 5ft (1.52m) intervals while the Copper King core holes were sampled on 10ft (3.1m) intervals. The 1970 ASARCO sampling was variable though most sample lengths were 10ft (3.1m).

Soule's (1955) report briefly described the USBM's sampling procedures. For their three holes, all core and necessary sludge samples were delivered to the USBM's engineer. All core samples were logged and split, with one split half sent to the USBM‟s Salt Lake City laboratory for analysis. Sludge samples were taken when core recovery was less than 85-90%. All sludge samples from holes B-1 and B-2 were saved until the end of the project; most from hole B-1 were analyzed, but only a few from hole B-2 were analyzed. No sludge samples from B-3 were saved because core recovery was generally excellent. The USBM drill holes were sampled on variable length intervals ranging from approximately 3ft to 16ft (1m to 5m) with most sample lengths between 6ft and 10ft (2m and 3m).

Henrietta's drill holes were sampled and assayed on about 10ft (3.1m) intervals for gold and copper and occasionally for silver and acid soluble copper (Nevin, 1973). The core was split with one half sent for assay and the other half stored on site. For the dry intervals of the rotary holes, a box and cyclone in series were used for sampling with splitting by a Jones riffle. Nevin (1973) estimated that about 1 to 2% of the sample was lost as very fine dust. For the wet drilling, cuttings were split in a long, metal sluice box equipped with a longitudinal baffle set to retain about a 10% fraction for assay. Rejects were stored on site.

According to (Clarke, 1987), Caledonia's drill holes were sampled every 3m and assayed for gold, but the historic data included only composite intervals that ranged from 3m to >50m.

The Compass RVC holes were samples on 5ft (1.5m) intervals while the core holes were sampled on 10ft (3.1m) intervals. The Mountain Lake drill holes were all samples on 5ft (1.5m) intervals. MDA has no further information on the Compass or Mountain Lakes drill sampling.

8.2 Analytical Procedures

8.2.1 US Gold 2021 Campaign

For the 2021 drilling campaign Hard Rock Consulting (HRC), sub-contracted through Gustavson, conducted field activities, logging, core sawing and initial sample selection. ALS were selected to conduct assaying and selected samples along with standards and blanks were sent off to the laboratory by HRC. The assay result that will eventually be received will not be incorporated into the 2021 PFS study. The program was initiated to provide additional data to support a feasibility study and included the test necessary for both the hydrological and geotechnical studies. There have been no material findings to date which would support a departure from the finding in the PFS.

8.2.2 US Gold 2017 – 2019 Campaign

2020 samples were logged and sample intervals selected and passed along with cut sheets to Bureau Veritas (BV). BV cut the core and analyzed a sample from the half core, with the other half returned to the core boxes for storage and reference. The retained half core and sample rejects were initially stored in warehouse at BV while assaying was conducted and have been subsequently moved for storage in a facility in Cheyenne near to the Project. During the sample submission process a contract geologist, M. C. Newton, was on hand at the BV facility to receive core, discuss and inspect procedures, on an intermittent basis as part of the chain of custody and QA/QC check procedures.

BV inserted commercial blanks and standard reference materials from cut sheets determined by US Gold. Throughout 2017 - 2020 BV of Reno, NV was the primary laboratory responsible for cutting the core, sampling, preparation and assaying. Some compromises were needed during the 2020 COVID outbreak as access to the BV lab and personnel was restricted. Video and careful consultation with laboratory staff satisfied the role of the consulting geologist in verifying correct handling and procedure was followed.

8.2.3 2007 - 2008 Saratoga Campaign

The Saratoga core samples from the 2007 drill program were shipped to ALS Chemex ("Chemex") in Elko, Nevada for sample preparation and then on to the Chemex facility in Sparks, Nevada, for analysis for gold and a 33-element geochemical suite. Final results were received in December 2009. The Chemex sample preparation and analysis methods requested by Saratoga were "AA23" for gold and "ME-ICP61" for the geochemical suite. Both methods employ the same sample preparation methods, which include crushing the whole sample to 70 percent passing -2mm and then pulverizing 250g to 85 percent less than 75 microns (-200 mesh). The "AA23" gold analysis consists of a splitting out a 30g pulp sample and then using fire assay techniques followed by an AA finish. The detection level for this analysis is 5 ppb Au, while the upper precision level is 10 ppm Au. Samples assaying over 10 ppm are re-assayed using a fire assay with gravimetric finish technique (Chemex lab code "Au-GRA21"), which has an upper precision level of 1,000 ppm Au. The "ME-ICP61" analytical procedure consists of a four-acid digestion and analysis by inductively coupled plasma ("ICP") followed by atomic emission spectroscopy ("AES"). The reported range for copper values using this technique is between 1 and 10,000 ppm Cu. Samples with initial values over 10,000 ppm Cu are re-run using the same analytical techniques optimized for accuracy and precision at high concentrations (Chemex lab code "CU-OG62" with an upper precision of 40 percent Cu).

The core samples from the 2008 drill program were shipped in the fall of 2009 to American Assay Laboratories ("American Assay") in Sparks, Nevada for sample preparation and analysis for gold and copper only. The final results were received in September 2009. The American Assay sample preparation and analysis methods requested by Saratoga were "FA30" for gold and "D2A" for copper. Both methods employ the same sample preparation methods, which include crushing the whole sample to 70 percent passing -2mm and then pulverizing 300g to 85 percent less than 105 microns (-150 mesh). The "FA30" gold analysis consists of a splitting out a 30g pulp sample and then using fire assay techniques. The detection level for this analysis is 3 ppb Au, while the upper precision level is 10 ppm Au. Samples assaying over 10 ppm are re-assayed using a fire assay with gravimetric finish technique (American Assay lab code "Au-GRAV"), which has an upper precision level of 1,000 ppm Au. The "D2A" analytical procedure for copper consists of an aqua regia digestion and analysis by atomic absorption ("AA"). The reported range for copper values using this technique is between 1 and 10,000 ppm Cu. Samples with initial values over 10,000 ppm Cu are re-run using the same analytical techniques optimized for accuracy and precision at high concentrations (lab code "Cu Ore Grade") with an upper precision of 40 percent Cu.

After completion of analyses and temporary storage at Chemex, all of the pulps and selected coarse reject samples from mineralized intervals were retrieved by Saratoga and are currently in storage in Elko, Nevada.

The drill crew, upon filling a core box, placed a wooden top over the core, and the box was secured using strapping tape. At the end of each drill shift, the core was transported by the drill crew into Cheyenne, WY, a distance of about 20 miles (32km), and placed in a locked commercial storage unit. The storage unit is located within a secure, gated facility. About once per week, the core was transported on a trailer to the logging and sampling facility in Casper, Wyoming, a distance of 200 miles (320km).

Logging and sampling of the first 13 core holes drilled in 2007 were completed in a large, converted garage located on leased private property outside of Casper, Wyoming. The property was fenced off and kept securely locked when personnel were not on-site. After being logged and sampled, the remaining half-core was placed in a locked storage unit within a secure, commercial storage facility in Casper.

Saratoga's lease on the Casper logging facility ended on August 31, 2007, and the remaining 2007 core holes were transported 200 miles (320km) to Dubois, Wyoming, for storage and further core processing. Sampling was conducted within in an open-sided ranch shed on private property owned by Norm Burmeister, an officer with Saratoga. The core facility was within a fenced area. After sampling was complete, the core was transported to a commercial storage facility and stored on racks in a locked storage unit. These same procedures were used for the 2008 drilling.

The half-core samples to be shipped to the lab were given non-referential sample ID numbers. The individual bagged samples were placed into larger shipping bags, which were securely closed using heavy wire ties and kept inside the logging facility awaiting shipment via a commercial trucking company to Chemex in 2007 and Chemex and American Assay in 2008.

8.2.4 Legacy Campaigns

Very little is known about the sample preparation, assaying and analytical procedures of the sampling at the CK project except as described below. A table summarizing pre-1998 drilling on the property (Mountain Lake Resources Inc., 1997) gives detection limits for gold and copper assays for six of the drill campaigns. For both the 1938 and 1970 assays by ASARCO, the detection limits were 0.001oz Au/ton (0.034g Au/t) and 0.01% Cu (Mountain Lake Resources Inc., 1997). For Copper King Mining's assays, the detection limit for gold was 0.01oz Au/ton (0.343g Au/t), and the detection limit for copper was thought to be 0.10% (Mountain Lake Resources Inc., 1997).

For the three holes drilled by the USBM, analysis was done by the USBM's Salt Lake City laboratory (Soule, 1955). The detection limits were 0.005oz Au/ton (0.171g Au/t) and 0.05% Cu as indicated by Mountain Lake Resources Inc. (1997). The USBM also prepared composite samples of the core from their three holes and analyzed them for molybdenum, tungsten, nickel, and for most of them, titanium. In addition, the USBM ran multi-element spectrographic analyses on five composite samples from hole B-1, and Copper King Mining ran the same on five composite samples from hole C-7 and one sample from hole C-8; results of these spectrographic analyses are reported in Soule (1955).

Assaying of Henrietta samples was conducted by Skyline Laboratories Inc. and Hazen Research Inc., both of Denver, Colorado (Nevin, 1973). The detection limits for the gold and copper assays were 0.005oz Au/ton (0.171g Au/t) and possibly 0.001% Cu (Mountain Lake Resources Inc., 1997).

Little information exists regarding Caledonia's drill program other than that drill samples were only assayed for gold (Clarke, 1987).

MDA (2010) found assay certificates for Compass holes CCK-19 and CCK-24 that showed the assays were performed by Barringer Laboratories Inc., in Reno, Nevada, using fire assay with an atomic absorption ("AA") finish for gold and AA for copper. It was not evident from the data reviewed by MDA whether Barringer assayed all of Compass's holes. The detection limits for Compass's assays were 2 ppb gold and 5 ppm copper (Mountain Lake Resources Inc., 1997).

Assaying of the samples for Mountain Lake was performed by Barringer Laboratories Inc. in Reno, Nevada. MDA has seen no assay certificates for Mountain Lake's drill holes but did find a spreadsheet with the assays, which were entered into the database for Mountain Lake's eight drill holes. The detection limits were 2 ppb gold and 5 ppm copper (Mountain Lake Resources Inc., 1997). Metallurgical testing of bulk composite samples from holes MLRM-1 and MLRM-2 was conducted by the Colorado Minerals Research Institute of Golden, Colorado.

8.3 Results, QC Procedures and QA Actions

8.3.1 US Gold 2021 Campaign

As described above, the data emanating from the 2021 drilling program that commenced in August 2021 was not in-hand in time to support the PFS study which relies on 2020 and historical data. The purpose of the 2021 data collection is to support further study toward a feasibility study for completion in 2022. However, there have been no material observations which would affect the PFS study as written.

8.3.2 US Gold 2017 – 2020

US Gold's QA/QC program implemented for the 2017, 2018 and 2020 drilling campaigns included the analysis of CRMs, blanks, coarse reject and pulp duplicates were inserted regularly into the sample stream, and a random selection of samples from mineralized intervals were submitted to an umpire laboratory.

US Gold geologists evaluated the control sample results and when control samples returned values outside of acceptable limits, the assay laboratory was contacted and the batch of samples was reassayed.

Gustavson compiled and reviewed the 2020 control sample results and found assay accuracy and precision to be acceptable for purposes of resource estimation. No significant bias was observed in the CRM results for gold, copper or silver. Check assays showed no significant bias between Bureau Veritas original assays and ALS check assays. No significant carryover contamination was observed in the blank results.

Three standards were used for the 2020 drilling program, CDN-CM-43 and CDN-CM-38 from CDN Resource Laboratories Ltd., and MEG-Au.17.01 and MEG-Au.17.10 from MEG, Inc. The recommended values and standard deviations for Au, Cu and Ag are found in Table 8-1.

Table 8-1 Sample Standards

Standards	g Au/t	Au_2SD	% Cu	Cu_2SD	g Ag/t	Ag_2SD
CDN-CM-38	0.942	±0.072	0.686	±0.032	6.0	±0.4
CDN-CM-43	0.309	±0.040	0.233	±0.012	-	-
MEG-Au.17.1	0.382	±0.015	0.0723	±0.0019	6.525	±0.203
MEG-Blank.17.10	<0.003	-	0.00015	-	0.9	

A commercial 99% quartz sand standard MEG-Blank.17.10 was used during the 2020 drilling campaign. Results are reasonable and blank assays results exceed 90% less than two times the detection limit of .005ppm gold. The blank has a reported average of less than 0.003g/t. The same blank has a reported average of 1.5ppm copper and although not a blank, it showed carryover on 5 occasions but well below any economic consideration. Silver was below detection 100% of the time. The blank samples demonstrate that the laboratory has reasonable control over sample cross contamination.

Duplicate pulp performance of 64 pairs greater than 5 times the gold detection limit exceeded 90% of the pairs being within a grade difference of 5%. Duplicate pulp performance of 64 pairs greater than 5 times the gold detection limit exceeded 90% of the pairs being within a grade difference of 5%. These results are reasonable.

A subset of 110 randomly selected samples collected during the 2020 drilling campaign were submitted to ALS for umpire assay analysis. The paired Au and Cu data were analyzed and found to agree with the ALS checks. The correlation coefficient (r) of the raw data is 0.97 for Au, Figure 8-1, and 0.997 for Cu, Figure 8-2.

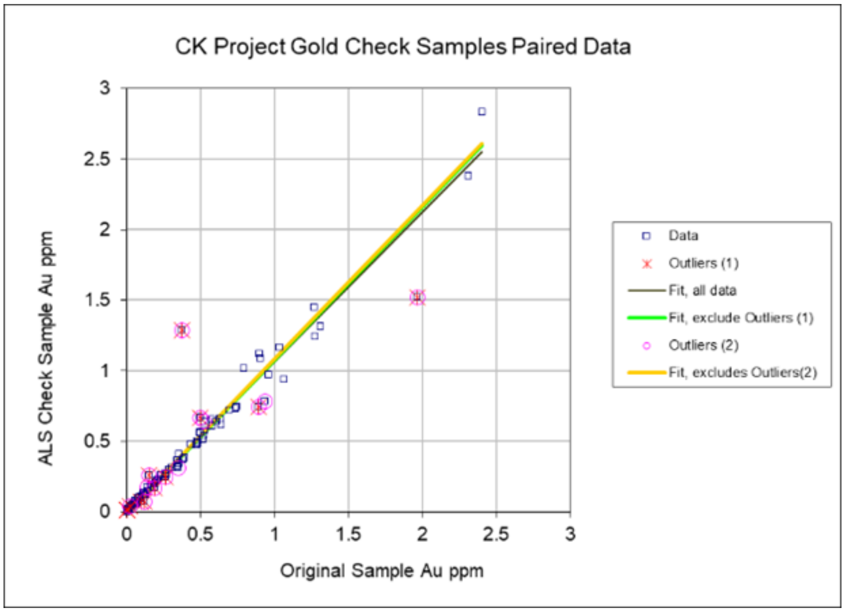


Figure 8-1 Umpire Analysis Au Correlation

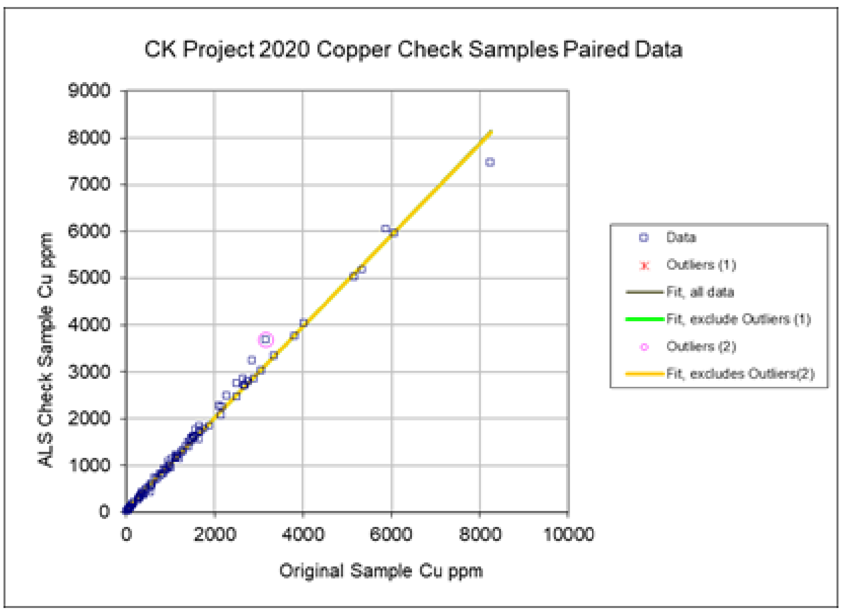


Figure 8-2 Umpire Analysis Cu Correlation

8.3.3 2007 – 2008 Saratoga

Details on QA/QC programs for the 2007 and 2008 drill campaigns can be found in Tietz (2010) Saratoga's QA/QC program implemented for the 2007 and 2008 drilling included 1) analytical standards and blanks inserted into the drill-sample stream, 2) duplicate assaying of selected coarse-reject samples by the primary assay laboratory, and 3) re-assaying of selected original pulps by an umpire laboratory. American Assay was used as the umpire laboratory for the 2007 drill program in which Chemex was the primary laboratory, while the roles were reversed for the 2008 drilling.

A total of 169 standard samples were submitted to Chemex and American Assay. One standard sample was inserted into the sample stream at an approximate rate of one standard for every 40 drill samples. Standards were also used in the duplicate pulp and pulp re-assay check assay programs at a higher rate, ranging from one standard per 10 to one standard per 25 samples. Five unique analytical standards were used. The standards were inserted into the drill core sample stream with the same sample ID designation, though as pulps they were not blind to the lab.

Tietz found that the check assay analyses show good agreement between the Chemex duplicate pulp analyses on the original Chemex coarse rejects and also between the Chemex pulp re-assays of the original American Assay samples. No significant biases or assay variability issues were found within these data. There are concerns, primarily within the copper analyses, with the December 2009 American Assay pulp duplicate and pulp re-assay check analyses. Further examination and follow-up analytical work is warranted to determine the specific problem within these data though any resolution of these issues would not materially affect the resource model or stated resource.

8.4 Opinion of Adequacy

The QP believe that the procedures used in the sampling are adequate for mineral estimation purposes and reporting of mineral resources and reserves.

9 Data Verification

9.1 Procedures

Site visits by the Qualified Persons (QP) authoring this report were conducted at various times during the 2020-2021 exploration campaign and pre-feasibility study. The project site, and geology office in Cheyenne was visited.

At the project site, drill pads were observed from the 2020 drilling campaign, collar locations were clearly marked. Surface geology was observed, obvious mineralization was observed in and around the disturbed rock at several of the drill pads which is consistent with the current geologic interpretation of the project.

At the geologic office, QP observed core storage area, historic core storage area and the core processing and logging facility.

Hard Rock Consulting performed a re-logging of core logged from the 2017 and 2018 campaigns. Thus further validating current geological observations and notations with previous work.

Verification samples were not collected. Drilling and sampling conditions were observed to be consistent with industry standards.

9.2 Previous Audits/Owners

9.2.1 Saratoga 2007 – 2008

Data verification of exploration activities before 2007 is not well documented, with no independent verification of the exploration, sampling or laboratory procedures.

Drilling data from the 2007-2008 Saratoga drill programs was directly input from original sources. The original collar survey data files and the down hole survey driller’s note books had been provided by Saratoga, while the assay data were digital data direct from the laboratories. After compiling, these data were audited against the original sources by randomly checking values and specifically checking down hole survey data that appeared anomalous. Six individual down hole surveys were removed from the database due either to uncertain depths or atypical azimuth values. In all cases, the atypical azimuth values coincided with anomalously high magnetic field readings.

9.2.2 Historical Drilling

There was virtually no original historic data available to audit the database. Gustavson did verify the drill-hole locations and values of those samples from ASARCO’s holes A-1 through A-5, Copper King’s holes C-6 through C-11, and the USBM’s holes B-1 through B-3 by crosschecking values in the database with those reported in Soule (1955), but no original assay certificates were available for these or any other drill holes except Compass’s holes CCK-19 and the cored portion of CCK-24. Gustavson verified the assay values in the database for Compass’s holes CCK-19 and CCK-24 by crosschecking the values in the database with those shown on the assay certificates, and no errors were found. Gustavson verified gold values for the best gold intercepts in the holes drilled by Henrietta by crosschecking assays included on geologic logs against values in the database. Gustavson did find spreadsheets with assays said to be from Barringer Labs for Mountain Lake's eight drill holes and confirmed their values in the drilling database.

In 1996, Mountain Lake ran check assays on selected mineralized intervals from 12 of Compass's holes. The check analyses were conducted by Barringer Laboratories, Inc. Gold was analyzed by fire assay with an AA finish, and copper was analyzed by AA. A preliminary evaluation of the Mountain Lake check assay results by MDA in 2006 indicated general agreement between the original and the check assay Au values. The mean grades of gold and copper for the original and check assays are as follows: 3.46g Au/t and 0.465% Cu and 3.29g Au/t and 0.570% Cu, respectively. The absolute percent difference between the 185 check assays and originals averaged 16% with a standard deviation of those absolute differences of 29%. Of the 20 check sample assays that showed a 30% (one standard deviation) or greater difference from the original assay, 14 were in the lower half of the grade range (<3.36g Au/t) indicating greater variability within the lower-grade mineralization. In non-absolute terms, the average difference between the check and original assays was -1%.

9.3 Data Adequacy

Gustavson considers that the drill data are generally adequate for resource estimation. There are no additional limitations to the exploration data, analysis or exploration database for use in Resource modeling and declaration of mineral resources and reserves.

10 Mineral Processing and Metallurgical Testing

This section was prepared by John Wells, (henceforth 'Wells'), an Independent Consulting Metallurgist and qualified person. The full report produced by Wells contains some appendences referenced in this Section but are not included in this TRS, see Section 10.8 and Section 24. Many test work programs were carried out prior to this PFS, including the 2008-2010 test work at SGS. Although Wells was not involved with that work, he has reviewed the reports and generally concurs with the conclusions. This work is summarized in the Metallurgical Appendices and References. In 2020, US Gold carried out a drilling program to generate sufficient material for a new test work program, that commenced in December 2020 at Kappes, Cassiday and Associates (KCA) Laboratory in Reno, Nevada. Additional test work was carried out at Base Metals Laboratory (BML) in Kamloops, Canada between May and November 2021. Wells has been actively involved in this work. Section 10.2 of this PFS Study describes and discusses this 2020-2021 drilling and test work program.

Engineering design of the process plant commenced in January 2021. It was initially decided to base this principally on the 2008-2010 SGS test work. However, results from the 2021 test work have been incorporated, that has allowed completion of the PFS by year end. The principal areas where new work has been used are comminution, (using Hazen results), tailings thickening and filtration, (Pocock Industrial results) and open-circuit and locked cycle tests at BML.

10.1 2020 – 2021 Test Work

10.1.1 Introduction

During 2020, US Gold carried out a major drilling campaign, that included seven (1-7) holes specifically to provide core for metallurgical test work. These holes provided 4,652 feet of mineralization and 1,100 sample intervals. This core was delivered to Bureau Veritas Analytical in Reno, where it was sawn, to provide material for both assay and metallurgical test work. Following receipt of the assay data and an inspection of the core by US Gold personnel and Wells, three (3) major composites were prepared as follows:

- Composite 1. 300kg of High-grade Oxide, Upper Zone, Hole4 (5.1 g/t Au, 0.98% Cu).
- Composite 2. 200kg of Overall Oxide Zone from Holes 1-3 and 5-7 (1.2 g/t Au, 0.3% Cu).
- Composite 3. 200kg of Overall Sulfide Zone from Holes 1-7 (1.1 g/t Au, 0.3% Cu). Note, this composite included the small amount of material identified as "mixed", that exists between the oxide and sulfide zones.

A second Sulfide composite was provided to Base Metals Laboratory in June 2021.

The high-grade oxide half-core was sent to KCA Laboratory in November 2020, also in Reno. Assaying of the other holes continued through January 2021 and the half-core was delivered to KCA in February 2021.

From previous test work reports, US Gold and Wells were able to develop a good understanding of the Project material. It was anticipated that flotation of the Sulfide would be conventional, but that more work was required to optimize the treatment of the Oxide material and this this was initially given priority.

From visual inspection of the high-grade oxide core, it was evident that significant copper was present as native copper, much of which was coarse grained. Thus, the testing program on high-grade oxide commenced on the basis of using both gravity and flotation.

The initial test work on the High-Grade Oxide composite produced recoveries and concentrate grades that exceeded expectations, based upon the SGS results. However, during April 2021 it became apparent that KCA were unable to reproduce the SGS results on the Oxide and Sulfide composites. As a result, a second test program was initiated at Base Metals Laboratory in Kamloops, Canada. Their work was immediately able to duplicate and later improve upon the SGS results.

10.1.2 Metallurgical Test Work, Summary and Objectives

The metallurgical test work commenced in December 2020 and continued through the third quarter of 2021. The PFS initially used the SGS test work as its basis, however this was continually updated and revised as new data from the 2020-2021 program became available. The main objectives of the program were:

- Confirmation of, and where possible to improve the results of the SGS test work.
- To find a process that would improve upon the SGS results, (specifically gold and copper recovery and concentrate grade) for the Oxide and Sulfide Zones.
- In general, to complete sufficient work to support a PFS and increase confidence in the results.

This work included:

- Mineralogy to better understand the deposit, especially the non-sulfide minerals and native copper, as well as the deportment of the gold.
- Optimization of the primary grind and re-grind.
- A more thorough investigation of flotation conditions and reagents.
- Variability work, to ascertain the impact of depth, area, lithology and grade. Fifty (50) variability samples were selected. Some preliminary work was carried out in the third quarter of 2021 at BML. This work will provide data for the Feasibility Study to develop geo-metallurgical models.
- A more detailed evaluation of gravity recovery. The SGS test work had not been successful in producing a gravity concentrate. However, SGS concluded that this required more work. Observation of the new core showed significant visually observable native copper in the high-grade oxide and the recovery of this might justify the inclusion of gravity in the flowsheet.

10.1.3 Composite 1. High Grade Oxide, Upper Zone, Hole 4

Hole 4, located in the central part of the deposit, see Figure 10.1, has an oxide zone, approximately 80ft. deep, with average grades of 5.1 g/t Au, 0.98% Cu and less than 0.1% S, (assays of individual core sections). All of the half core, plus some assay reject material, was used to provide 600lb of sample required for Composite 1 test work. Below 80ft, the gold and copper grades remained high, but the sulfur grade increases to an average of 0.5% S.

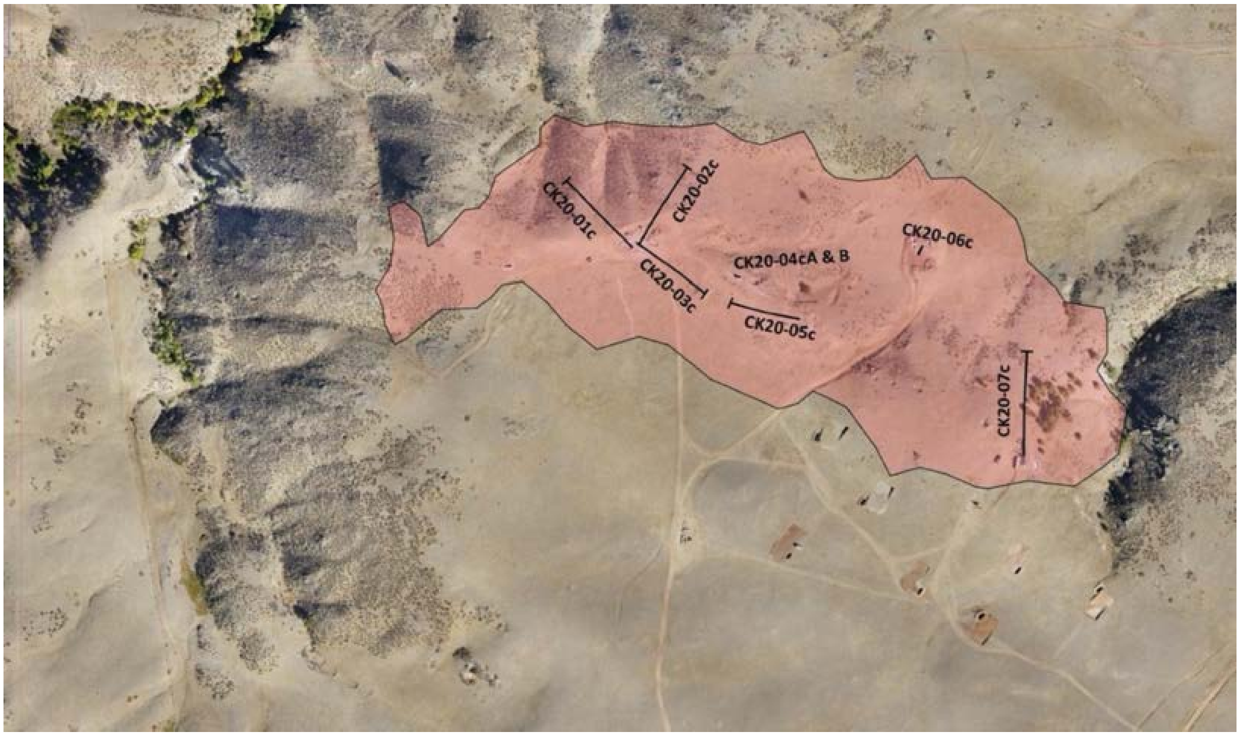


Figure 10-1 Location of Metallurgical Holes, highlighted area represents approximate mineralized area

The half core and assay reject material was crushed and blended to provide the Composite. Prior to crushing, some half core was collected as a sub-sample and sent to Hazen Research in Denver, for comminution test work, summarized in Table 10-1.

Table 10-1 Comminution Test work Results

Parameter	Value
A x b	37
Bond ball mill wi	14 kWh/t (12.7 kWh/st)
SG	2.6
SAG circuit specific energy	10.1 kWh/t (9.2 kWh/st)

10.1.4 Gravity and Flotation Test Work High Grade Oxide, (KCA)

One of the issues identified by SGS was to determine whether gravity might be of value in increasing overall recovery of copper and gold. Thus, at the outset of test work, a gravity test using a bench scale Knelson centrifugal concentrator was carried out on a 40 lb sample. This produced a gravity concentrate with a weight recovery of 1.6%, containing 51.5 g/t Au and 14.6% Cu, with recoveries of 15.4% Au and 22.7% Cu. The gravity tailings were stored for later flotation test work, (in order to ascertain combined recoveries to a gravity and a flotation concentrate).

A number of samples were then prepared from the composite for flotation test work. Over twenty flotation tests were carried out, investigating:

- Grind Size, p80.

- Reagent suites, (types and addition rates).
- Pulp pH and pH modifier, (CaO and Soda Ash).
- Sulfidization (using NaSH).

These results are reported in the KCA Report, Copper King Test work for US Gold, dated July 2021.

The results consistently show copper recoveries of 55-60% and gold recoveries of 65-70% to the rougher concentrates. Test 90134 gave a gold recovery of 70% with a low pH of 9.0 using high reagent consumption and these test conditions were applied to the cleaner flotation test work, Table 10-2.

Table 10-2 Rougher Flotation Test 90134, (KCA)

Parameter	Value
P80	106µ
pH	9.0
CaO	153 g/tonne
NaSH	
F507 (frother)	31 g/tonne
PAX	75 g/tonne
407	50 g/tonne

Test 90134 achieved gold and copper recoveries of 70% and 57% respectively. Reagent addition was high.

Another of the issues that required further investigation was mineralogy. Head and Tailings samples from rougher flotation, plus the tailings from the gravity plus flotation test were provided to the FLSmidth company in Salt Lake City for mineralogical evaluation. From Quemscan analysis, many copper minerals were identified, shown in Table 10-3.

Table 10-3 Mineralogical Analysis of Head and Tailings Samples

Mineral	Potential for recovery	Head	90131 Tails (G+F)
Native Copper	Y	0.346	0.001
Cuprite	Y	0.012	0.000
Chalcopyrite	Y	0.086	0.001
Bornite	Y	0.041	0.000
Chalcocite	Y	0.198	0.003
Covellite	Y	0.004	0.000
Cu/As/Sb sulfides	Y	0.002	0.000
Cu bearing clays	N	0.024	0.022
Cu / chlorite	N	0.005	0.007
Cu / biotite	N	0.004	0.003
Cu / muscovite	N	0.009	0.007
Cu wad	N	0.001	0.001
Fe oxides	N	0.158	0.174
Fe oxide / chrysocolla	N	0.018	0.025
Chrysocolla	N	0.179	0.192
Other copper	N	0.010	0.009
Total		1.049	0.445

This analysis provides an excellent understanding of the oxide mineralogy. It illustrates that the best copper recovery by gravity and flotation would be about 60%, which is close to the actual test results.

Flotation test work was carried out on the gravity tailings, to determine if a Gravity plus Flotation circuit would provide better recoveries than by flotation alone. The results of this work are summarized in Table 10-4.

Table 10-4 Gravity (G) + Flotation (F) v. Flotation Only, (KCA)

Circuit	G+F	F
Gravity Concentrate	15.5 g/t Au	-
	14.6% Cu	-
Recovery to Gravity Concentrate	15.4% Au	-
	22.7% Cu	
Overall Recovery		
Gold	70%	70%
Copper	60%	57%

The gravity test yielded recoveries of 15.4% gold and 22.7% copper. It was thought that this would generate higher recoveries for a gravity + flotation circuit. However, the gold recovery (at 70%) was the same. It is concluded that gold recovered by gravity would be recovered in the flotation circuit. The increase in copper recovery was 3%.

At the outset of engineering, a gravity circuit (one centrifugal concentrator and two tables) was included in the comminution flowsheet. However, test work on the oxide and sulfide composites showed no benefit from gravity concentration. Also, as the geological work continued, it became apparent that this high-grade oxide comprised less than 1% of the deposit. Thus, a gravity circuit has been excluded from the flowsheet.

Two cyanidation tests were carried out at two cyanide strengths, on the test 90139 tailings. These resulted in around 70% extraction of gold, with relatively low reagent consumption, as shown in Table 10-5.

Table 10-5 Cyanidation of Flotation Tailings, (KCA)

Test	P80	NaCN g/t	Head g/t Au	Extraction	Leach Time (h)	NaCN consumption Kg/t	$Ca(OH)_2$ Kg/t	Estimated extraction %
90139A	87	1.0	1.92	1.32	24	0.88	0.60	69
90139B	85	1.0	1.56	1.00	24	1.06	0.60	70
90139A	87	5.0	1.92	1.22	24	1.46	0.60	64
90139B	85	5.0	1.56	1.14	24	1.67	0.60	73

10.1.5 Cleaner Flotation (KCA)

Cleaner flotation tests commenced in mid-February and used the optimized rougher flotation conditions achieved in Test 90134, Table 10-2. A total of twelve (12) cleaner tests were carried out, investigating the regrind p80 and a variety of reagents and addition rates. The optimized result was obtained in test 90160 which was repeated to confirm the result. The results are shown in Table 10-6.

Table 10-6 Cleaner Flotation p80-86u, Regrind p80-20u, pH-9.0, KCA

Test	Ro Recovery	Cleaner 1		Cleaner 2	
	% Au	g/tonne Au	% Recovery	g/tonne Au	% Recovery
90160	72	140	69	185	68
90161	72	121	69	188	68

The rougher reagent suite used in this test is shown in Table 10-2. Reagents CMC and Na2SiO3 and NaSH were not found to be of benefit. The only reagent used in cleaning was a small frother addition. The grade of the second cleaner concentrate was 25% Cu, 185 g/t Au and 90 g/t Ag. Recovery to this concentrate was 53% Cu, 72% Au and 35% Ag.

10.1.6 Locked Cycle Test on High-Grade Oxide Composite, (KCA)

Based on the results of Test 90160, an unsuccessful locked cycle test (LCT) was carried out

at KCA. The test was unable to produce a copper concentrate of 20%Cu. As a result, open circuit rougher and cleaner tests and an LCT were carried out by the Base Metals Laboratory in Kamloops, Canada. These tests achieved concentrate grades in excess of 30% copper, containing over 500g/t Au and 300 g/t

Ag. These are discussed in Section 10.1.8 and summarized in Table 10-7. Analysis of the KCA test indicated that the most likely reason for the failure of their LCT was the addition of too much collector reagent, resulting in over-promotion and a subsequent inability to reject low grade middlings.

BML generally used 20-25% of the collector reagent used at KCA (i.e., “starvation” addition). As a result, samples were transferred to BML for the remainder of the test work program.

10.1.7 Tailings, Thickening and Filtration Test Work, (Pocock)

A sample of tailings from the Locked Cycle Test was provided to Pocock Industrial Inc, in Salt Lake City. Pocock are specialists in liquid-solids separation technology and testing. Their scope of work was to investigate flocculants, gravity sedimentation, pulp rheology, vacuum and pressure filtration. The reader is referred to their reports, available from U.S. Gold. The objective of this test work was to provide the necessary data that could be used in the selection and sizing of the tailings thickener and filters.

Pocock carried out a sizing of the tailings and established the p80 to be 65 µm. This is much finer than the primary grind used at KCA of 86 µm but is explained to some extent by the inclusion of the reground cleaner tailings.

Initial work focused on screening of potential flocculants. An anionic polyacrylamide was found to be suitable for overflow clarity, decantation rate and underflow slurry viscosity. The determination of pulp rheology allows calculation of the shear stress and shear rate.

Two test methods were used for settling, (thickening), namely static tests in 2L cylinders and dynamic tests in a bench scale continuous unit. Pocock conclude that a conservatively sized hi-rate thickener, using 55-60 g/t flocculant, with a heavy-duty rake mechanism and adequate feedwell dilution will be appropriate for Copper King, producing an underflow slurry density of 62% solids.

Pocock investigated both vacuum and pressure filtration. The vacuum tests produced filter cakes with over 20% moisture. The pressure filtration tests achieved cakes with 12.8% moisture and on this basis plate and frame filters are recommended for Copper King.

10.1.8 High-Grade Oxide Test Work at Base Metals Laboratory, (BML)

On receipt of the composite samples, BML initially carried out an open circuit rougher-cleaner test. BML reduced the collector additions to "starvation" levels as compared to the KCA tests. This increased the concentrate grade to over 60% copper. These test conditions were then applied to an LCT test. The results are shown in Table 10-7.

Table 10-7 Open Circuit and Locked Cycle Test on High-Grade Oxide, (BML)

Open Circuit Test	P80 Primary Grind: **90µm**; p80 regrind: **20µm**; grind time: **20min**; collector addition: **8 g/t PAX & 10 g/t 208**; Frother addition: **21 g/t MIBC**			
	% Cu	g/t Au	Recovery Cu	Recovery Au
Product 1	62.2	1416	12.9	49.9
Product 1-2	26.7	525	16.4	54.7
Product 1-3	35.7	403	31.8	60.5
Product 1-4	13.5	145	34.1	62.3
Locked Cycle Test	P80 Primary Grind: **90µm**; p80 regrind: **26µm**; grind time **17min**; collector addition: **55 g/t PAX & 30 g/t 208**; Frother addition: **28 g/t MIBC**			
	% Cu	g/t Au	Recovery Cu	Recovery Au
Cycles D+E	63.4	587	38.8	61.0
Met Balance, Cycle 5	64.8	566	39.7	64.0

Silver recovery for cycles D+E was 70% to the concentrate at a grade of 359 g/t Ag and recovery to Cycle 5 was 74%.

Significant coarse native copper was visually observed in flotation. As a result, the LCT tailings were subjected to a gravity test. The results are shown in Table 10-8.

Table 10-8 Gravity Test on High-Grade Oxide LCT Tailings, (BML)

	%Wt	**%Cu**	**g/t Au**	**Recovery %Cu**	**Recovery %Au**
Pan Conc.	1.0	5.74	23.4	10.4	9.1
Pan Tails	2.8	0.54	4.2	2.6	4.3
Knelson Tails	96.2	0.52	2.4	87.0	86.6

As these numbers are recovery from the LCT tailings, and not overall recoveries, the contribution to overall recovery is calculated to be 6% copper and 3.5% gold. BML reported that the majority of the gangue material in the pan concentrate is magnetite. As discussed earlier, gravity has been eliminated from the flowsheet.

10.2 Composite 2, Overall Oxide, (prepared using core from holes 1,2,3,5,6 and 7)

Samples were selected from six (6) holes to make up the overall Oxide Composite. All the samples had sulfur assays less than 0.1%S. Gold grades ranged between 0.5 and 1.5 g/t Au. Copper grades ranged between 0.2 and 0.5% Cu. The average grade of the composite was 1.2 g/t Au and 0.3% Cu. In addition, 24 variability samples were selected, representing different grades, depths and lithologies.

The objective was to test the main composite and apply the results to the PFS. Testing of the variability samples, (which were placed in freezer storage until required), commenced during the 3rd quarter 2021 and the results will be used to develop geo-metallurgical models for use in the Feasibility Study.

The selected half-core samples were crushed and blended to form the composite. Sub-samples of half-core were sent to Hazen Research in Denver for comminution test work. The Bwi value was 13.3 kWh/st and the Axb value was 33.3. The results of the Hazen work are shown in Table 10-9.

Table 10-9 Comminution Test Work Results, Oxide Composite

Parameter	Value
A x b	37
Bond ball mill wi	14 kWh/t (12.7 kWh/st)
SG	2.6
SAG circuit specific energy	10.1 kWh/t (9.2 kWh/st)

Seven (7) oxide, variability samples were subjected to “HIT” tests at BML in September 2021. The Axb values varied from 24.6 to 45.6 with an average of 33.0, which is similar to the Hazen value.

10.2.1 Mineralogy

Comments on Mineralogy:

- Mineralogy was carried out on tailings, concentrate and feed samples at FLSmidth in Salt Lake City.
- With the relatively low pyrite component, Copper King tailings are not expected to be acid generating. The tailings also include acid consumers, such as calcite, (which accounts for most of the carbonates), biotite and chlorite.
- This provides a comprehensive and clear identification of the copper mineralogy, for all three composites. The mineralogy indicates the probable limits for copper recovery and the need for fine primary and re-grinding.
- In previous work the gold deportment was not identified or understood. This current evaluation has provided excellent data on gold and to some extent silver (electrum) mineralogy. The gold is very fine grained, most being less than 10-20µm. However, it is quite well liberated and is primarily not associated with copper minerals, but located on grain boundaries, as gold or electrum. Gold association with pyrite appears minor.
- Although the copper minerals and the gold/silver are fine grained, they are generally well liberated. Thus, the mineralogy suggests that a somewhat coarser grind than tested (+/- 90µm) may be possible, Section 10.4. The conclusion is that the possible loss of revenue would offset the savings in grinding expenditure and the primary grind p80 should be maintained at 90µm. However, some optimization can be evaluated during the Feasibility study.
- Additional details can be found in the full Metallurgical Testing report.

10.2.2 Gravity and Flotation Test Work, Oxide Composite (KCA)

Both mineralogy and visual inspection of the core indicated that there was much less coarse native copper in the Oxide material than in the High-Grade Oxide. None the less, enough was observed to justify a scoping test to investigate gravity. The results showed no benefit with gravity concentration for the oxide.

A series of ten rougher flotation tests were carried out, investigating p80 of the primary grind, pulp pH and reagent suites, (type and addition rate). The best results were achieved in Test 90170, and these are summarized in Table 10-10.

Table 10-10 Rougher Flotation (Test 90170, KCA)

Parameter	Value
p80	86µm
pH	9.0
CaO	130 g/t
Frother	56 g/t
Collector, PAX; 407	76; 50 g/t
% wt to rougher concentrate	7.0
Gold Recovery	61%
Silver Recovery	18%
Copper Recovery	21%

The low recovery of copper reflects the copper mineralogy, (high content of non-floating copper minerals such as chrysocolla).

A series of cleaner tests were carried out with regrind p80 of 20 µm, a coarser regrind, and no regrind, Table 10-11. These tests also investigated cleaner pH and various reagent suites, particularly gangue depressants. They were carried out throughout April 2021, with the objective of producing a saleable concentrate grade, without unduly sacrificing recovery.

These cleaner tests were not successful. It was subsequently established that the collector additions to the rougher flotation were too high, leading to over-promotion.

KCA decreased the collector addition and an immediate improvement was achieved in flotation results. With this reduced collector, the need for Na_2SiO_3, Dextrin and CMC was eliminated.

Table 10-11 Oxide Composite Cleaner Flotation, (KCA)

Parameter	Test 1
Grind p80, primary grind & Regrind	90/40 µm
Total PAX, g/t	14g/t
Total 208, g/t	16g/t
Conc Grade, %Cu	8%
Conc Grade, g/t Au	188g/t
Conc Grade, g/t Ag	87g/t
Recovery Cu	7%
Recovery Au	48%
Recovery Ag	12%

At the end of April 2021, the highest Copper concentrate grade achieved in the cleaner tests at KCA for Oxide was 8% Cu, significantly less than the 15% Cu achieved at SGS. The best grade for sulfide, (see 10.2.14) was less than 20% Cu. As a result, US Gold sent 30 kg of all three composites to Base Metals Laboratory in Kamloops Canada for cleaner flotation and Locked Cycle tests. This work commenced in the last week of April 2021.

10.2.3 Other Test Work on the Oxide Composite

Samples of oxide composite flotation tailings will be sent to Pocock in the second half of 2021 after completion of the LCT flotation tests. The results will be incorporated into the Feasibility Study.

10.2.4 Oxide Composite Test Work at Base Metals Laboratory, (BML)

BML received 30 kg of the Oxide Composite in April 2021. They conducted an open circuit flotation test and an LCT. These are summarized in Table 10-12 below.

Table 10-12 Open Circuit and Locked Cycle Tests on Oxide, (BML)

Open Circuit Test	P80 Primary Grind: **90u**; p80 regrind: **20u**; grind time: **20min**; collector addition: **13 g/t PAX & 13 g/t 208**; Frother addition: **21 g/t MIBC**			
	% Cu	g/tonne Au	Recovery Cu	Recovery Au
Product 1	25.3	1,232	4.8	50.2
Product 1-2	4.9	202	6.4	56.2
Product 1-3	5.2	151	9.4	58.3
Product 1-4	2.0	2.0	13.5	61.2
Locked Cycle Test	P80 Primary Grind: **90u**; p80 regrind: **21u**; grind time **20min**; collector addition: **26 g/t PAX & 16 g/t 208**; Frother addition: **28 g/t MIBC & 20 g/t H57**			
	% Cu	g/tonne Au	Recovery Cu	Recovery Au
Cycles D+E	7.9	347	6.3	59
Met Balance, Cycle 5	6.7	283	6.1	57

The LCT concentrate contained 206 g/t Ag with a recovery of 49%. Lime addition was 200 g/t. Further optimization of the oxide material will be carried out in the next phase of test work.

10.3 Composite 3, Overall Sulfide, (prepared from holes 1-7)

Samples were collected from all seven, (7) holes to make up the overall sulfide composite. These samples had sulfur assays in excess of 0.1%S and generally over 0.2% S. Gold grades ranged from 0.5 g/t Au to 1.5 g/t Au. Copper grades ranged from 0.25% Cu to 0.8% Cu. The average grade of the composite was 1.1 g/t Au and 0.3 % Cu. In addition, over 50 variability samples were selected, representing different grades, depths and lithologies. These were placed in storage and subsequently transferred to BML.

Sub-samples of core were sent to Hazen Research for comminution test work.

The results are shown in Table 10-13. Although the Bond ball mill work index remained similar to the two oxide composites, the A x b value is significantly lower at 27.8, indicating the sulfide is more competent.

Table 10-13 Comminution Test Work Results, Sulfide Composites

Parameter	Value
A x b	27.8
Bond ball mill wi	13.7 kWh/st
SG	2.7
SAG circuit specific energy	10.7 kWh/t

10.3.1 Gravity and Flotation Test Work, Sulfide Composite, (KCA)

As with the Oxide Composite, a Gravity Test was carried out to provide a complete picture of the potential for gravity concentrate for all the composites. No benefit was found with gravity on the sulfide composite.

A series of twenty (20) rougher flotation tests were carried out investigating p80, pH, reagent addition and types. The best result was achieved in test 90173 and summarized in Table 10-14.

Table 10-14 Rougher Flotation Test 90173, (KCA)

Parameter	Value
p80	86 µm
pH	9.0
CaO	75 g/t
Frother	50 g/t
Collector, PAX; 407	51 g/t
% wt to rougher concentrate	11.7%
Gold Recovery	74%
Silver Recovery	61%
Copper Recovery	94%

The high recovery of copper reflects the favorable mineralogy as described in the FLSmidth report.

In parallel with the cleaner tests on the Oxide composite, a series of tests were carried out investigating the regrind p80, pH and reagents. Recovery to the cleaner concentrates were high but a satisfactory, i.e. commercial concentrate grade, was not achieved. The best result at KCA is shown in Table 10-15. As a result, 40 kg of sulfide composite was sent to BML. The results of the BML work are provided in Section 10.2.15.

Table 10-15 Cleaner Flotation, (KCA)

Parameter	Value
p80 regrind	20 µm
pH	11.0
%Cu-Con Grade	13.5%
g/tonne Au	34.6
g/tonne Ag	55.0
%Cu Recovery	81%
%Au	62%
%Ag	74%

KCA repeated this test using reduced collector addition, (PAX,208 and 3418) and achieved a copper concentrate grade of 23%Cu, with recoveries of 83%, 64% and 50% for copper, gold and silver respectively.

10.3.2 Sulfide Composite Test Work at Base Metals Laboratory, (BML)

BML received 40 kg of the Sulfide Composite in April 2021. They initially conducted an open circuit flotation test and an LCT. These are summarized in Table 10-16 below.

Table 10-16 Open Circuit and Locked Cycle Test on Sulfide, (BML)

Open Circuit Test	P80 Primary Grind: **90 µm**; p80 regrind: **20 µm**; grind time: **20min**; collector addition: **4.5 g/t PAX & 11.5 g/t 208**; Frother addition: **56 g/t MIBC**			
	% Cu	g/t Au	Recovery Cu	Recovery Au
Product 1	30.2	110	64.2	55.2
Product 1-2	20.6	78	68.6	61.4
Product 1-3	16.8	64	71.4	64.1
Product 1-4	4.5	18	75.5	70.1
Locked Cycle Test	P80 Primary Grind: **90 µm**; p80 regrind: **21 µm**; grind time **20min**; collector addition: **8 g/t PAX & 8 g/t 208**; Frother addition: **56 g/t MIBC & 30 g/t H57**			
	% Cu	g/t Au	Recovery Cu	Recovery Au
Cycles D+E	25.0	76	75.5	66.0
Met Balance, Cycle 5	26.1	81	75.5	68.3

The LCT concentrate contained 82 g/t Ag with a recovery of 47%. Lime addition was 465 g/t.

These preliminary tests on the sulfide gave results that were equal to the SGS results and were significantly better than the results achieved at KCA. Thus, the remaining sulfide composite sample was transferred to BML on May 26th for further optimization work. During the first week of June, five additional rougher tests were carried out, investigating different parameters. These tests, and the results are shown in Table 10-17.

Table 10-17 Rougher "Optimization" Tests, (BML)

Test number	PAX g/t & 208 g/t	MIBC g/t &H57 g/t	NaSH g/t	Other reagents	Conc Grade, %Cu	Conc Grade, g/t Au	Copper Recovery	Gold Recovery
1. Higher Collector	8+8	35+20	0	0	3.3%	11.0	79.2%	74.1%
2. NaSH	24+24	14+20	150	0	4.0%	13.2	78.7%	73.3%
3. Gold collectors	0	14+50	0	5 g/t 3418, 5 g/t 7150	2.7%	9.6	80.0%	75.9%
4. CuSO4	5+5	21+10	0	200 g/t CuSO4	3.7%	12.4	76.3%	72.1%
5. SS grinding media	5+5	21+10	0	0	3.7%	13.4	77.6%	72.6%

Lime addition was 200 g/t in all five tests.

The results were similar, although Test 3 with specific gold collectors gave the highest copper and gold recovery, albeit with a higher mass recovery. No discernible benefit was observed with NaSH or CuSO4.

The main effort with respect to Variability Test work will be part of the next phase of test work to support the Feasibility Study. However, by August 2021 it became apparent that time was available to carry out some preliminary variability test work on some sulfide and oxide samples. This work is summarized in Table 10-18 and Table 10-19.

Table 10-18 Variability Test Work on eight (8) Sulfide samples, (BML)

Test	Head, % CuT-CuOx-CuCN	Head Au g/t	Conc. 1, Recovery % Cu	Conc. 1, Recovery % Au	Conc. 1-4, Recovery % Cu	Conc. 1-4, Recovery % Au	%(CuOx/ CuT)
CL08	1.36/0.05/0.32	6.1	30.1	81.5	67.3	88.6	77.1
CL09	0.22/0.00/0.02	0.80	14.6	82.2	68.3	90.1	80.4
CL10	0.35/0.00/0.03	0.74	21.7	88.6	75.7	93.9	89.2
CL11	0.32/0.01/0.05	1.46	18.9	85.0	57.9	92.2	75.3
CL12	0.10/0.02/0.02	0.51	16.4	62.9	75.2	73.7	87.0
CL13	0.08/0.01/0.03	0.30	23.2	80.8	54.4	88.5	68.5
CL14	1.05/0.02/0.05	1.33	13.4	92.9	79.0	96.0	85.9

* Primary Grind 90 µm, regrind 33-50 µm, collector 21g/t, frother 100-140 g/t, lime 200 g/t.

Table 10-19 Preliminary Variability Test Work on Oxide Samples

Test	Head, % CuT-CuOx-CuCN	Head Au g/t	Conc. 1, Recovery % Cu	Conc. 1, Recovery % Au	Conc. 1-4, Recovery % Cu	Conc. 1-4, Recovery % Au	%(CuOx/ CuT)
CL01	0.39/0.21/0.10	1.35	32.4	29.0	57.5	35.2	63.5
CL02	0.23/0.10/0.05	0.68	17.7	19.7	51.5	33.4	62.8
CL03	0.39/0.17/0.10	0.94	35.0	26.5	54.5	38.6	63.1
CL04	0.22/0.06/0.03	0.32	22.2	10.1	54.0	21.8	65.1
CL05	0.17/0.08/0.02	0.36	3.7	1.7	48.5	13.8	59.1
CL06	0.22/0.11/0.01	0.57	1.4	0.7	59.2	13.0	66.1
CL07	0.29/0.13/0.04	1.11	33.5	32.8	62.9	46.7	72.7

* Primary Grind 90 µm, regrind 21-42 µm, collector 21 g/t. lime 200 g/t.

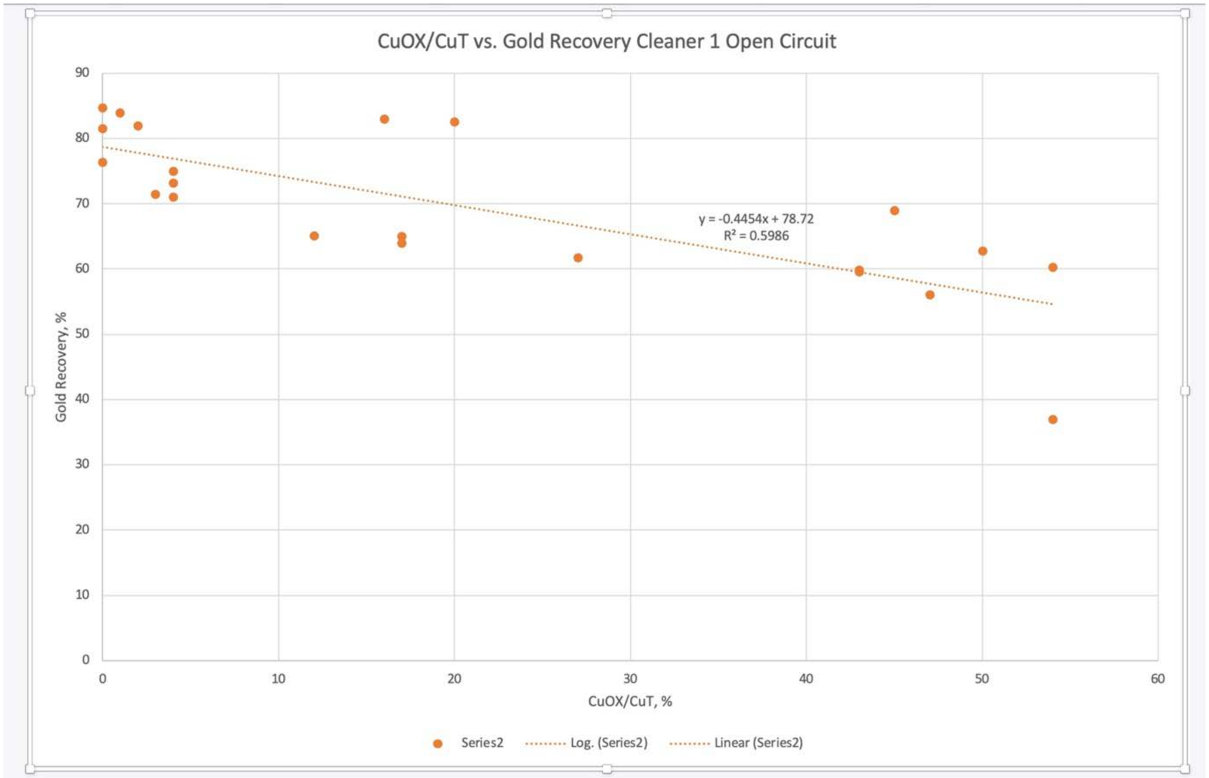


Figure 10-2 Variability Samples, Au Recovery v CuOx/CuT

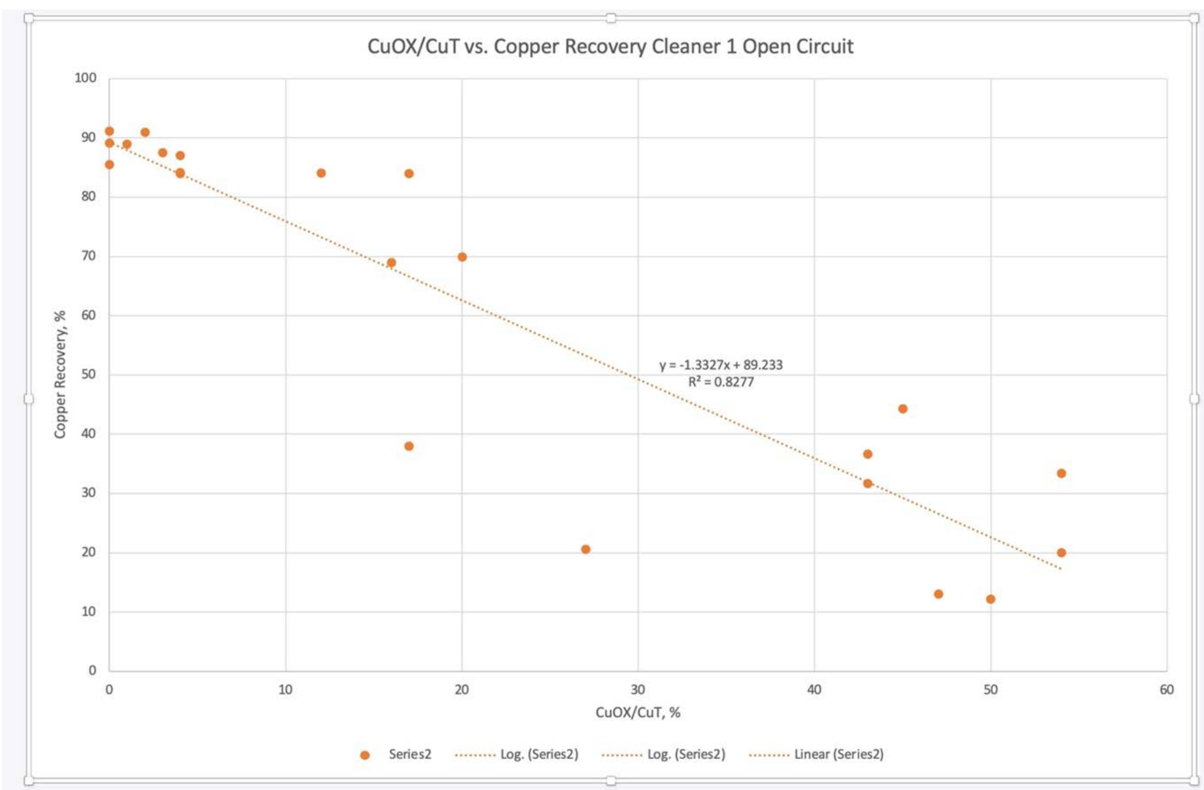


Figure 10-3 Variability Samples, Copper Recovery v CuOx/CuT

These tests were open circuit, rougher-cleaner tests.

This variability testwork is as yet preliminary and more will be carried out during the Feasibility Study. These initial results confirm the high copper and gold recoveries achieved for sulphide ore. They also indicate a good correlation between copper and gold recovery and the ratio CuOx:CuT., shown in Figure 10-2 and Figure 10-3). However as yet, there is no clear correlation between head grade and recovery for either metal.

10.3.3 Test Work on Sulfide Composite 2, (BML)

The initial "sulfide composite" tested at KCA and BML included the minor "mixed zone" material. As a result, between 10 and 15% of the copper minerals were non-sulfide, (principally chrysocolla). This had a detrimental impact on the flotation of these samples. In May 2021 a second sulfide composite was prepared, avoiding core from or near the mixed zone. This material was sent to BML at the end of June, and the core mixed and crushed to prepare "Sulfide Composite 2". This composite assayed 0.35%Cu, 0.92g/t Au, 0.004% CuOx and 0.02% CuCN. An open circuit rougher-cleaner flotation test was carried out and achieved a 21% copper concentrate with high recoveries of copper, gold and silver. Again, starvation quantities of collector were used, with a primary grind of 90 µm and a regrind of 21 µm. This test was followed by a Locked Cycle Test. The results are shown in Table 10-20.

Table 10-20 Open Circuit and Locked Cycle Tests on Sulfide Composite 2, (BML)

Open Circuit Test	P80 Primary Grind: **90 µm**; p80 regrind: **21 µm**; grind time: **21min**; collector addition: 7 **g/t (SDB + 7150)**; Frother addition: **105 g/t (MIBC + H57)**			
	% Cu	g/tonne Au	Recovery Cu	Recovery Au
Product 1	23.1	61.9	83.9	66.5
Product 1-2	19.2	53.1	85.5	69.8
Product 1-3	14.8	42.9	86.8	74.6
Product 1-4	4.4	13.2	89.6	80.3
Locked Cycle Test	P80 Primary Grind: **90 µm**; p80 regrind: **21 µm**; grind time **21min**; collector addition: 7 **g/t (SDB + 7150)**; Frother addition: **105 g/t (MIBC + H57)**			
	% Cu	g/tonne Au	Recovery Cu	Recovery Au
Cycles D+E	21.3	42	88.3	74.8
Met Balance, Cycle 5	21.2	41	88.0	73.7

These results show that with “sulfide” material containing minor “non-sulfide” minerals, high recoveries of copper, gold and silver can be achieved. These results also confirm the 90 µm primary grind. Collector addition is exceptionally low. However, the high frother addition is to be noted, as is the relatively low concentrate grade, (21%Cu).

The LCT concentrate contained 60 g/t Ag with a recovery of 60 %. Lime addition was 305 g/t, (rougher pH 9.5, cleaner pH 10.5).

10.3.4 Other Test Work on the Sulfide Composite

Samples of sulfide composite flotation tailings will be sent to Pocock (and possibly vendors) in the second half of 2021 after completion of the LCT flotation tests. The results will be incorporated into the Feasibility Study.

BML carried out two bottle roll cyanide leach tests on flotation tailings. These tests resulted in gold dissolution of 80% and 75%, within 16-24 hours, with cyanide consumption of 0.5 kg/t. This effectively increased total gold recovery to over 90%. This may be worthy of further consideration in the next phase of work, however the associated capital and operating costs and environmental issues would require significant evaluation.

10.4 Primary and Regrind p80's

10.4.1 Primary Grind

Test work has been carried out during 2021 at KCA and BML. The primary grind p80 used in the flotation tests has been in the range 80 µm to 120 µm. The previous test work carried out at SGS in 2010 concluded that the optimum primary grind appeared to be between 90 µm and 100 µm.

Mineralogy has shown both the copper minerals and the gold/silver/electrum to be fine grained, which would support this relatively fine primary grind.

The results of the 2021 test work have indicated the optimum to be between 86 µm and 90 µm, although there is some variability.

An order of magnitude trade-off study has been carried out for five p80 grind sizes, evaluating recovery of copper and gold, and capital and operating costs. The results of this study are summarized in Table 10-21.

Table 10-21 Evaluation of the Primary Grind

p80 (µm)	differential capex, US$M	differential opex, US$/t	Au recovery	Cu recovery	differential NPV, US$M
80	+1.1	+0.07	73.5	86.0	+21M
86	+0.8	+0.05	72.5	85.5	+6M
90	Base Case	0	72.0	85.0	0
106	-0.5	-0.06	69.0	84.0	-37M
120	-1.9	-0.12	67.5	83.0	-58M

As shown in Table 10-21, the copper recovery is relatively insensitive to the grind size. However, the gold recovery drops off more rapidly at coarser sizes. The NPV is similar for p80's between 80 and 90u. At coarser grind sizes the revenue reduces as the gold recovery drops. A p80 of 90 µm has been selected for the process plant design.

A further consideration is that finer grinds will almost certainly impact the tailings filtration. Thus, further optimization of the primary grind is recommended during the Feasibility Study.

10.4.2 Regrind p80

Most of the 2021 test work has used regrind p80's between 20 µm and 40 µm. This variation was not always intended but is the result of difficulty in controlling precise regrind size as a result of the frequently small mass of rougher concentrate, (due to the low copper head grade). High recovery of gold and copper has been achieved at both 20 µm (see Table 10-21) and 40 µm (see Table 10-18 and Table 10-19). An intermediate p80 for regrind of 30 µm has therefore been selected for the process plant design. Again, some further test work and optimization is recommended during the Feasibility Study.

10.5 Discussion

Many test work programs were carried out by different companies between 1985 and 2010. The results led to the conclusion that flotation would be the best technology for Copper King, and Wells concurs with that. The 2009-2010 work at SGS indicated gold and copper recovery of 68% and 77% respectively to a 25-26% copper concentrate for sulfide, and 55% gold and 10% copper recovery to a 15% copper concentrate for oxide. This oxide concentrate had an exceptionally high gold content of 380 g/t Au. By industry standards these recoveries would be considered reasonable, considering the low copper head grade and the mineralogy.

The 2020-2021 test work program used drill core from seven (7) dedicated metallurgical holes, that were used to produce three composites, Hi-Grade Oxide, Oxide and Sulfide. The work commenced on the Hi-Grade Oxide. This produced results that were better than anticipated, considering the high proportion of non-sulfide copper minerals. Concentrate grades of 25% copper, with gold and copper recoveries of 69% and 56% respectively were achieved from open circuit tests. A 3% overall increase in copper recovery (included in the 56%), was achieved with gravity, recovering the coarse, liberated native copper. However, this ore type represents only a minor part of the deposit (less than 2%).

Following this successful work on the High-Grade composite at KCA, test work then commenced in parallel on the Oxide and Sulfide composites, which represent about 6-8% and 90% respectively of the deposit. The initial rougher tests, using the reagent suite and conditions established for the High-Grade Oxide, gave high recoveries of copper (90%), gold (74%) and silver (61%), albeit with a high mass recovery and low copper concentrate grade. These results encouraged the commencement of cleaner tests. Problems were encountered in upgrading the cleaner concentrates to an acceptable, (i.e. commercial) grade. Attempts to increase the final cleaner concentrate grade above 20%Cu resulted in unacceptable losses of copper, gold and silver.

Also, at this time, a locked cycle test (LCT) was attempted on the High-Grade Oxide composite and this too resulted in low final concentrate grade, (around 10% Cu). A decision was taken by US Gold in April 2021 to transfer samples of the High-Grade Oxide, Oxide and Sulfide to Base Metals Laboratory (BML) in Kamloops, Canada who are known to be experienced in base metals flotation. Test work at BML commenced in the first week of May and they were immediately able to replicate the recoveries and concentrate grades achieved by SGS in 2010. A full test program was then initiated at BML to test all three composites, to carry out rougher optimization tests, rougher-cleaner open cycle tests and LCTs on all three composites.

This work was successful and confirmed the favorable mineralogy that was reported by FLSmidth. The principal difference between BML and KCA was the much lower collector addition at BML, essentially using "starvation" quantities. Using these reduced collector additions, KCA were able to improve their results in line with SGS and BML. However, on further analysis the sulfide composite was found to contain 10-15% of non-sulfide copper minerals. This was the result of the first sulfide composite included material from the mixed ore zone. This accounted for some of the difficulty in achieving higher copper recoveries. A second sulfide composite was prepared, avoiding the mixed zone, and this achieved higher copper (and gold) recoveries.

Based on the SGS and BML results, as described in Table 10-7, Table 10-12, Table 10-16 through Table 10-20, the recoveries and concentrate grades to be applied to the PFS are estimated in Section 14.0.

10.6 Conclusions and Recommendations

- Previous test work at SGS in 2008-2010 and at prior facilities concluded that flotation would be the most appropriate flowsheet to recover copper, gold and silver into a high value concentrate. The work at KCA (Reno, USA) and Base Metals Laboratory (Kamloops, Canada) has confirmed this.
- The current test work programs commenced in December 2020, using core samples from seven holes, drilled specifically for metallurgical test work. This work was continuing at the time of writing, (November 2021) but sufficient data has been generated to support the Pre-Feasibility Study.
- Three composites, each 200-300 kg, were prepared for test work, namely a High-Grade Oxide composite (from Hole 4), an Oxide composite from holes 1-3 plus 5-7, and a Sulfide composite from holes 1-7. Between the oxide and sulfide zones is a narrow band of "mixed" material. As this only represented a small component of the drill core it was included in the sulfide composite. However, as results subsequently showed, the impact was significant. The mineralogy indicated 10-15% of the copper minerals in this "sulfide" composite were not sulfide. A second sulfide composite was prepared from core more remote from the mixed zone and tested at BML in July 2021. This resulted in significantly better copper, gold and silver recoveries, as shown in Table 10-16 through Table 10-20.
- Sub-samples of core from each composite were provided to Hazen Research in Denver for comminution test work. This showed the material to be of medium hardness but relatively competent. This supports the selection of a SAG-Ball-Pebble crusher grinding circuit. A primary grind p80 of 90 µm appears to be close to optimal.
- Open circuit flotation of the High-Grade composite was successful at KCA, providing high (for an "oxide") recoveries of copper (55%), gold (69%) and silver (40%) to a 25%Cu flotation concentrate. Locked Cycle Tests at BML confirmed these results.
- Significant coarse native copper was observed in the High-Grade Oxide composite. Coarse visible gold was not observed. Mineralogy subsequently confirmed that Copper King gold and silver occurs as fine (5-10 µm) but generally well liberated grains. Tests show that a combination of gravity and flotation increases overall copper recovery by 3% for this ore type. Minor coarse native copper was also observed in the oxide and sulfide composites.

- Flotation of the Oxide Composite proved to be more challenging. The mineralogy of this composite showed an abundance of copper minerals, such as chrysocolla, that are non-floating. None the less, flotation was moderately successful in that open circuit rougher and cleaner tests produced a low-grade but high value copper concentrate, 10-15% Cu, that contained over 150 g/t gold and 100 g/t silver. This material constitutes about 6-8% of the deposit. The mine plan could see this material treated on a campaign basis or combined with sulfide. Locked Cycle Tests at BML produced concentrates with 7.9%Cu, over 250 g/t Au, over 200 g/t Ag and a gold recovery of 60%.
- The sulfide zone constitutes the majority of the deposit. LCT's on two sulfide composites gave high recoveries of copper (82-88%) and gold (67-74%) to a 21-25% Cu, 76 g/t Au, 82 g/t Ag concentrate. Silver recovery was 59%.
- The mineralogy showed that some non-sulfide copper minerals were present in the first sulfide composite, and this had a negative impact on the flotation recoveries. As a result, seven variability samples were selected for test work in the PFS phase. In addition, seven variability oxide samples were tested. These tests are summarized in Tables 10.18 and 10.19. With less non-sulfide copper, the copper recovery was over 80%. Gold and silver recoveries showed significant variation. The test data to date does not show any correlation between metallurgical performance and the regrind p80 in the range 20-40 µm.
- Rougher tests investigated the primary grind p80 over a range of 50-150u. This and earlier work had concluded the optimum to be between 85u and 100u and most of the testwork has been carried out in that range.
- The Copper King project proposes to filter tailings and deposit the plant residues as a 12-13% moisture filter cake. The main advantages of this are the elimination of a wet tailings dam and a much reduced fresh water demand. Tailings samples were sent to the specialist solids-liquids separation company, Pocock Industrial in Salt Lake City for testwork. Results from the High-Grade tailings sample have been used in the Process Design Criteria for equipment sizing. Test work on the oxide and sulfide tailings are in progress and will be utilized in the Feasibility study.
- Further settling and filtration tests on the variability samples were in progress at BML at the end of October. Results awaited.

10.6.1 Recommendations for Future Test Work

- Over 50 drill-core samples have been selected and are in storage at BML ahead of variability test work. This will provide data for geo-metallurgy in the feasibility study.
- Specialty test work with the vendors of tailings and concentrate filtration, including the oxide and sulfide components.
- Specific test work on the mixed ore zone.

10.7 Risks and Opportunities

10.7.1 Risks

- In general, the project can be classified as low risk, as it uses standard, well proven process and equipment.

- The Variability test work remains to be completed. The samples (50) have been selected and are in storage. This work will specifically look for relationships between ore type, grades and flotation response. The initial tests, as summarized in Table 10-18 and Table 10-19 show a good correlation between recovery and the ratio of CuOx:CuT. Ore hardness is medium and to date results have been in a narrow range, indicating straightforward grinding performance.
- The majority of the test work in 2021 has been carried out on the three composites prepared from holes 1-7. These composites were prepared based upon what were expected at that time to be the plant head grades from previous studies. Hence the oxide and mixed zone and sulfide composites had head grades of +/- 0.3%Cu. However, the PFS, completed in the third quarter of 2021, has resulted in head grades of +/- 0.2%Cu. It is generally accepted that recoveries are correlated to head grade, typically lower head grade results in lower recoveries and visa-versa. At the time of writing, variability work is in progress with samples of oxide, sulfide, and mixed ore. To date, there is no clear correlation between the head grade and recovery. However, a good correlation is emerging between copper, (and to some extent gold) recovery and the ratio of CuOx:CuT. Thus, in the Feasibility Study, it is anticipated that a geo-metallurgical model (equation) will be developed relating the recovery of copper and gold to the CuOx:CuT ratio and to head grade. Then recoveries can be assigned to the individual blocks of ore, rather than the application of fixed recoveries based upon ore type. This may, (or may not) have some negative impact on metal recovered to concentrate.
- Future flotation test work should include various combinations of sulfide-oxide ore types. Separate campaigns for oxide and mixed zone material, particularly the high-grade oxide may be required.
- Tailings filtration is becoming increasingly accepted by the industry. The sizing of the filters is based upon tests on the high-grade composite. More test work is required to confirm the design criteria. Tests on tailings of oxide and sulfide are a priority. Additional tests should be carried out by the equipment vendors.
- The selection and sizing of the jaw crusher, mills, flotation equipment and tailings filters will be the subject of detailed optimization discussions with vendors during the FS.

10.7.2 Opportunities

- Flotation test work continued through 2021. Some further improvement and optimization may still be possible for the oxide and mixed material types.
- Cyanide leaching of the high-grade flotation tailings gave high extraction of gold and silver. This, together with possible leaching of scavenger concentrates may represent a future opportunity. However, the use of cyanide is a controversial topic within the local community and may trigger additional regulatory reviews.
- Disposal of filtered tailings is by truck from plant to final tailings deposition in this PFS. Alternate methods of transport and stacking should be evaluated, including alternative locations for the filtration plant.
- This PFS was developed during the Covid Pandemic. As a result, travel and opportunities for face-to-face meetings between study personnel were generally not possible. Similarly, meetings with Vendor companies were not possible, to discuss best equipment sizing and selection, hence a conservative approach was taken. It is considered that opportunities exist to optimize and/or

reduce equipment and process plant specifications. These will be actively investigated in the next phase of work.

10.8 Metallurgical Appendices and References

The references listed below are available in the full Metallurgical report.

1. KCA Metallurgical Test work Report, July 2021.

2. Pocock Industrial Inc Test work Report, (Solids-Liquids Separation), June 2021.

3. Alquimia Engineers, Process Design Criteria, May 2021.

4. Alquimia Engineers, Flowsheets and Mass Balances, May 2021.

5. Alquimia Engineers, General arrangement Drawings, May 2021.

6. Alquimia Engineers, Main Equipment List, April 2021.

7. Hazen, Comminution Test work, April 2021.

8. Alquimia Engineers, Capital Cost Estimate, July 2021.

9. Operating Cost Estimate, John Wells, July 2021.

10. Alquimia Engineers, Comminution Simulations. March 2021.

11. Alquimia Engineers, Process Conception Technical Memorandum, April 2021.

12. Civil Construction Unit Costs, TriHydro, June 2021.

13. Base Metals Laboratory Report, August 2021.

14. Summary of Previous Test work.

15. FLSmidth Mineralogy, 2021.

16. Trade-off study for primary grind.

11 Mineral Resource Estimate

11.1 Introduction

The CK resource estimate of copper, gold and silver was last updated in 2017 by MDA using a drilling database containing drillholes through the 2008 Saratoga drilling program. The resource estimate was constrained by grade shells. Between 2017 and 2020, an additional 35 infill drillholes comprised of 12 reverse circulation holes 12,340ft (3,760m) and 23 core holes 19,057ft (5,810m) have been completed by US Gold, as well as five reverse circulation 2,370ft (830m) and two rotary holes 380 ft (115m) intended as monitoring wells.

Mark C. Shutty, CPG, Principal, Drift Geo LLC, and associate of Gustavson Consulting utilized Leapfrog Geo/Edge software (v2021.1.2) to model the CK Gold deposit. The Mineral Resource estimate is based on drillhole data through US Gold's 2020 drilling program.

A three-dimensional (3D) block model was constructed using standard procedures consisting of:

- Import topographic data in order to construct a digital terrain model of the current surface topography
- Import and review drill hole interval datasets using Leapfrog tools
- Construct implicit geology and mineralized domain models using Leapfrog, interpret oxidation state based upon visual logging and assign specific gravity
- Evaluate and model experimental variograms aligned with mineral trends, and establish ranges of sample influence during grade estimation
- Estimate and validate gold, copper and silver grades within a 3D block model
- Classify mineral resources into confidence categories of measured, indicated and inferred

11.2 Geologic Models

During 2020, US Gold relogged all remaining legacy drill core to ensure consistent interpretation of rock types. The new geologic logging was used to construct a 3D geologic model in Leapfrog. The model is predominantly granodiorite (GD) with generally discrete mylonite (MYL) and potassic-altered granodiorite (GDK). Mafic dykes, pegmatites and veins are relatively small bodies, and the drilling density is insufficient to model these as throughgoing features. Therefore, mafic dyke bodies were constructed in Leapfrog as discrete volumes and pegmatites were not modeled and assigned the host rock type.

The primary lithologic model for the CK Gold Project consists of Proterozoic granodiorite intrusive rocks (GD) with varying intensities of potassic alteration (GDK) and foliation/mylonitic fabrics (MYL). Mafic dikes (MD), younger pegmatites (PEG) and undifferentiated veins (VN) represent a relatively small volume within the mineralized granodiorite domain. Unmineralized domains were modeled, including a metasediment unit (MSED) east of the Copper King Fault and overlying quaternary cover (QC). Leapfrog software was used to aggregate and model GDK, MYL and MD intrusive sub-units within the GD domain. The CK deposit trends NW-SE (290°-110°) and the general orientation used for all modeled intrusive domains is at -70°, 020° (dip, dip direction). An anisotropy of 3:3:1 (ratio of maximum, intermediate, minimum) was used for the GD domain and 5:5:1 for internal GDK and MYL lithologies.

The geology model was used for varying rock density throughout the block model and in establishing an eligible volume for grade estimation.

Review of long sections and cross sections through the deposit show that mineralization generally follows the same orientation as the lithologies, with most of the mineralization occurring within the central portion of the deposit, Figure 11-1.

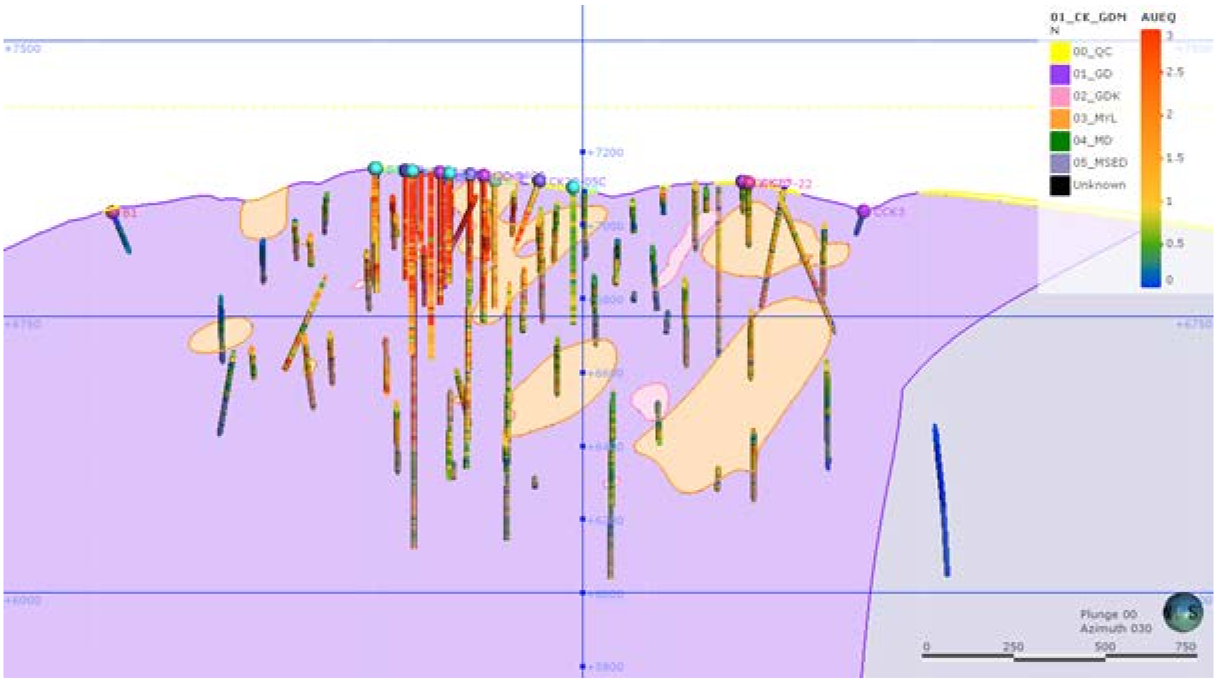


Figure 11-1 Vertical Section Looking 030deg Showing Lithologic Boundaries and Drillhole Grades (AUEQ g/t)

An oxidation model based on drill hole data, was also created in Leapfrog™. Surfaces were generated as contacts to produce oxide, mixed, and sulfide solids based on logging in the database Figure 11-2. A global isometric trend was used for all surfaces. The oxidation methodology is discussed in Section 11.3.

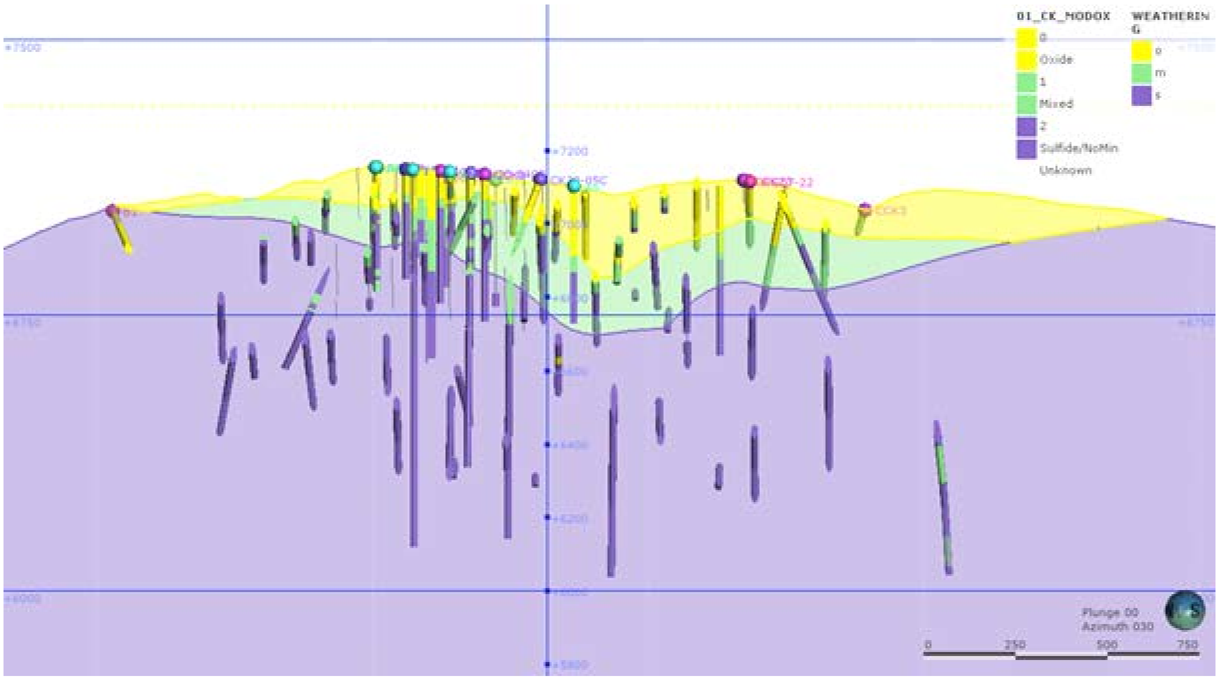


Figure 11-2 Vertical Section Looking 030° Showing Oxidation Boundaries and Drillhole Weathering

US Gold geologists modeled fault surfaces in Leapfrog using surface exposure, geophysical survey data and downhole televiewer data. Structure orientation data from the televiewer reconciliation work, interpreted by Piteau Associates, allowed Gustavson to collaborate with US Gold and interpret additional faults for evaluation within the model space, Figure 11-3. Mineralized drill samples within the fault-bound blocks were reviewed visually and statistically. CK mineralization is bound by a hard structural/lithologic boundary to the east by the Copper King Fault and constrained to the north, northwest and west by more ambiguous NW Fault, NE 1 Fault and West Block Faults, respectively. While the NE 2 Fault is projected to transects the CK deposit, it is a poorly defined feature, characterized with drillhole data as a broad zone of deeper oxidation and lower grade mineralization, Figure 11-4 and Figure 11-5. As such, bounding structures were used to constrain a single mineralized domain that accommodates the internal NE 2 Fault's influence on mineralization and oxidation for use in the resource model.

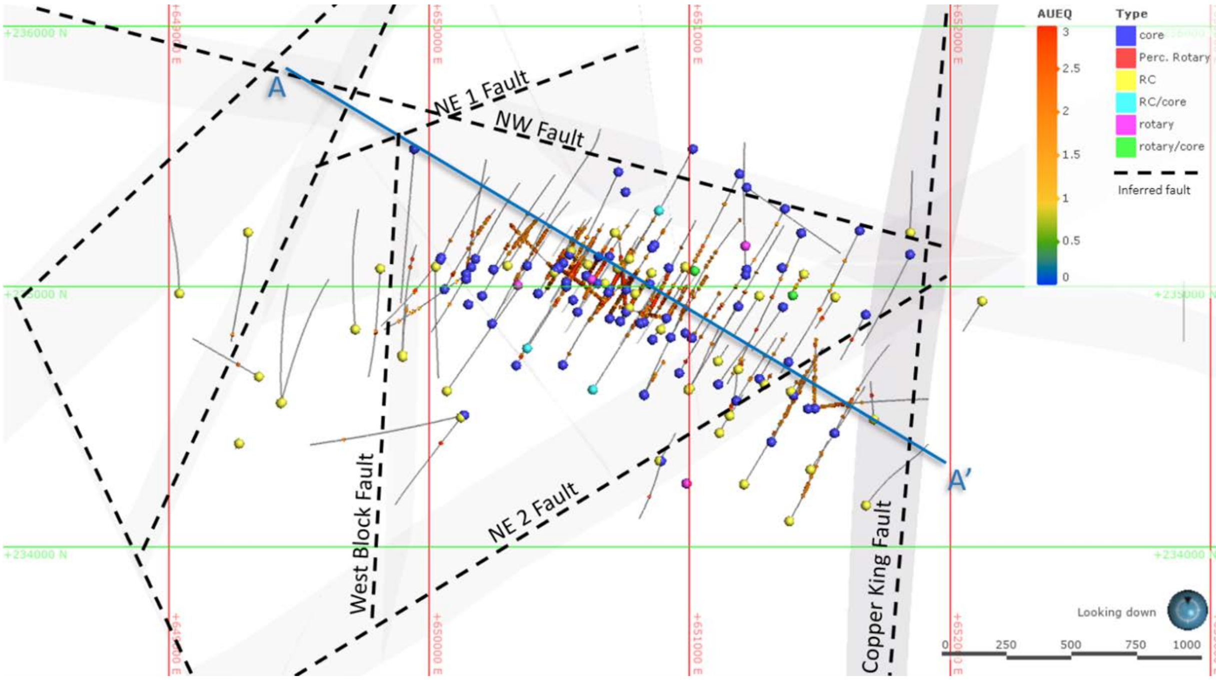


Figure 11-3 Fault Map with Drillhole Grades (≥ 1.5 g/t AUEQ)

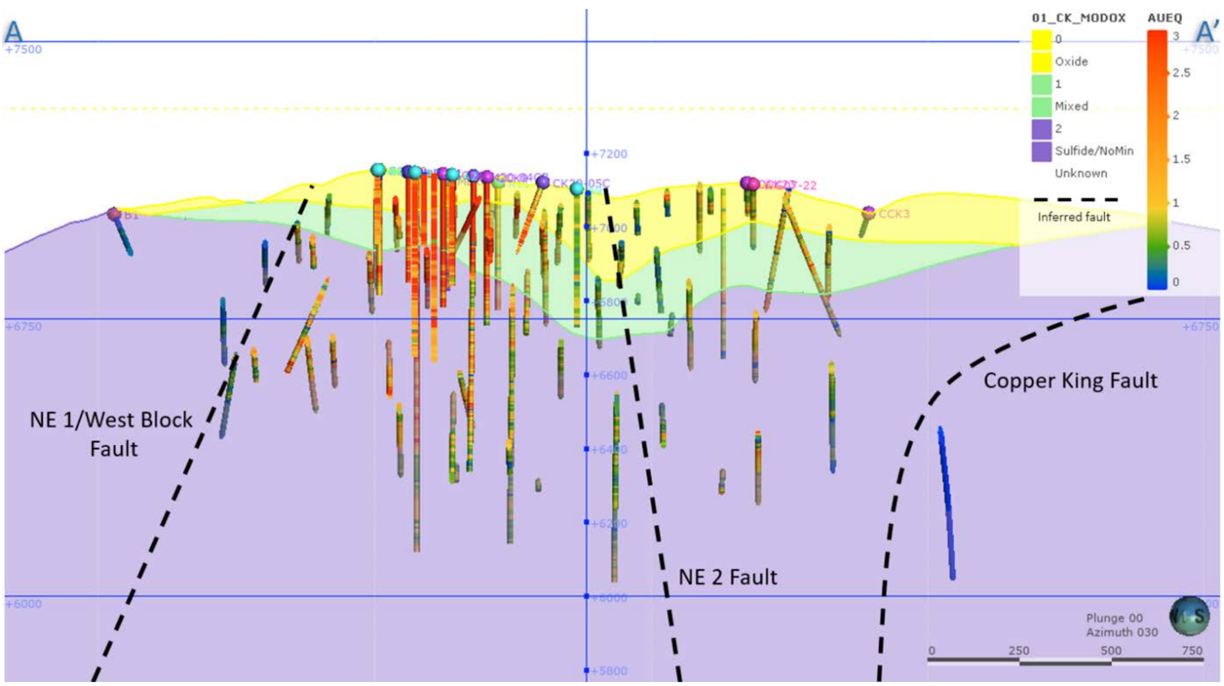


Figure 11-4 Vertical Section A-A' Looking 030° Showing Location of Interpreted NE 2 Fault Zone, Oxidation Boundaries and Drillhole Grades (AUEQ g/t)

A hybrid numerical indicator model was developed using a calculated gold equivalent ("AUEQ") variable at 0.2 g/t cut-off, with a varying structural trend that honors bounding faults, observed trends in mineralization and modeled intrusive anisotropies. This mineralization model contains a single domain used to constrain estimated mineral resources within the modeled intrusive rock complex.

The AUEQ variable was calculated within Leapfrog using the capped Au value (AUCAP) plus capped Cu (CUCAP) and capped Ag (AGCAP) assay values multiplied by their respective price ratios to price of Au using $1,625.00 USD/oz (Au), $18.00 USD/oz (Ag) and $3.25 USD/lb (Cu):

AUEQ = [AUCAP] + ([AGCAP]*0.01) + ([CUCAP]*1.31).

The capping methodology is discussed in detail in Section 11.8.

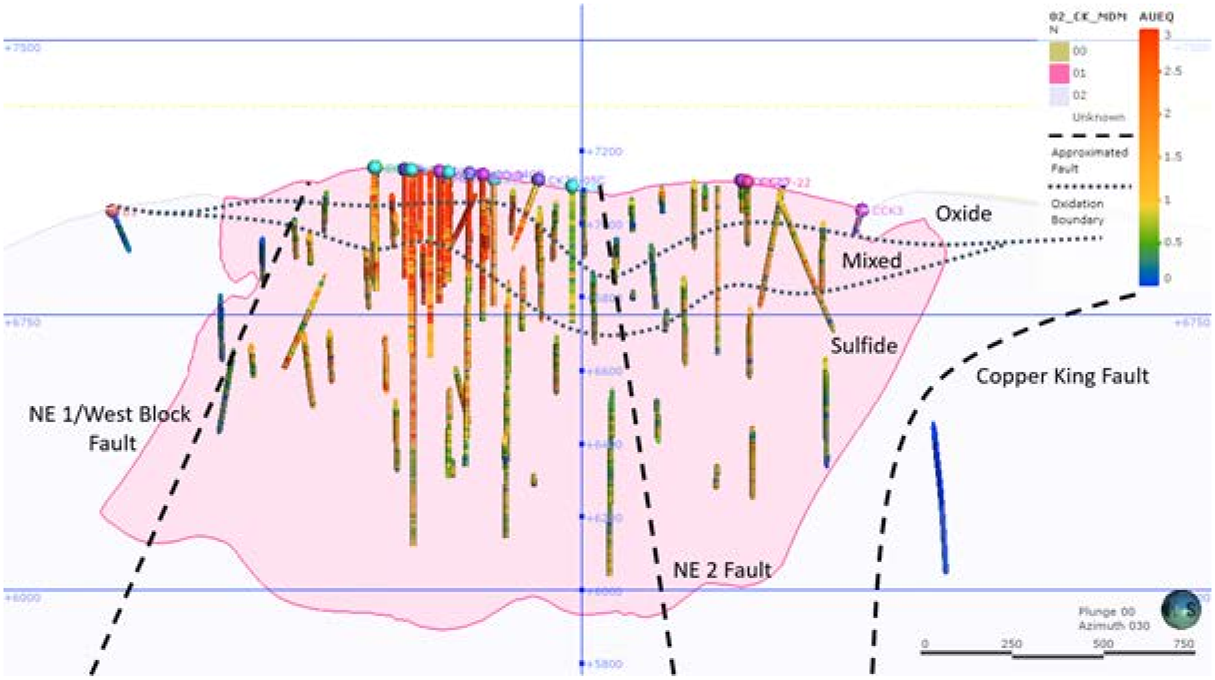


Figure 11-5 Vertical Section Looking 030° Showing Mineralized Domain, Modeled Oxidation, Structures and Drillhole Grades (AUEQ g/t)

11.3 Oxidation Assignment

Metallurgical testing of mineralized rock indicates that sulfide recovery is a function of oxidation state. Visual estimation of oxidation state, categorized as either oxide, mixed or sulfide was made by geologists during core logging. The oxidation boundary contacts were modeled in Leapfrog to encompass logged oxidation intervals and modeled structures, resulting in a series of surfaces that were used to code the block model.

11.4 Block Model Orientation and Dimensions

A 3D model with 20 ft x 20 ft x 20ft block dimensions was defined to accommodate the CK deposit and conceptual pit shells. All work was conducted using the NAD83 Wyoming State Plane East coordinate reference system, using imperial units of feet. The block model maintains a north-south and east-west orientation with no rotation and is not sub-blocked. The block model dimensions, and model limits are shown in Table 11-1.

Table 11-1 Block Model Dimensions

Parameter	Minimum	Maximum	Unit Block Size	Number of Blocks
Northing	233,200	236,800	20	180
Easting	648,820	652,680	20	193
Elevation	5600	7500	20	95

11.5 Compositing

Nominal sample lengths vary by drill program but drillholes used in the resource model have a global mean sample length of 5.3 ft. Capped assay intervals were composited to 10-foot fixed-length intervals within the mineralized domain for use through Ordinary Kriging estimation, which is described in detail in Section 11.10, with the model's block size (20 ft^3). This method computes 10-foot composite intervals down each drill hole and length-weight averages the portions of assay intervals which fall within the 10-foot interval. Composites were broken at the mineralized domain boundary using a 50% threshold, with specified handling of residual lengths of less than 5ft to be added to the previous interval. Descriptive statistics of lengths and metals grades for the raw (original) and composited samples were compared, and reviewed in 3D as a means of validation, Table 11-2.

Table 11-2 Compositing Parameters

	Au		Cu		Ag	
	Composited	**Original**	**Composited**	**Original**	**Composited**	**Original**
Count	6465.00	12043.00	6465.00	12043.00	4412.00	8682.00
Length	64621.28	64605.52	64621.28	64605.52	44105.52	43958.88
Mean	**0.66**	**0.66**	**0.20**	**0.20**	**1.69**	**1.69**
SD	0.86	0.91	0.16	0.18	1.79	1.94
CV	1.31	1.38	0.82	0.89	1.06	1.15
Variance	0.75	0.83	0.03	0.03	3.19	3.78
Minimum	0.00	0.00	0.00	0.00	0.05	0.05
Maximum	9.94	11.00	3.00	3.00	20.00	20.00

11.6 Exploratory Data Analysis

Raw drillhole sample data and logged lithology data were reviewed visually in Leapfrog's^{TM} 3D environment, as well as statistically via a merged assay-lithology dataset. Attributes including drillhole program, drillhole type, operator and location were evaluated against the primary Au and Cu variables, as well as with an Au equivalency variable (AUEQ) to define a subset of drillholes suitable for use in resource estimation.

Within the mineralized resource area, Caledonia's 1987 era drilling, including 25 drillholes totaling 9,980ft of vertical percussion rotary drilling, was found to be unsuitable for use in the resource model due to possible sample contamination from the drilling method combined with the program's vertical drillhole orientations, plus a lack of Cu assays and use of composited sample intervals. Drillholes located far outside of the mineralized resource area were also excluded from the Resource drillhole database. All other drillholes was included in the Resource drillhole database Table 11-3.

Table 11-3 Drillhole Database Summary

Operator & Program	Drillhole Count	Sum of Drilling (ft)
US Gold	**35**	**30,569**
2020	25	20,449
2018	8	8,090
2017	2	2030
Saratoga Gold	**35**	**25,462**
2008	8	7,167
2007	27	18,295
Mountain Lake 1997	**4**	**1,880**
Compass 1994	**25**	**9,202**
Henrietta 1973	**9**	**3,073**
ASARCO/Henrietta 1973	**1**	**700**
ASARCO	**12**	**3,963**
1970	7	2,563
1938	5	1,400
USBM	**3**	**2,630**
Copper King	**6**	**2,630**
Grand Total	**130**	**80,110**

Furthermore, metal grades were evaluated against logged and modeled lithologic, structural and oxidation domains in combination with surface geology and interpretive geophysical overlays for delineating mineralized trends and defining domains for geostatistical analysis.

A series of contact plots and box plots for the principal metals (Au and Cu) were generated to evaluate the distribution of these variables within the CK's major mineralized host rock types (GD, GDK and MYL). Statistical box plots, Figure 11-6 and Figure 11-7, for the intrusive host rocks reveal similarly elevated metal grades, and contact plots, Figure 11-8, demonstrate gradational changes between the logged lithologies. In general, GD and MYL hosts have nearly identical Au and Cu sample populations, while metal grades in the altered GDK host are lower.

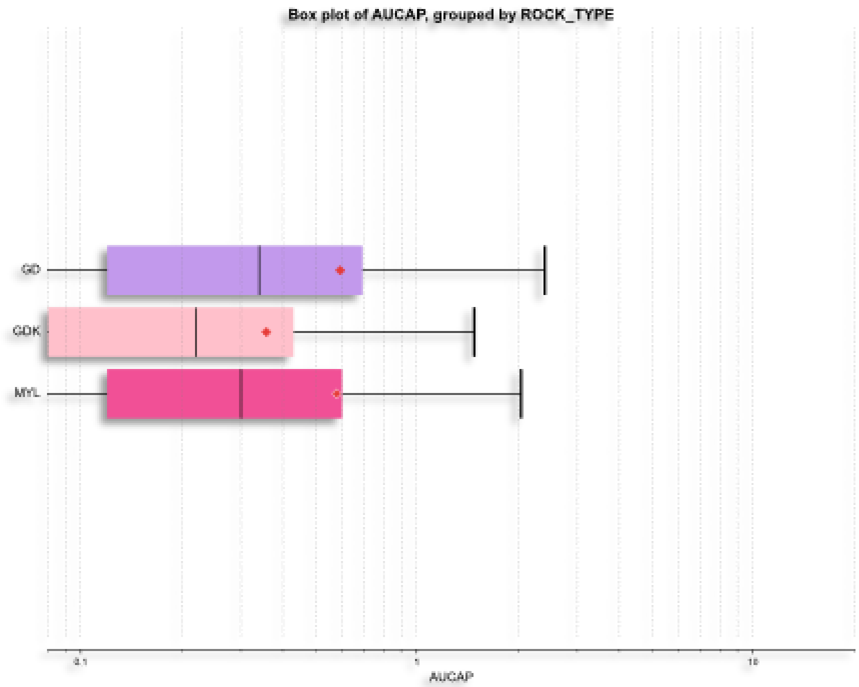


Figure 11-6 Box Plot for Au g/t, Variable of Host Rock

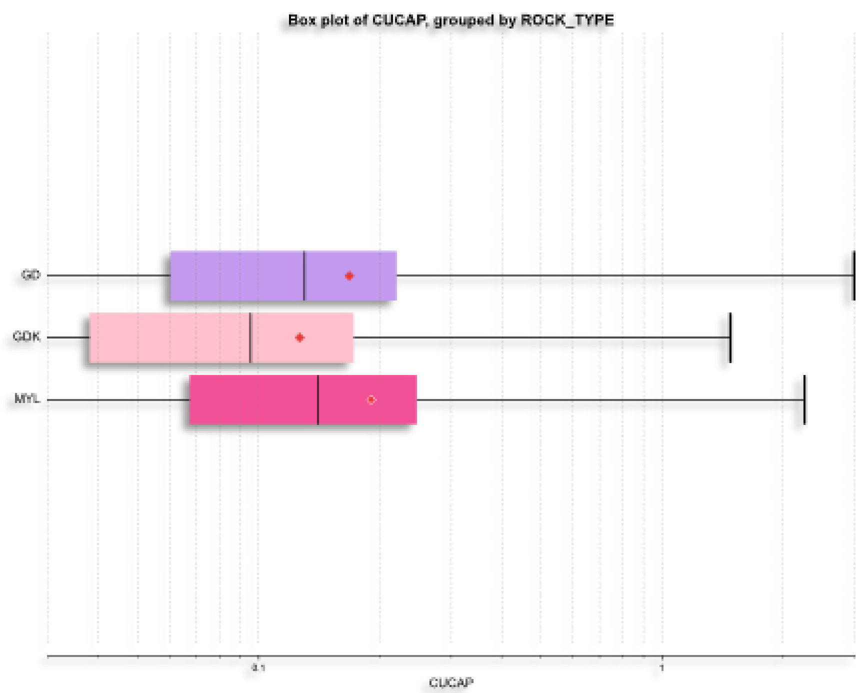


Figure 11-7 Box Plot for Cu%, Variable of the Host Rock

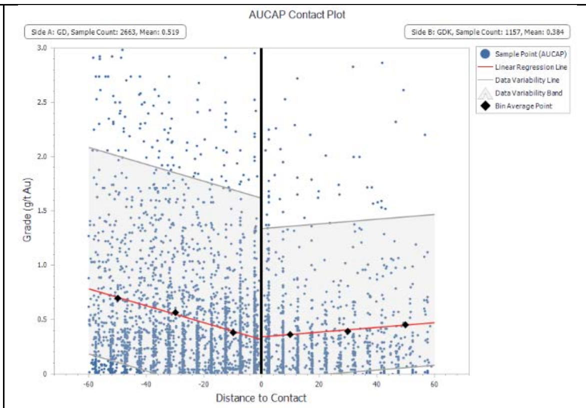
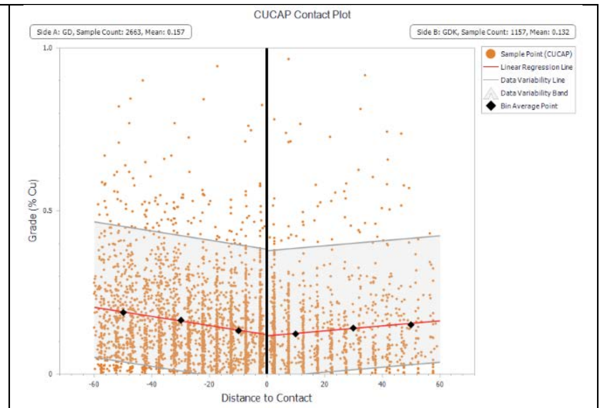
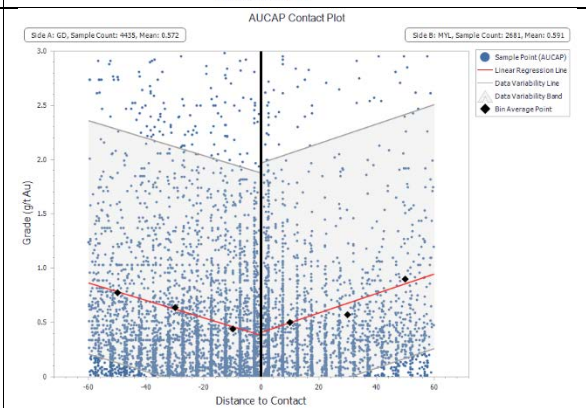
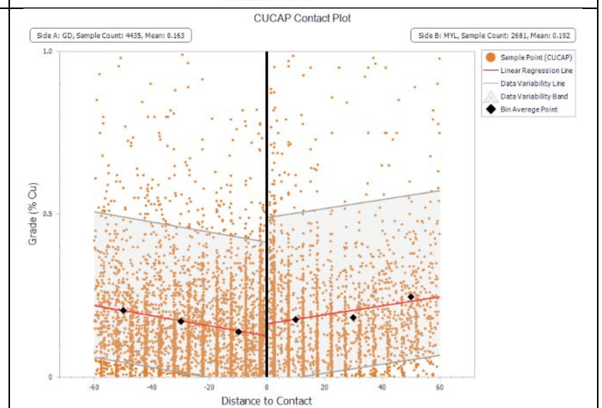
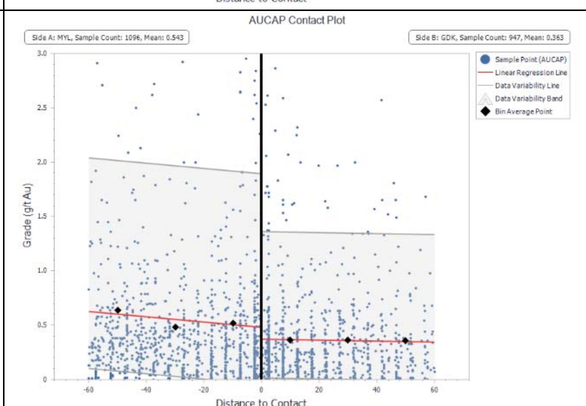
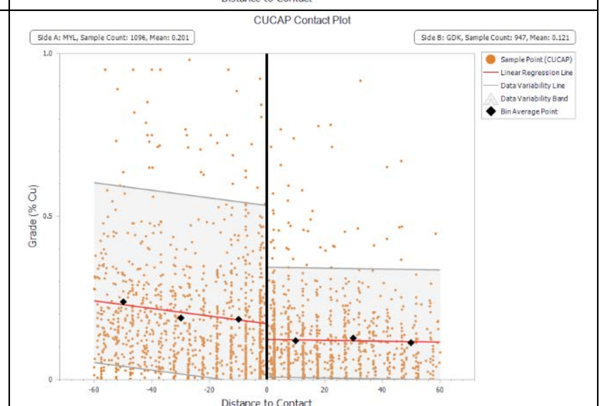
GD (l) GDK (r) Contact Plots		
GD (l) MYL (r) Contact Plots		
MYL (l) GDK (r) Contact Plots		
	Au (g/t) Contact Plots – 50' range	Cu (%) Contact Plots – 50' range

Figure 11-8 Contact plot showing binned mean sample grades for the Au (blue) and Cu (orange) variables within a 50.0 ft distance

For the resource model, the major mineralized rock types have been combined into a single grouping based on sample population similarity and lithology genesis, Figure 11-9. Granodiorite (GD), potassic-altered granodiorite (GDK) and mylonite (MYL) are interpreted to be of the same granodiorite protolith, with areas of superimposed mylonitic texture and gradational potassic alteration. Approximately 94% of the deposit's total contained Au and Cu is hosted within samples logged as GD or MYL, while the remaining ~6% of metal is logged as GDK. Potassic-altered granodiorite (GDK) occurs primarily peripheral to the deposit's higher-grade GD-MYL core. Modeled sediments east of the modeled Copper King Fault are unmineralized, with little drilling.

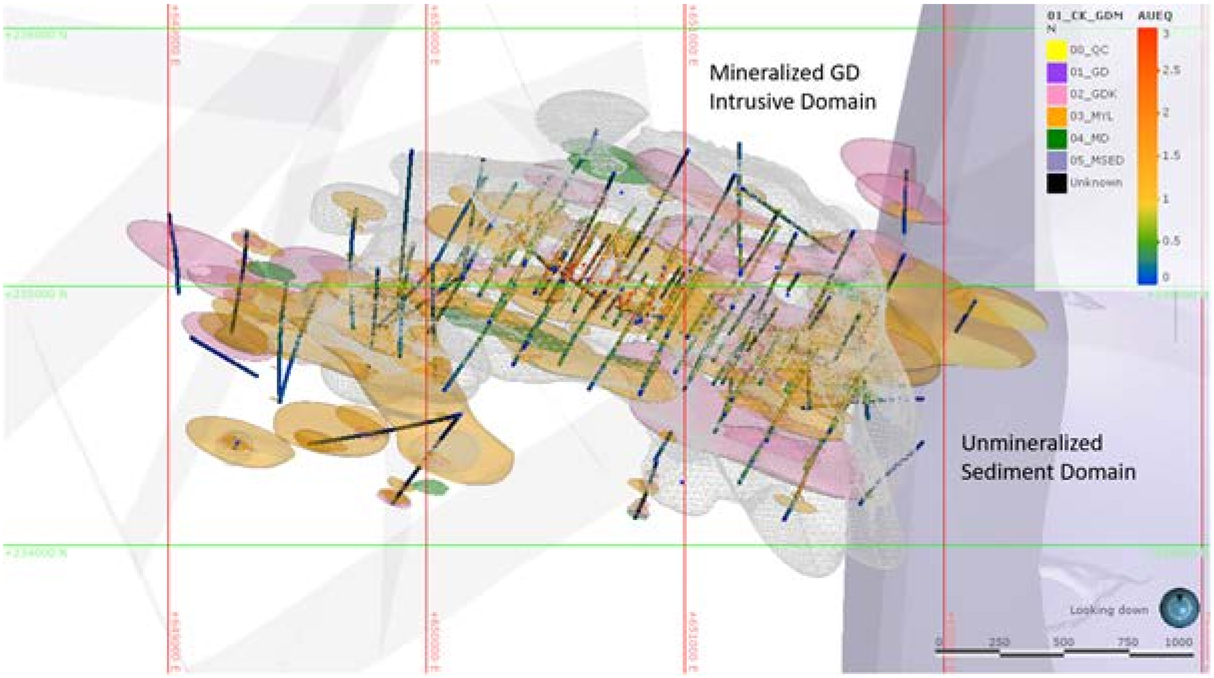


Figure 11-9 Geology and Mineralization (transparent gray wireframe) with Drillhole Grades (g/t AUEQ)

11.7 Bulk Density Determination

No bulk density measurements exist prior to 2007 and 2008 when Saratoga completed 1,336 drill core sample tests. US Gold completed an additional 80 determinations from the 2020 drilling program and the current bulk density database contains 1,416 density determinations of core samples. Nearly 47% of the samples are from the main mineralization host, granodiorite. Analysis of the results indicates little variation of specific gravity with depth and small standard deviation of each rock type.

A comparison of bulk density relative to depth for granodiorite is presented in Figure 11-10, the other rock types exhibit a similar uniformity with depth.

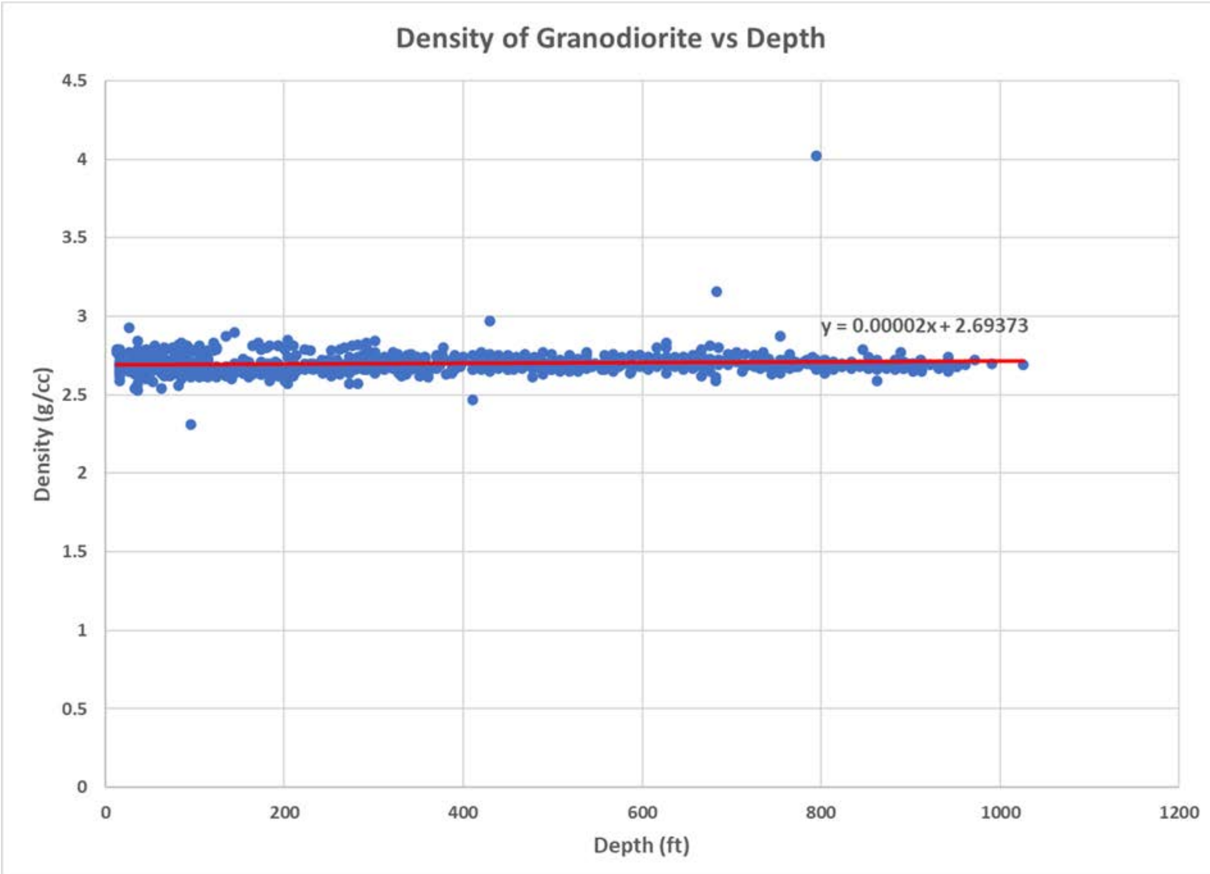


Figure 11-10 Density of Granodiorite vs Depth

The bulk density values were converted to tonnage factor (t/ft3) and assigned to the block model by rock type, Table 11-4. The core is generally whole “stick rock” with infrequent broken zones therefore no deduction from density measurements to account for fracture zones is warranted at this time and should continue to be monitored.

Table 11-4 Bulk Density Values by Rock Type

Rock Type	# of Determinations	Density Average (g/cm^3)	StdDev of Density	Tonnage Factor (t/ft^3)
Granodiorite	665	2.70	0.08	0.0843
Potassically-Altered Granodiorite	273	2.68	0.06	0.0837
Mafic Dike	55	2.81	0.10	0.088
Mylonite	372	2.70	0.07	0.0843
Not Logged	13	2.69	0.10	0.0843
Pegmatite	33	2.94	0.06	0.0821
Unknown	5	2.70	0.10	0.0843
Total	1,416	2.70	0.08	

There is no density data available for overburden. A SG value of 1.8 g/cm3 was assigned to blocks coded as quaternary cover.

11.8 Grade Capping/Outlier Restrictions

Raw gold, copper and silver assays were evaluated within the Resource drillhole database with histogram and probability plots to identify statistical outliers. These data are generally reflective of a single sample population with few outliers. Outliers were examined to ensure they were not the result of a database transcription error and geologically reasonable; the location of high-grade samples with respect to nearby samples, lithology and oxidation was reviewed ahead of establishing capping thresholds, which generally occur at distribution changes noted in the individual metal probability plots Figure 11-11.

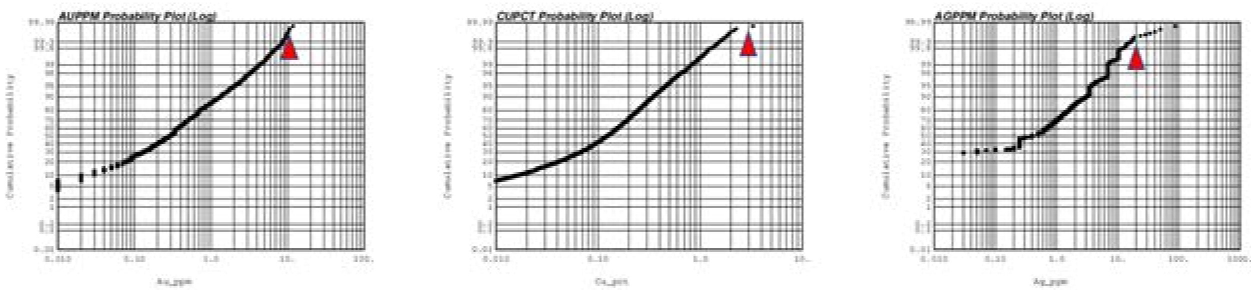


Figure 11-11 Sample Distribution

Capping was applied using a calculation within the database, with capped results stored in newly defined fields (AUCAP, CUCAP and AGCAP) which were used in sample compositing and resource estimation.

Gold (Au) is capped at 10.0 g/t, Cu is capped at 3.0 % and Ag is capped at 20.0 g/t. The impact of capping is presented in the table below, which summarizes the number of samples affected by capping and total metal reduction Table 11-5.

Table 11-5 Capping Thresholds and Metal Loss Table

Grade Item	Capping Threshold	Capped Samples	Metal Loss (%)
Au	10.0 g/t	4	0.29%
Cu	3.00%	3	0.07%
Ag	20.0 g/t	7	1.81%

11.9 Variography

Experimental pairwise relative variograms for the AUCAP, CUCAP, and AGCAP variables were generated to evaluate sample variance, establish search ellipse parameters and model variograms for grade estimation via ordinary kriging within Leapfrog's™ Edge module. All variography was completed using 10.0 ft fixed-length composite samples from resource drillholes falling within the mineralized wireframe domain, with a -74.0° (dip), 26.0° (dip dir.), 100.0° (pitch) orientation, Figure 11-12 and

Figure 11-13. This geometry accommodates the apparent steep, NNE dipping Au-Cu core as well as shallow SSW dipping mineralization observed outside of the mineralized core.

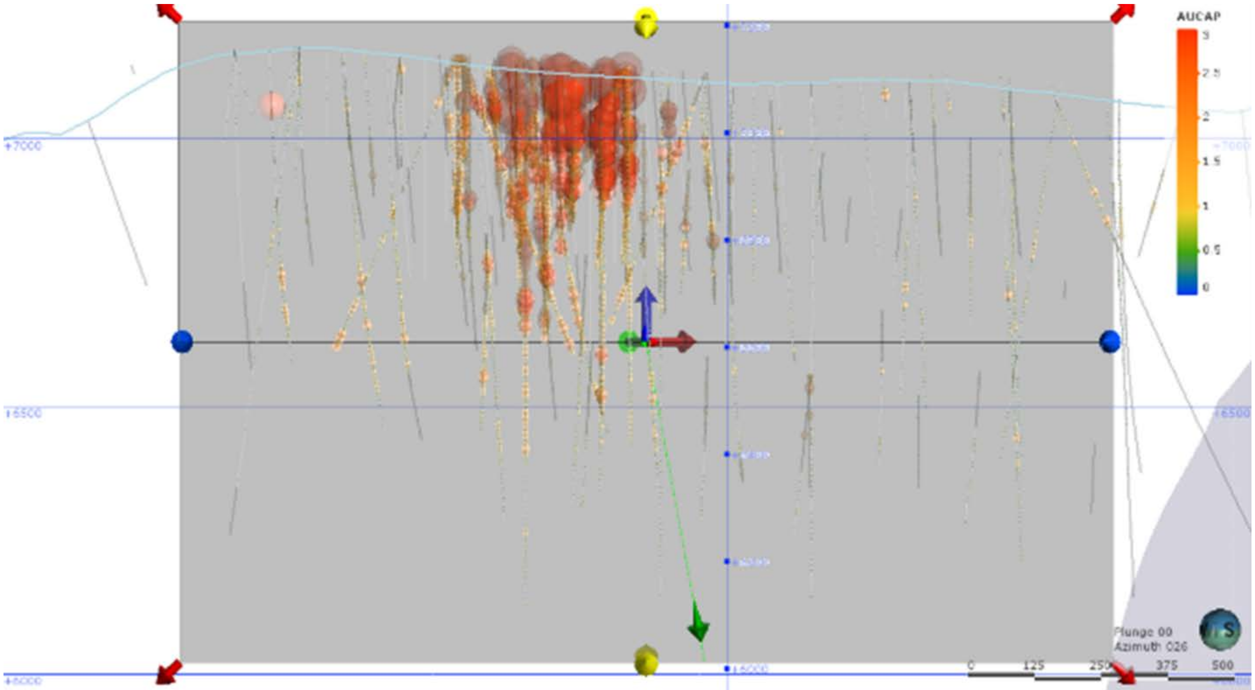


Figure 11-12 Au Composite Points for Resource Drillholes, looking 026° at Plane of Best-fit Mineralization (green arrow indicating 100° pitch) used for Spatial Modeling (Variography)

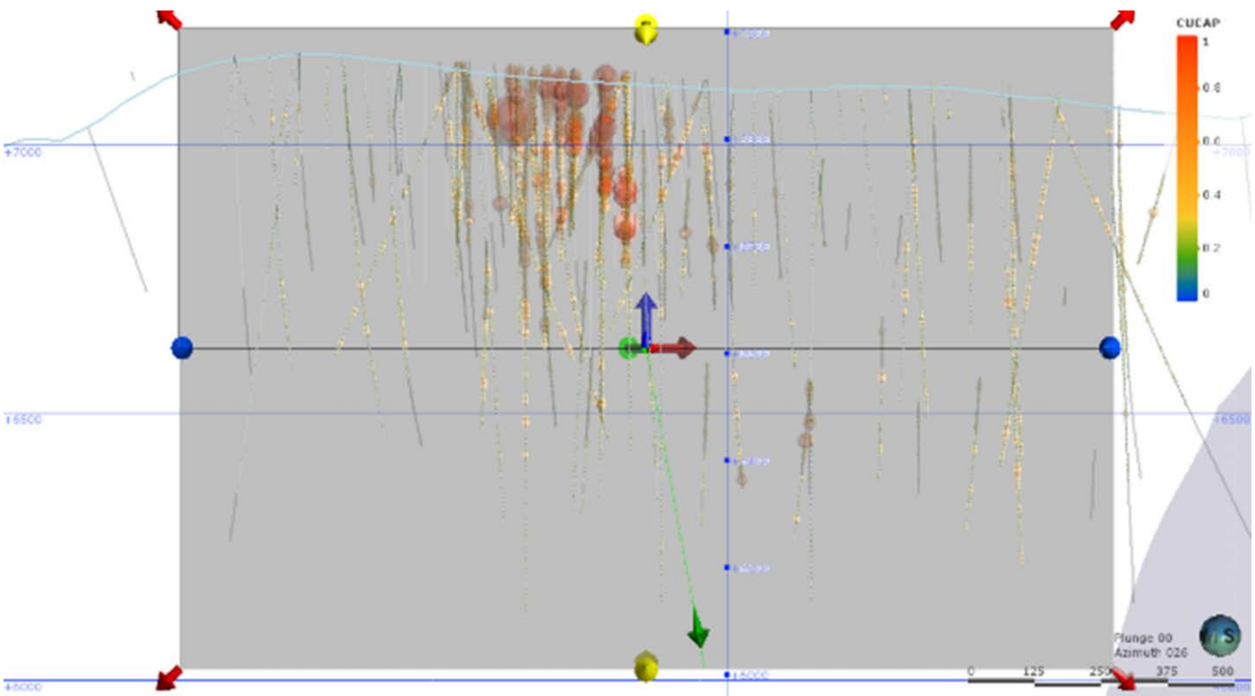


Figure 11-13 Cu Composite Points for Resource Drillholes, looking 026° at Plane of Best-fit Mineralization (green arrow indicating 100° pitch) used for Spatial Modeling (Variography)

Variograms were modeled for the AUCAP, CUCAP and AGCAP variables using a nugget component and 2 additional structures, Figure 11-14. The best-fit orientation of the major, intermediate and minor axis (-74°, 026°, 100°) for the primary AUCAP and CUCAP variables was applied to AGCAP variable, Table 11-6.

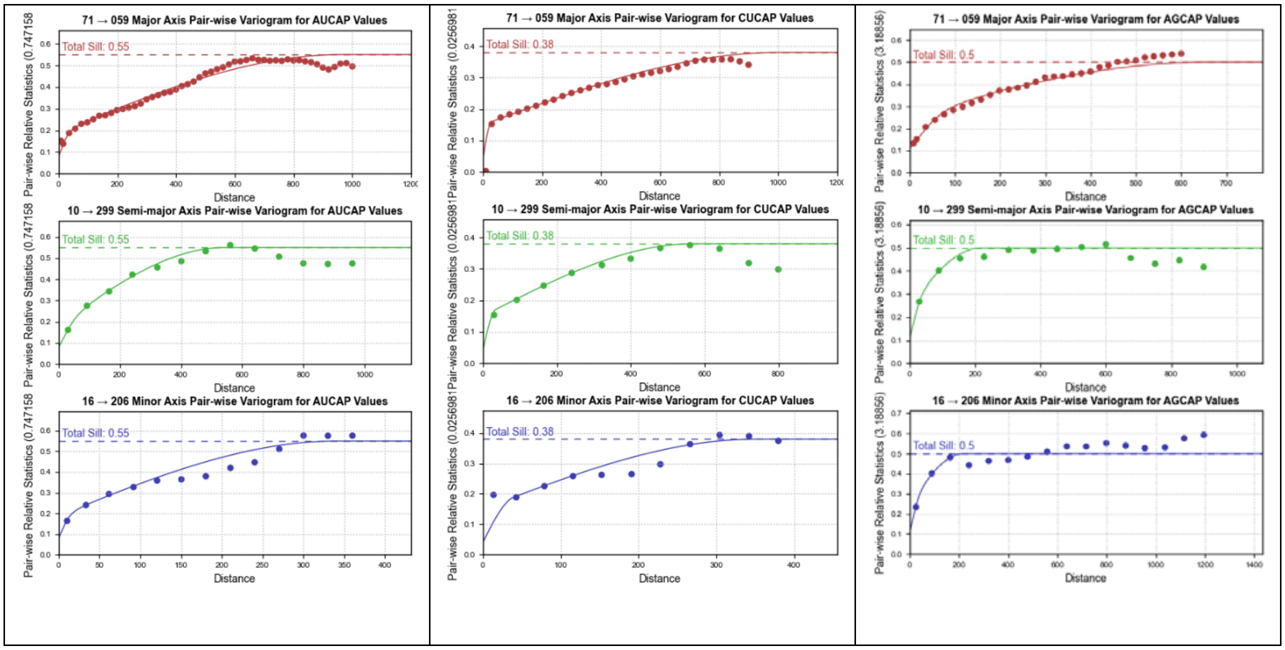


Figure 11-14 Pairwise relative variograms and modeled structures for Major (top), Intermediate (middle) and Minor axis (bottom) for AUCAP (left), CUCAP (center), and AGCAP (right)

Table 11-6 Variogram Parameter Table

General	Direction (deg.)				Structure 1					Structure 2				
Variogram	Dip	Dir.	Pitch	Nugget	Sill	Structure	Major (ft)	Semi-major (ft)	Minor (ft)	Sill	Structure	Major (ft)	Semi-major (ft)	Minor (ft)
AUCAP	74	26	100	0.08	0.11	Spheroidal	75	129	30	0.36	Spherical	960	540	340
CUCAP	74	26	100	0.04	0.11	Spherical	30	35	40	0.23	Spherical	1000	570	350
AGCAP	74	26	100	0.11	0.16	Spheroidal	165	80	90	0.23	Spherical	650	218	218

11.10 Estimation/Interpolation Methods

The behavior of metal grade populations within the modeled mineralization domain was examined and used to establish appropriate estimation procedures for the Au, Cu and Ag variables. Hard boundaries for all defined estimators were applied to restrict the influence of composites falling within the mineralized domain to blocks within the mineralized domain. Original, capped sample grades/lengths were composited within the mineralized domain to 10-foot fixed-length composites for use in estimation.

A combined, two-pass Ordinary Kriging (OK) strategy was employed to estimate metal grades throughout the mineralized domain space within the 3D block model using metal-specific variogram models for the primary AUCAP and CUCAP variables, while AGCAP was estimated using a single OK estimator. The estimation search and sample parameters for each OK pass for the Au, Cu and Ag are summarized in Table 11-7. For the combined Au and Cu estimators, a high confidence, multiple drillhole-composite requirement estimation is assigned an overprinting hierarchy to supersede results of a lower confidence single drillhole-composite requirement. Nearest neighbor estimators were also defined for use in validating estimated resources.

Table 11-7 Estimation Search and Sample Parameters Table

	Ellipsoid Ranges (ft)			Ellipsoid Directions (deg.)			Number of Samples		
Interpolant	Maximum	Intermediate	Minimum	Dip	Dip Azimuth	Pitch	Minimum	Maximum	Max Samples per Hole
AUCAP_OK1	70	65	60	74	26	100	3	30	
AUCAP_OK2	320	260	230	74	26	100	6	16	3
CUCAP_OK1	100	75	50	74	26	100	3	30	
CUCAP_OK2	400	300	200	74	26	100	6	16	3
AGCAP_OK1	260	130	100	74	26	100	2	12	2

11.11 Classification of Mineral Resources

The estimated block grades were classified into Measured, Indicated and Inferred categories via a model calculation using a combination of estimator attributes and composite sample parameters to achieve a suitable assignment of cohesive resource blocks. Blocks with metal grades estimated during the AUCAP_OK2 pass (high-confidence) using composites from 3 or more drillholes with an average distance to composites of <=124.0 ft and an Ordinary Kriging variance of <= 0.20 were assigned a Measured Classification. Indicated Classification was similarly assigned to blocks estimated with the same interpolant using composites from 3 or more drillholes and an Ordinary Kriging variance of <= 0.25. The Kriging variance parameter serves as an additional distance-correlation variable that is derived from the more restrictive Au spatial model. All remaining estimated blocks within the mineralized domain were assigned an Inferred Classification. Figure 11-15 and Figure 11-16, show a long and a cross section respectively of the classified estimated blocks.

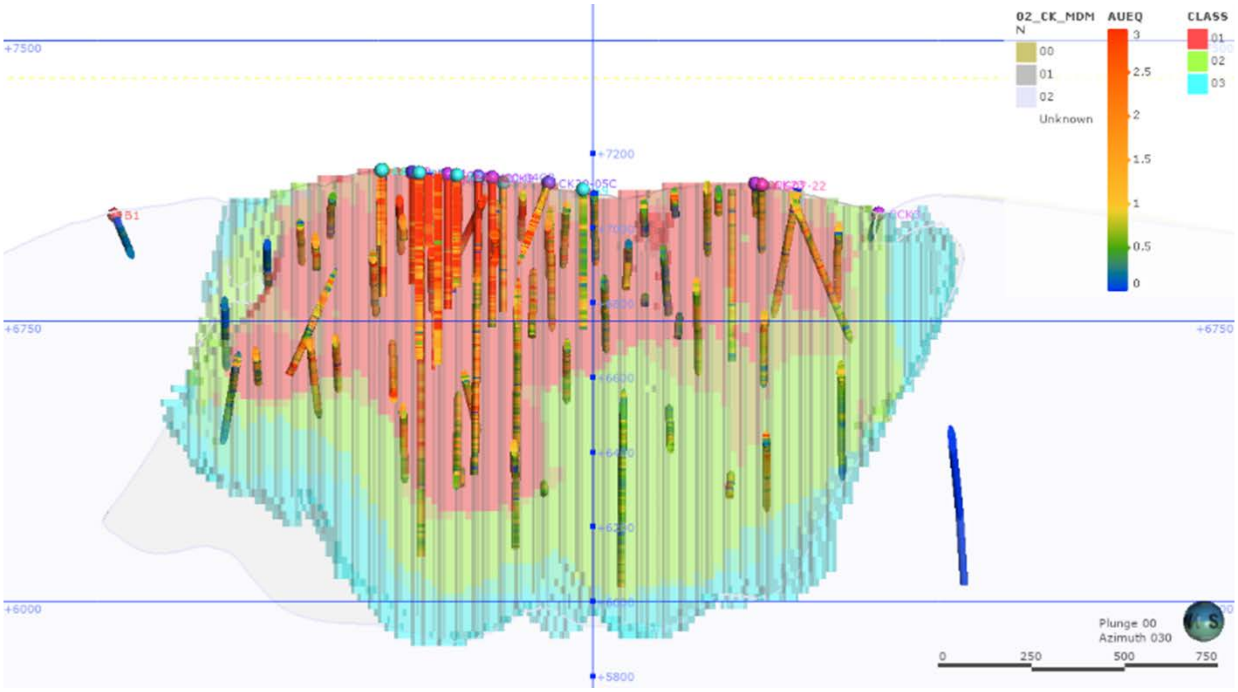


Figure 11-15 Longitudinal (100 ft field of view), looking 030° through the 3D block model, showing Measured (red), Indicated (green) and Inferred (blue) class resources with a ≥ 0.3 g/t AUEQ cutoff applied.

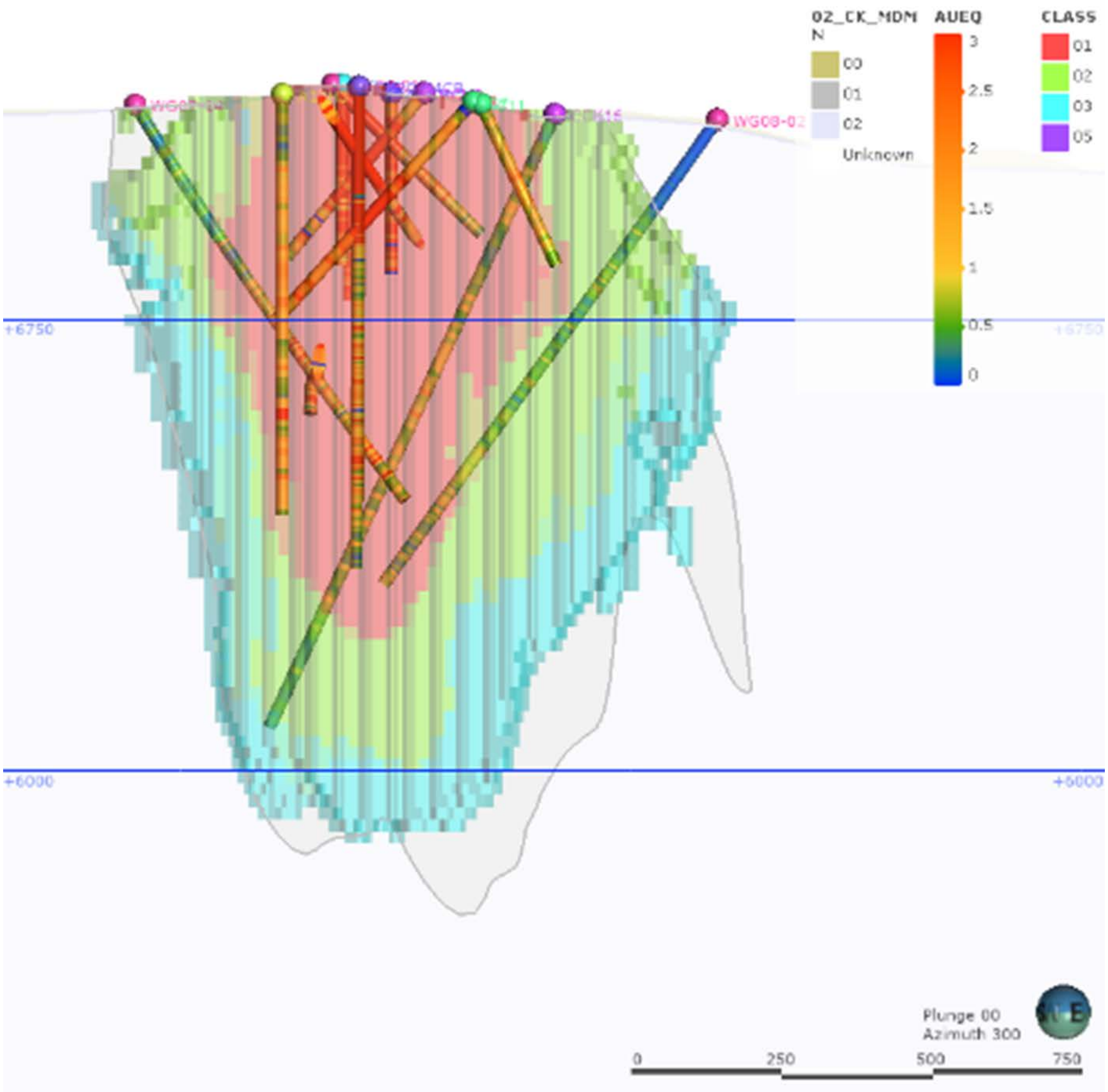


Figure 11-16 Cross-section slice (100 ft field of view), looking 300° through the 3D block model, showing Measured (red), Indicated (green) and Inferred (blue) class resources with a ≥ 0.3 g/t AUEQ cutoff applied.

11.12 Grade Model Validation

Estimated OK grades and extent of interpolated mineralization was reviewed visually against drillhole composites using bench-level and section slices in Leapfrog's 3D viewer and validated by statistical methods, Figure 11-17. Suitable correlation between drillhole composite grades and estimated block grades was found.

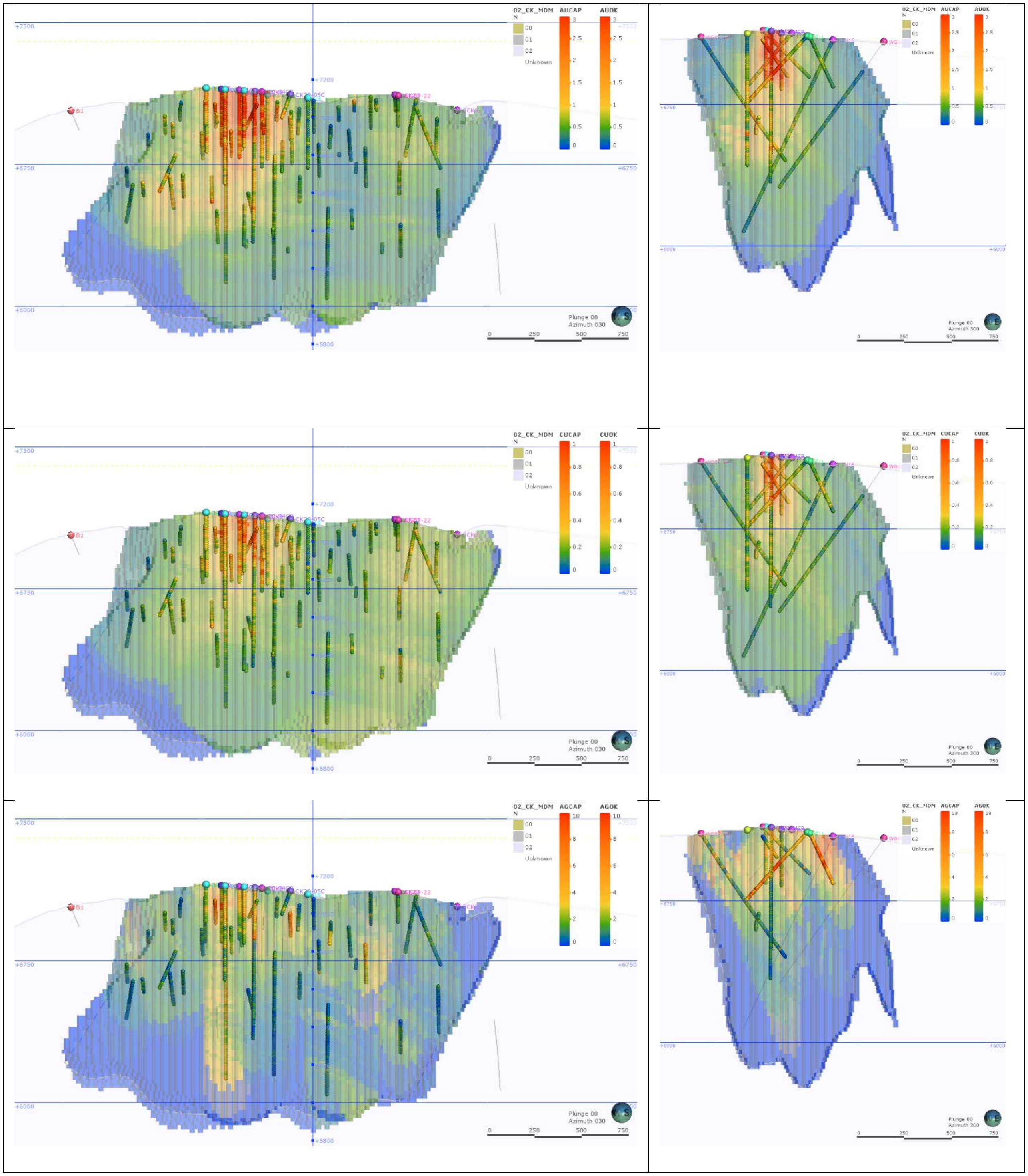


Figure 11-17 Model validation slices (longitudinal and cross-section), with 100 ft field of view looking 030° and 300° respectively, through the Au (top), Cu (center) and Ag (bottom) showing estimated resource block models with 10 ft composites displayed along drillhole traces.

Global estimated OK metal grades were compared to global estimated NN grades at a 0.0 AUEQ cutoff within the PEA's constraining pit shell as a method of global bias validation, Table 11-8. Estimated metal grades between the OK and NN resources for Au, Cu and Ag are within acceptable tolerance (±1.5%); AUOK resources contain -0.26% of AUNN resources, CUOK resources contain -1.32% of CUNN resources and AGOK and AGNN resources have no difference.

Table 11-8 In Pit Estimation Comparison

Domain	Cutoff (AUEQ)	Density	Mass	AUOK	AUNN	AGOK	AGNN	CUOK	CUNN
	g/t	ft³/sh. ton	kt	g/t	g/t	g/t	g/t	%	%
PEA In-Pit	0.00	11.81	120,234	0.379	0.380	1.130	1.130	0.151	0.153
Total	**0.00**	**11.81**	**120,234**	**0.379**	**0.380**	**1.130**	**1.130**	**0.151**	**0.153**

Local bias was evaluated using directional swath plots (Figure 11-18) to compare mean grades and volumes of OK and NN estimations for Au, Cu and Ag. Differences in mean grades observed between the two models were found to exist in areas outside of the pit-constrained resources, representing relatively small volumes of Inferred Class, fringe mineralization along the margins of the modeled deposit.

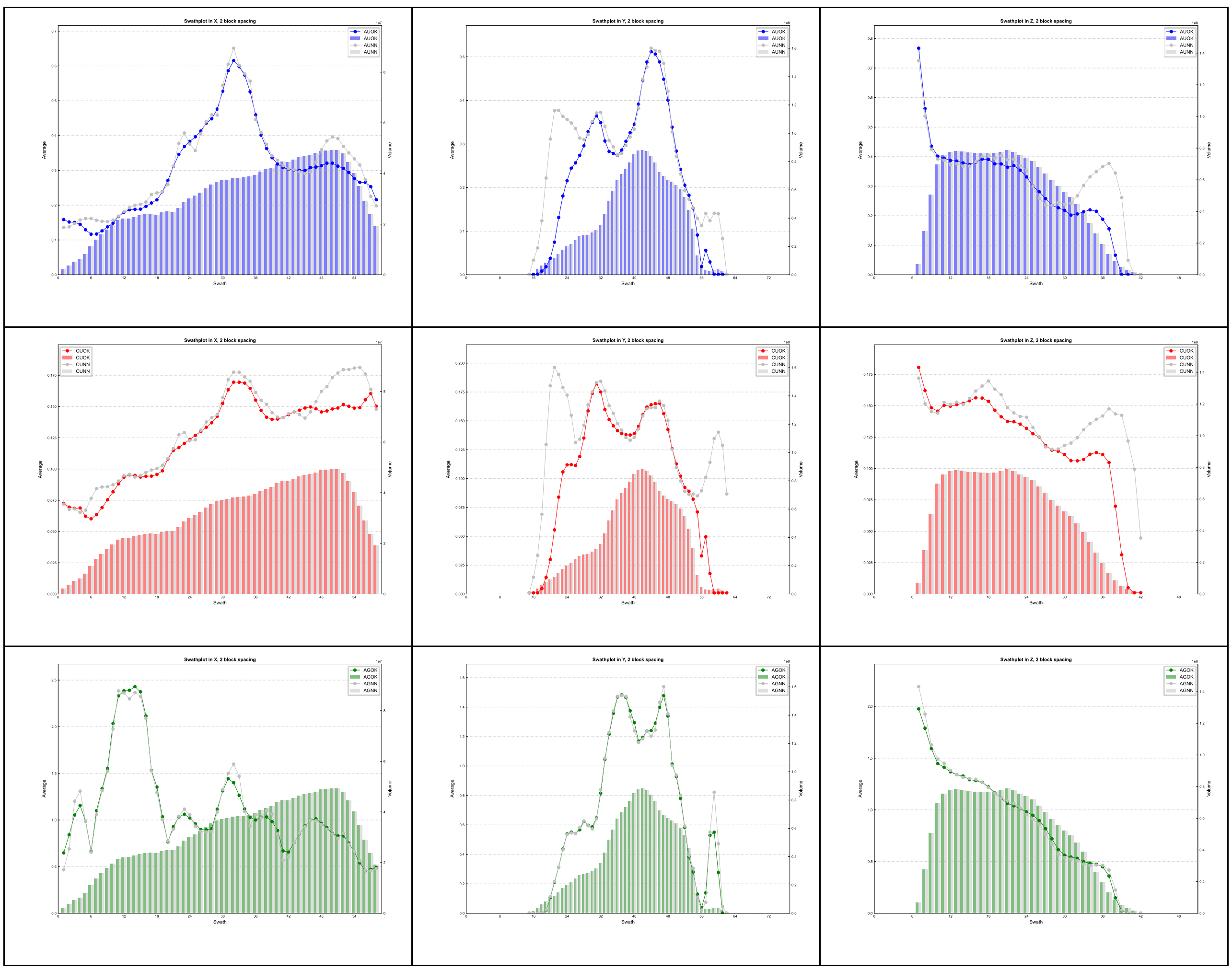


Figure 11-18 X (left), Y (center) and Z (right) swath plots showing mean grades and volume histograms for the AUOK/AUNN models (blue/gray, top), the CUOK/CUNN models (red/gray, middle), and the AGOK/AGNN models (green/gray, bottom).

An additional validation step was completed to evaluate the introduction of any litho-metal bias, particularly within the lower-grade GDK lithologic domain. Estimated OK resources within the modeled GDK domain were found to contain 6% (±2%) of the deposit's combined Au and Cu, while the more similar GD and MYL lithologic domains contain the remaining 94% (±2%). While no matching lithologic/block coding between blocks and composites was used during estimation, drill density was sufficient to yield resources which retain nearly identical original logged coding to raw assay litho-metal ratios.

11.13 Reasonable Prospects of Eventual Economic Extraction

The Mineral Resources presented are contained within a pit optimization excavation limit and at a cutoff grade. The pit optimization determines an economic excavation limit based on a set of project parameters such as metal prices, recovery, and operating costs. The economic parameters used and additional information on the pit optimization can be found in Section 12.1.1.

A cutoff grade is then applied to the material within this excavation limit. An internal cutoff grade is used, based upon the gold equivalent grade. The cutoff grade is used in resource reporting and mine scheduling to differentiate between resource and waste materials. Cutoff grade is simply expressed as the relationship between extraction costs and recoverable metal value, generally expressed as:

Cutoff Grade = Cost / (Metal Value * Metallurgical Recovery %)

A Gold equivalent grade (AuEq) is used simplify the cutoff grade to a single equivalent metal (gold). The gold equivalent grade converts the mass of copper and silver in a given unit (resource block) and converts it into an equal mass of gold which is added to the existing gold content of the given unit. The gold equivalency (AuEq ratio) is calculated on a recovery-weighted basis for the three ore types separately.

The following example shows the calculation of cutoff grade for sulfide materials. The process involves determining the AuEq ratio for copper and silver and summing the resulting gold and gold equivalent grades.

Sulfide AuEq grade = Au grade + Copper AuEq ratio + Silver AuEq ratio

Sulfide, copper AuEq ratio = (realized Au price * Au recovery) / (realized Cu price * Cu recovery)

Sulfide, silver AuEq ratio = (realized Ag price * Ag recovery) / (realized Ag price * Ag recovery)

Table 11-9 AuEq Definitions

Value	Equation
Realized gold price	gold Market Price * (1-Royalty %)
Realized copper price	copper Market Price * (1-Royalty %)
Realized silver price	silver Market Price * (1-Royalty %)
Au recovery	Au concentrator recovery * smelter payable Au
Cu recovery	Cu concentrator recovery * smelter payable Cu
Ag recovery	Ag concentrator recovery * smelter payable Ag

Thus, the sulfide AuEq equation is:

Sulfide AuEq = Au (oz/st) + [Cu (oz/st) / 6818] + [Ag (oz/st) / 212]

Table 11-10 contains the cutoff grades used in the Mineral Resource statement. Table 11-11 shows the metals pricing used in the cutoff grade calculation and Table 11-12 indicates the recovery parameters for oxide, mixed and sulfide materials.

Table 11-10 Cutoff Grades

Material Type	Imperial		Metric	
Oxide	0.0107	AuEq oz/ton	0.37	g/tonne
Mixed	0.0097	AuEq oz/ton	0.33	g/tonne
Sulfide	0.0088	AuEq oz/ton	0.30	g/tonne

Table 11-11 Cutoff Grade Metal Prices

Royalty	5	%
Gold Market Price	1625	$/oz
Gold Realized Price	1544	$/oz
Copper Market Price	3.25	$/lb.
Copper Realized Price	2.44	$/lb.
Silver Market Price	18.00	$/oz
Silver Realized Price	17.10	$/oz

Table 11-12 Cutoff Grade Parameters by Material Type

Parameter	Oxide	Mixed	Sulfide
Au Total Recovery	**58%**	**63%**	**70%**
Au Concentrator Recovery	60%	66%	73%
Au Smelter Payable	96%	96%	96%
Cu Total Recovery	**10%**	**47%**	**82%**
Cu Concentrator Recovery	11%	49%	86%
Cu Smelter Payable	95%	95%	95%
Ag Total Recovery	**27%**	**28%**	**30%**
Ag Concentrator Recovery	53%	56%	59%
Ag Smelter Payable	50%	50%	50%

11.14 Mineral Resource Statement

Mark C. Shutty, CPG and Christopher Emanuel, SME-RM are the Qualified Persons responsible for the mineral resource estimation in Table 11-13 and Table 11-14. Resources do not have modifying factors or dilution applied. The QPs opinion that resources presented reasonably represent the in-situ resources for the CK Gold Project using all available data as of the effective date. The resources are reported at a cutoff grade and inside an optimization shell, both of which represent reasonable prospects for economic extraction.

Table 11-13 Mineral Resource Statement

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tons (000's)	Oz (000's)	oz/st	lbs (millions)	%	Oz (000's)	oz/st	Oz (000's)	oz/st
Measured (M)	30,600	580	0.019	120	0.196	1,540	0.050	759	0.025
Indicated (I)	51,200	534	0.010	160	0.156	1,670	0.033	817	0.016
M + I	**81,800**	**1,110**	**0.014**	**280**	**0.171**	**3,220**	**0.039**	**1,580**	**0.019**
Inferred	22,500	235	0.010	68.3	0.152	323	0.014	357	0.016

[1]Resources Tabulated at a cutoff grade of (0.0107 – 0.0088) AuEq oz./st, 0.009 AuEq Oz/st average
[2]Note only 3 significant figures shown, may not sum due to rounding

Table 11-14 Mineral Resource Statement (Metric)

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tonnes (000's)	Oz (000's)	g/tonne	Tonnes (000's)	%	Oz (000's)	g/tonne	Oz (000's)	g/tonne
Measured (M)	27,800	580	0.649	54.4	0.196	1,540	1.729	759	0.850
Indicated (I)	46,400	534	0.358	72.5	0.156	1,670	1.119	817	0.547
M + I	**74,200**	**1,110**	**0.467**	**127**	**0.171**	**3,220**	**1.347**	**1,580**	**0.660**
Inferred	20,400	235	0.358	31.0	0.152	323	0.492	357	0.545

[1]Resources Tabulated at a cutoff grade of (0.37 – 0.30) AuEq g/t, 0.31 AuEq g/t average
[2]Note only 3 significant figures shown, may not sum due to rounding

11.15 Relevant Factors That May Affect the Mineral Resource Estimate

The CK Gold Project is subject to factors that may affect this Mineral Resource estimate:

- Changes in metals pricing can affect the cutoff grade and thus the quantity of estimated resource
- Changes in assumed operating costs affect the cutoff grade and thus the quantity of estimated resource
- Changes to the tonnage and grade estimates may vary as a result of more drilling, new assays and tonnage factor information
- Changes in recovery assumptions may change the quantity of the estimated resource
- Assumptions as to the ability to maintain mining claims and surface rights, access to the site, obtain environmental and other regulatory permits and obtain social license to operate

11.16 Responsible Person Opinion

The mineral resource estimate is well-constrained by three-dimensional wireframes representing geologically realistic volumes of mineralization. Exploratory data analysis conducted on assays and composites shows that the wireframes represent suitable domains for mineral resource estimation. Grade estimation has been performed using an interpolation plan designed to minimize bias in the estimated grade models.

Mineral resources are constrained and reported using economic and technical criteria such that the mineral resource has a reasonable prospect of economic extraction.

Resources are presented at a cutoff grade and are further constrained within a pit optimization shell. Using a pit shell constraint is intended to eliminate projection of discontinuous resource to depth into areas which are uneconomic even at elevated concentrate prices. Taken together, these two constraints constitute reasonable prospects for economic extraction of the mineralization.

Mark Shutty CPG is the Qualified Person responsible for the resource estimation, and Christopher Emanuel, SME-RM, are responsible for the tabulation of resources. The QP believes that this mineral resource estimate for CK Gold is an accurate estimation of the in-situ resource based on the data available, and that the available data and the mineral resource model are sufficient for mine design and planning.

12 Mineral Reserve Estimate

The Mineral Resources described in Section 11 are the primary basis for the estimate of Mineral Reserves described in this report section. The parameters discussed in Section 12.1 are part of the qualifiers that allow the conversion of Mineral Resources to Mineral Reserves. The Mineral Resource refers to the inventory of mineralization that can reasonably be expected to become economic under stated parameters, while the Mineral Reserves identified, report a sub-set of the Mineral Resource that is economic under more rigorous parameters, principally metal prices, that conform to industry standards and practice.

The mineral reserve estimate for the CK Gold Project lies inside a designed mine open pit. This mine pit sits inside a larger potentially economic resource shell for the property. The pit design is guided by an economic pit limit analysis based on the economic parameters contained within this section. The designed pit is then scheduled into a mine plan spanning the life of the project, and a discounted cash flow model to assess the economic viability of the project.

12.1 Basis, Assumptions, Parameters and Methods

12.1.1 Pit Optimization

The resource model described in Section 11 provides the base data for the Mineral Reserve estimate. Gustavson performed economic pit limit analysis using Datamine's NPV Scheduler software which uses the Lerchs-Grossmann algorithm to determine an economic excavation limit based on input parameters Table 12 1 contains the optimization parameters that were used in the optimization.

Table 12-1 Pit Optimization Parameters

Item	Value	Units
Gold Price	$1625	$/oz
Copper Price	$3.25	$/lb.
Silver Price	$18.00	$/oz
NSR Royalty*	5	%
Concentrate Smelting & Transport	$0.55	$/lb Cu recovered
Overall gold recovery	70	%
Overall copper recovery	79	%
Overall silver recovery	58	%
Mining Cost	$1.75	$/ton mined
Process Cost	$7.50	$/ton processed
Tailings Cost	$1.00	$/ton processed
Sitewide G&A	$1.50	$/ton processed
Pit Slope	48	Degrees

* Note: Over all recovery considers (concentrator recovery and smelter payable) See definition of Royalty for Wyoming State Land Lease, Section 3.4

The pit optimization used for guiding the final pit design only considers Measured and Indicated Resources, metal classified as Inferred Resource is ignored. The metals pricing used in the optimization parameters is the same metal pricing used in the economic analysis. and is a weighted long-term forecast which is comprised of 1/3 long term metals forecasting and 2/3 the two-year trailing average. The QP believes that this is a reasonable assumption and additional information is provided in Section 16.

The economic excavation boundary (pit shell) indicated by the pit optimization is used to guide the design of the final pit. This final pit design becomes a hard boundary in the conversion of Mineral Resources to Mineral Reserves. Mineral Resources in the Measured and Indicated categories inside the final pit design may convert, or classify, as Mineral Reserves, subject to resource classification and cutoff grade. Additional detail about the mine design is found in Section 13.

12.1.2 Cutoff Grade

A full explanation of cutoff grade determination and parameters is given in Section 11.13. The cutoff grade methodology and parameters for Mineral Resources is the same as Mineral Reserves. The cutoff grades used for the Mineral Reserve tabulation are shown in Table 12-2 , reproduced from Section 11.13. The value of the mineralization is estimated on the basis of modeled gold, copper and silver recoverable, hence the cut-off grades are reported in equivalent gold ounces per ton. See discussion on the parameters and calculation of equivalence in Section 11.13.

Table 12-2 Reserve Cutoff Grade

Material Type	Imperial		Metric	
Oxide	0.0107	AuEq oz/ton	0.37	g/tonne
Mixed	0.0097	AuEq oz/ton	0.33	g/tonne
Sulfide	0.0088	AuEq oz/ton	0.30	g/tonne

12.1.3 Dilution

Due to the disseminated nature of the mineralization, dilution is not expected to be an issue during mining and a dilution factor is not used in the determination of Mineral Reserves. A grade control program would likely be sufficient to prevent excessive dilution or ore losses.

12.2 Mineral Reserves

CK Gold Mineral Reserves are tabulated in Table 12-3 and Table 12-4. Christopher Emanuel, SME-RM is the Qualified Persons responsible for the Reserves Statement. Mineral Reserves are reported inside of a detailed pit design, using suitable parameters for this site. The pit design was guided by the pit optimization.

Table 12-3 Mineral Reserve Statement

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tons (000's)	Oz (000's)	oz/st	lbs (millions)	%	Oz (000's)	oz/st	Oz (000's)	oz/st
Proven (P1)	29,600	574	0.019	118	0.198	1,440	0.049	757	0.026
Probable (P2)	40,700	440	0.011	130	0.160	1,220	0.030	679	0.017
P1 + P2	**70,400**	**1,010**	**0.014**	**248**	**0.176**	**2,660**	**0.038**	**1,440**	**0.020**

Table 12-4 Mineral Reserve Summary (Metric)

	Mass	Gold (Au)		Copper (Cu)		Sliver (Ag)		Au Equivalent (AuEq)	
	Tonnes (000's)	Oz (000's)	g/tonne	Tonnes (000's)	%	Oz (000's)	g/tonne	Oz (000's)	g/tonne
Proven (P1)	26,900	574	0.664	53	0.198	1,440	1.664	757	0.876
Probable (P2)	37,000	440	0.370	59	0.160	1,220	1.027	679	0.571
P1 + P2	**63,800**	**1,010**	**0.494**	**112**	**0.176**	**2,660**	**1.295**	**1,440**	**0.700**

This Mineral Reserve is the maiden Mineral Reserve declaration for the CK Gold property. No previous Mineral Reserves have been declared.

12.3 Classification and Criteria

Resource classification is discussed in Section 11.11. Measured and Indicated Resources inside the designed pit are classified as Proven and Probable Mineral Reserves, respectively. Mineral Reserves use the same cutoff grades definitions as Mineral Resources. This reserve classification does not affect the Mineral Resource statement.

12.4 Relevant Factors

The CK Gold project is subject to factors that may impact the Mineral Reserve statement:

- Economic factors such as changes in metals prices, operating costs or capital expenditures
- Changes to the estimated Mineral Resources
- Metallurgical factors affecting recovery
- Maintenance of social and environmental license to operate

13 Mining Methods

13.1 Introduction

Open pit, surface mining is the selected mining method for the CK Gold Project. This mining method is selected based on the size, shape, location and value of the mineralization on the property. The Project's disseminated type mineralization has a large extent and is located near to or outcropping at surface. Additionally, open pit optimizations attempting to maximize the recovery of the in-situ resource show economic excavation results using current project parameters and base case metal prices.

Surface mining is a cyclical process where the four main tasks are drilling, blasting, loading and haulage are occurring concurrently at different areas of the property. In areas to be excavated vertical blast holes are drilled in a regular pattern and charged with blasting agents. The material is shot, loaded into 100st class rigid frame haul trucks, and transported based on material type to three different locations, run of mine (ROM) Crusher Stockpile Ore, Co-Disposal Tailings Facility, Mineralized Material Stockpile and Waste rock storage facility. Wherever possible Crusher Stockpile Ore will be direct dumped into the primary crusher at the process plant.

Contractor mining has been selected as the preferred method for the purposes of the PFS. This decision, in large part is due to the location of the project, local mining and contracting expertise and the availability of potential contractors with available equipment, and recognizing the downturn in the mining sector in Wyoming. As part of the studies, mining costs were estimated from first principles with equipment depreciation and contractor margins included. Owner mining is in no way eliminated as an option for mine development, pending further review.

13.2 Geotechnical Parameters

A geotechnical investigation for the Project was conducted by Piteau Associates. Piteau issued a technical memorandum dated July 13, 2021 titled "Recommended Prefeasibility Level Geotechnical Slope Designs for the Copper King Open Pit". This section contains a summary of the report.

The following list summarizes the scope of work that Piteau performed as part of the geotechnical investigation:

- Full geotechnical logging of 5 core holes, detailed structure logging
- Rock mass strength assessments, laboratory testing and analysis
- Structure assessment, Kinematic analysis
- Recommended end of life slope design
- An assessment of the effects of ground water and pore pressure on slope stability

Table 13-1 Basic Slope Geometry and Parameters

Design Sectors:	Shown on Figure 13-1
Bench Height:	40ft single bench in surficial weathered rock, 80ft in competent rock
Bench Face Angle	Angle by sector, incorporates expected back break
Effective Catch Bench Width	Minimum effective catch berm width 23ft and 31ft for 40ft and 80ft benches respectively
Maximum Allowable Inter-ramp angles	
40ft pre-split benches	48 – 53 degrees
80ft pre-split benches	52 – 55 degrees
Minimum Factor of Safety	1.2

Table 13-2 Recommended Slope Designs

Design Sector	Max Inter-ramp Slope Angle	Max Inter-ramp Slope Height	Catch Bench Width	Face Angle
I	53	400	38.8	75
II	54	390	36.7	75
III	55	380	34.6	75
IV	52	240	41.1	75
V	54	260	36.7	75
VI	52	520	41.1	75
VII	54	340	36.7	75
VIII	52	430	41.1	75

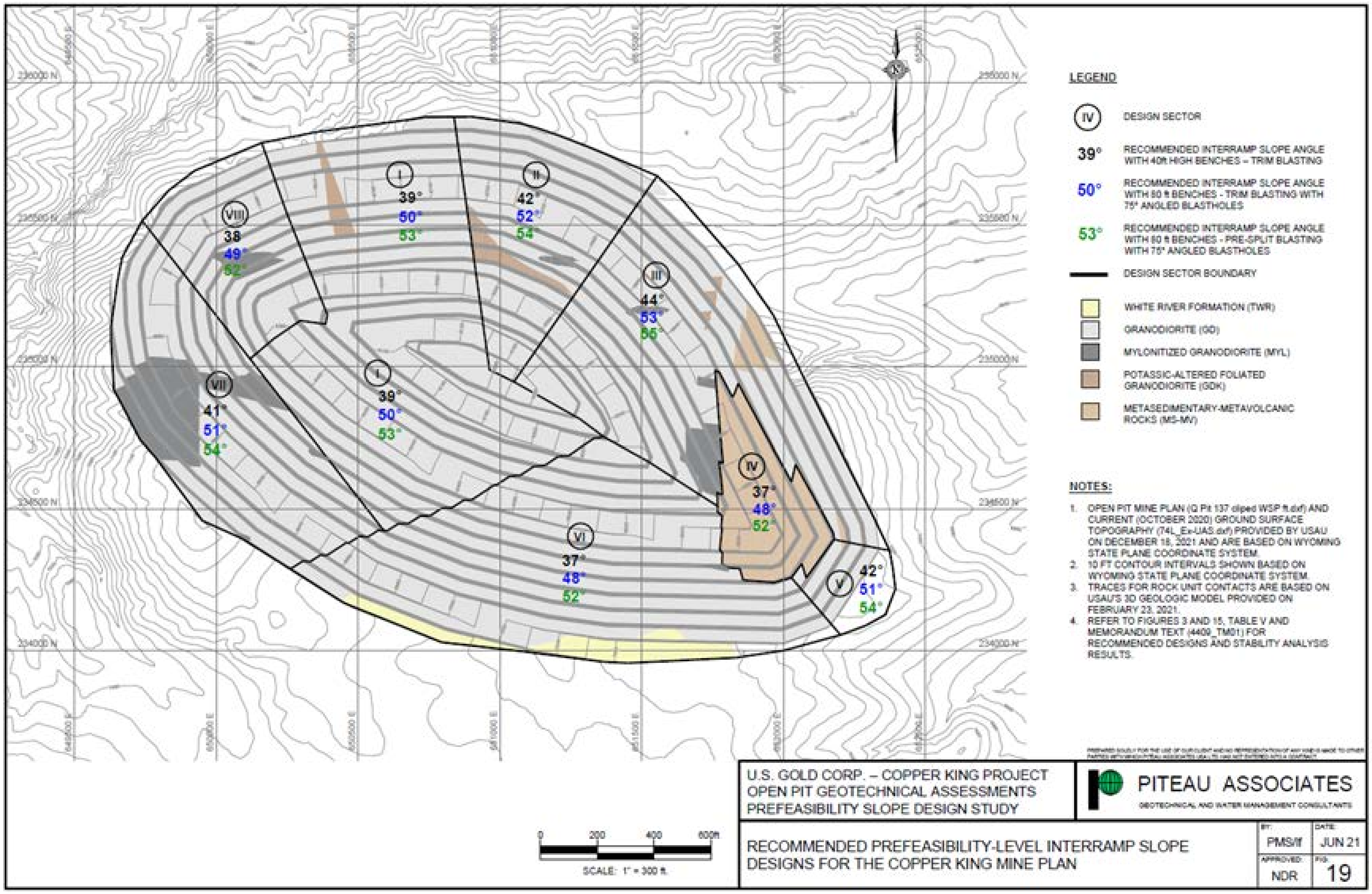


Figure 13-1 Pit Sectors and Recommended Slopes

13.3 Hydrogeological Parameters

A groundwater flow model is under development with the objective of assessing the interactions between the proposed open pit and the groundwater system. The rock hosting the mineral deposit is of relatively low permeability. Groundwater inflow into the pit is expected to be less than 100 gallons per minute (gpm). It is anticipated that the pit can be passively dewatered during mining, with no dewatering wells needed. Pit dewatering is not expected to significantly affect surface water bodies or water supply sources in the vicinity of the mine. The open pit will form a terminal hydrologic sink, meaning that water within the pit's capture zone will be contained and will not migrate out of the pit. A pit lake is predicted to form after the end of mining over a long period of time, well in excess of 100-years. These findings will be confirmed through additional groundwater monitoring and modeling.

The groundwater characterization program started in September 2020 and continues in 2021. Characterization sites have included groundwater monitoring wells, standpipe piezometers, Vibrating Wire Piezometers (VWP), core holes, and Reverse-Circulation (RC) boreholes. Monitoring and testing in these boreholes includes groundwater levels, pore pressures, packer testing, air-lift testing, and water-quality sampling. Table 13-3 shows the current monitoring sites.

Quarterly water-quality monitoring began in December 2020 and is continuing in 2021. Seven monitoring wells were drilled, completed, developed, and sampled for baseline water quality. The baseline water quality at the site is defined by four, quarterly sampling events.

Groundwater flow directions are being defined by monitoring wells, standpipe wells, and VWPs. Groundwater levels are being monitored in seven (7) monitoring wells and two (2) standpipe wells. Pore-water pressures are being monitored hourly in four (4) VWP boreholes with a total of 12 piezometers.

Table 13-3 Monitoring Sites Installed in 2020

Site Name	Site Type	Aquifer Monitored	Land-surface Elevation (feet above mean sea level)	Collar Location (State Plane NAD83)	
				Easting	Northing
MW-1	Monitoring well	Granite	7,018	649270	234398
MW-3	Monitoring well	Meta-sediments	6,900	653209	235042
MW-4	Monitoring well	Granite	7,139	649279	233341
MW-5	Monitoring well	Granite	7,133	650933	232926
MW-7	Monitoring well	Granite	7,134	650768	234918
MW-8a	Monitoring well	Alluvium	6,809	659008	235418
MW-8b	Monitoring well	White River sed.	6,814	658960	235441
CK20-04cB	Standpipe well	Granite	7,136	650757	234988
CK20-06c	Standpipe well	Granite	7,045	651219	235066
CK20-09rc	VWP	Granite	7,102	650996	234603
CK20-17c	VWP	Granite	7,044	651215	235046
CK20-18c	VWP	Granite	7,101	651455	234532
CK20-19c	VWP	Granite	7,171	650142	235048

Additional testing will be conducted during the 2021 Drilling Program. Exploration holes that intersect previously identified faults will have packer tests to estimate the fault properties. All RC boreholes will have air-lift testing during drilling to estimate groundwater inflow rates.

Stream-aquifer interactions will be monitored with paired wells located on the Middle and South forks of Crow Creek. At each location, a shallow alluvial well and a deeper bedrock well will be installed. These streams flow through shallow alluvium and the White River Formation that overlies the granite bedrock. The hydraulic connection between the granite aquifer and streamflow will be investigated.

The Hydrogeology Program will also use rock core, geophysical logs, and Rock Quality Data (RQD) obtained from holes. These data assist in identifying fracture and faults zones and their potential as groundwater flowpaths.

13.3.1 Pit Water and Conceptual Model

The on-going hydrogeologic monitoring and testing programs are supporting the open pit evaluation. The objective of this evaluation is to assess the interactions between the proposed open pit and the groundwater system. A groundwater flow model (Model) continues to be under development to aid this evaluation. The Model predicts hydrogeologic conditions like the formation of a hydraulic sink, groundwater inflow to the pit, potential groundwater drawdown, and potential impacts to streams and water rights. If it is determined that there is potential for contaminants to migrate beyond the project boundary, the Model will be used to predict the potential water-quality changes.

The groundwater model is a numerical representation of the hydrogeologic conceptual model, which describes the hydrologic components and their interactions. Hydrogeologic features, like streams, reservoirs, irrigated land, and wells, in the project area are shown in Figure 13-2. The hydrogeologic conceptual model also describes the aquifers, faults, stream-aquifer interactions, recharge, evapotranspiration, and external boundary conditions.

The ore deposit is in granitic granodiorite rocks that are part of the metasedimentary and volcanic bedrock shown on the surface geology map, Figure 13-3. In the pit area the saturated granite forms a confined aquifer with low permeability and low storage. Wells typically yield little water and slowly recover from pumping. In low lying areas immediately to the north and south of the proposed open pit, the granite is overlain by the White River Formation. Domestic wells west of the proposed open pit are collared in the White River with several drilled into the underlying granite. The primary aquifer providing water to these wells is currently unclear.

North and south of the open pit are the Middle and South forks of Crow Creek. These streams flow through shallow alluvium that overlies the granite bedrock. These are intermittent streams with low discharge, except during periods of surface runoff during spring runoff and following summer thunderstorms. In the higher elevation areas west of the project area, these streams gain flow from the underlying granite aquifer. These streams are dammed and form Crystal Reservoir and South Crow Creek Reservoir. The reservoir outflows are controlled, and the streamflow is lost to diversions, evapotranspiration, and infiltration into the alluvium as they flow east.

The hydraulic connection between the granite aquifer and stream-channel alluvium will be investigated with paired wells. These monitoring wells are planned for the Middle and South forks of Crow Creek north and south of the proposed open pit. At each location, a shallow alluvial well and a deeper bedrock well are planned. These wells will provide information on the hydraulic connection between the streams and the underlying granite aquifer. If there is a connection, there is a possibility that mine induced drawdown in the granite could reduce streamflow. Conversely, if there is no hydraulic connection mine drawdown would not influence streamflow.

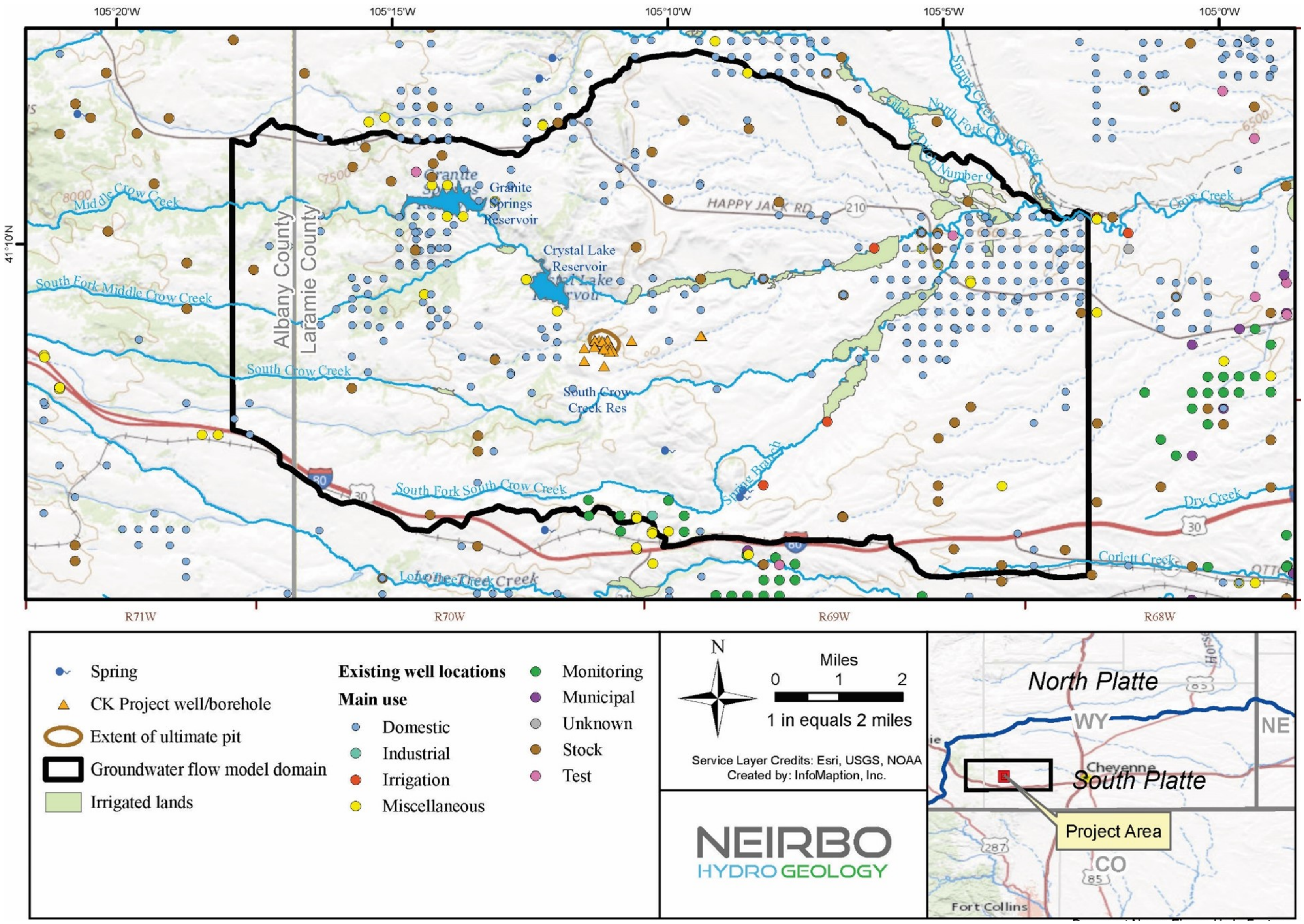


Figure 13-2 Hydrologic Features

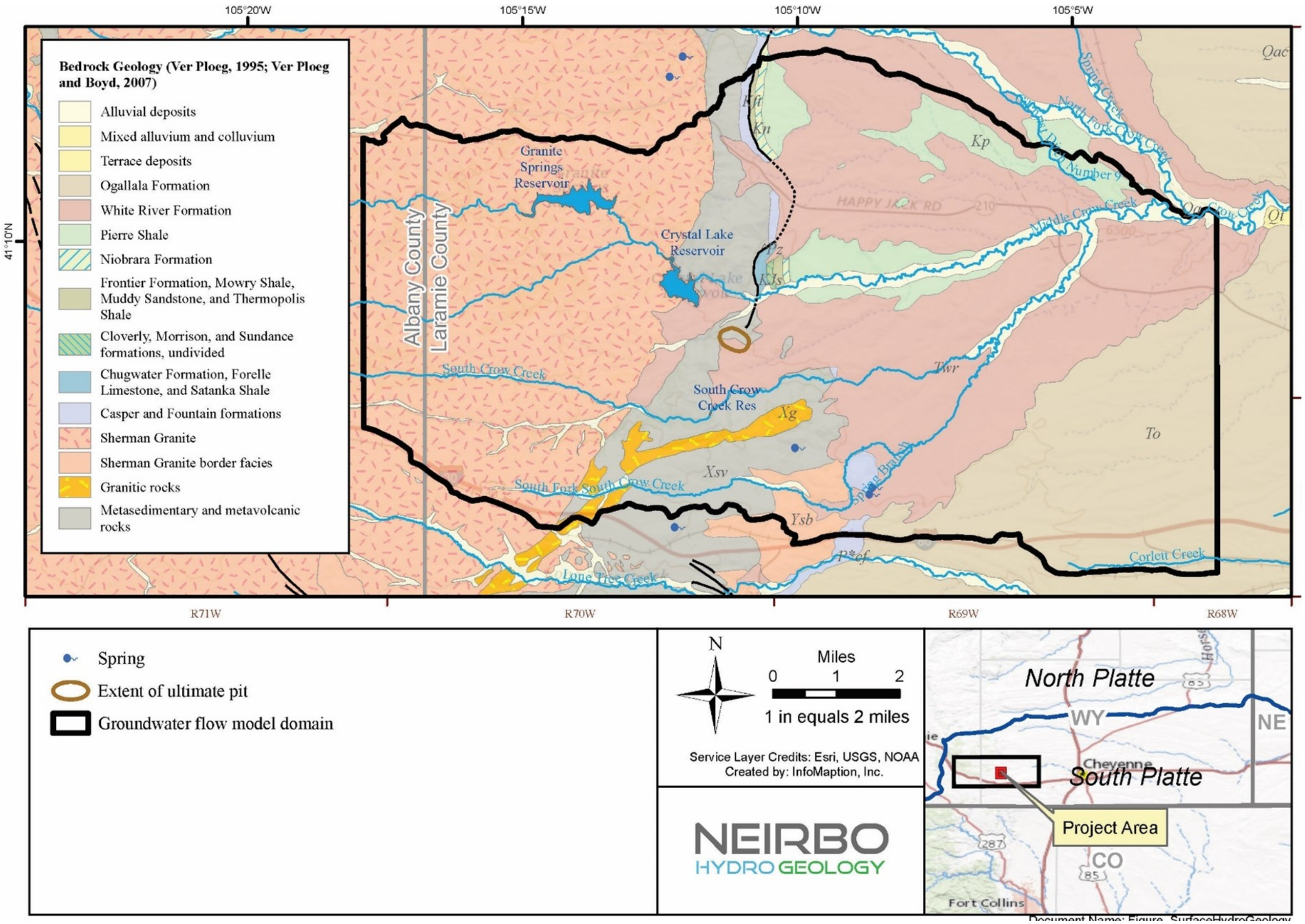


Figure 13-3 Surface Hydrogeologic Units

The geologic units, faults, surface-water features, and wells are visualized in the three-dimensional conceptual model. The Precambrian granite groundwater flows from the higher elevation areas of the Laramie Range, west of the project area, to the east. The granite can yield water to small domestic wells but is not considered a significant aquifer in Laramie County. East of the pit, the White River formation thickness increases as the depth to the granite unit increases. The White River is then underlain by Cretaceous formations. Monitoring well MW-8b was completed in the White River formation and its total depth reached the underlying Pierre Shale. Test borings into the Cretaceous units are planned for the 2021 field season. These borings will provide data on the geologic unit thicknesses, lithology, and water yielding potential.

The Tertiary High Plains Aquifer occurs east of the Project area and consists of the White River Group, Arikaree formation, and the Ogallala formation. Potentiometric surface contours for the granite aquifer and the High Plains aquifer are shown on. Due to the low permeability of the granite aquifer there is little potential for groundwater flow between the granite and High Plains aquifer.

Underlying the High Plains Aquifer are the Lance, Fox Hills, and Casper Aquifers. Due to its depth, the Casper Aquifer is only a feasible water source in a narrow band along the east flank of the Laramie Range, west of Cheyenne. The Lance and Fox Hills Aquifers are a minor source of water.

13.3.2 Groundwater Flow Model

The preliminary groundwater model has been developed based on the data and analyses obtained from the characterization program and existing, publicly available data. will be incorporated in the Model. An extensive drilling, monitoring, and testing program is planned for 2021. Since the Model, and its predictions, may change based on these model updates, the predictions presented herein are considered preliminary.

The Model simulates the pre-mining hydrogeologic conditions, through active mining, and into the post-mining period. Average annual conditions are simulated.

Groundwater inflow to the open pit begins when pit advancement reaches the water table. The inflow rates are predicted to be low due to the low permeability and low storage properties of the granodiorite ore deposit. Permeability of the rock matrix is very low, with hydraulic conductivity estimated during packer testing, of 1.3×10^{-5} to 8.3×10^{-4} feet/day (4.6×10^{-9} to 3.0×10^{-7} cm/s). Packer testing in fractured rock estimated hydraulic conductivity 9.2×10^{-3} to 5.6×10^{-2} feet/day (3.2×10^{-6} to 2.0×10^{-5} cm/s). Although the fractured rock permeability is several orders of magnitude higher than the rock matrix, this permeability is low.

The Model predicts that the open pit will form a terminal hydrologic sink. This means that groundwater will flow into the pit and will not flow out of the pit. Any contaminants within the pit's capture zone will be contained and will not migrate out of the pit. A pit lake is predicted to form after the end of mining and cessation of dewatering. A geochemical testing program is currently underway to estimate the pit lake water quality during the post-mining period.

The low permeability rocks will yield low rates of groundwater inflow into the pit. Most inflow will be through faults with the rock matrix producing little water. Preliminary groundwater modeling predicts annual average inflows during the first year are 42 gallons per minute (gpm) (2.6 L/s). As the pit deepens and additional faults are intercepted, the inflows increase to about 75 gpm (4.7 L/s) in years 2 through 5. The inflow decrease in year 6 indicates that water is draining from the faults. The peak annual average groundwater pit inflow is 95 gpm (6 L/s) in mining year seven (7), Figure 13-4.

It is anticipated that the pit can be passively dewatered. Groundwater seeping into the pit from the low-permeability granite and faults will be collected in sumps. This water will be pumped from the pit and used for operational activities like mineral processing and dust suppression. Dewatering wells are not expected to be needed due to the low inflow rates and competent pit-wall rock.

Groundwater drawdown in the granite aquifer slowly migrates away from the open pit. The predicted drawdown at the end of mining is shown on Figure 13-5. Groundwater drawdown extends radially around the pit, with less than 5ft. (1.5m) of drawdown predicted at Middle Crow Creek to the north and South Crow Creek to the South. The drawdown is greatest along fault zones where the permeability is higher than the less fractured rock matrix. Drawdown continues to expand after the end of mining and reaches a maximum extent about 100 years after the end of mining. A short reach of Middle Crow Creek is predicted to have about 5ft. (1.5m) of drawdown 100 years after mine closure, Figure 13-6. Less than 5ft. (1.5m) of drawdown is predicted at South Crow Creek after 100 years. An east-west section view of drawdown is shown on Figure 13-7.

Drawdown in the granite aquifer does not necessarily indicate that shallower groundwater or surface water will be impacted. The granite's overall low permeability suggests that it is not hydraulically connected to the overlying units. Paired wells completed in the alluvium and bedrock are planned for 2021 and will investigate these hydrogeologic conditions.

After mining ends, the pit will slowly fill with water and a pit lake will form. The rate of filling depends on groundwater inflow, precipitation, and evaporation. The pit lake water balance is shown in Figure 13-8. Predicted groundwater inflow is 36 gpm (2.3 L/s) at the end of mining and it gradually decreases to 20 gpm (1.3 L/s) after 150 years. The lake will reach 99-percent of its equilibrium stage of 6,670ft. (2,033m) amsl after 175 years. This reflects the low aquifer permeability, low precipitation, and high evaporation rates in the project area.

These Model predictions are subject to change as the site investigation and groundwater model development continues. Additional drilling and testing during 2021 will refine the aquifer permeability and storage properties.

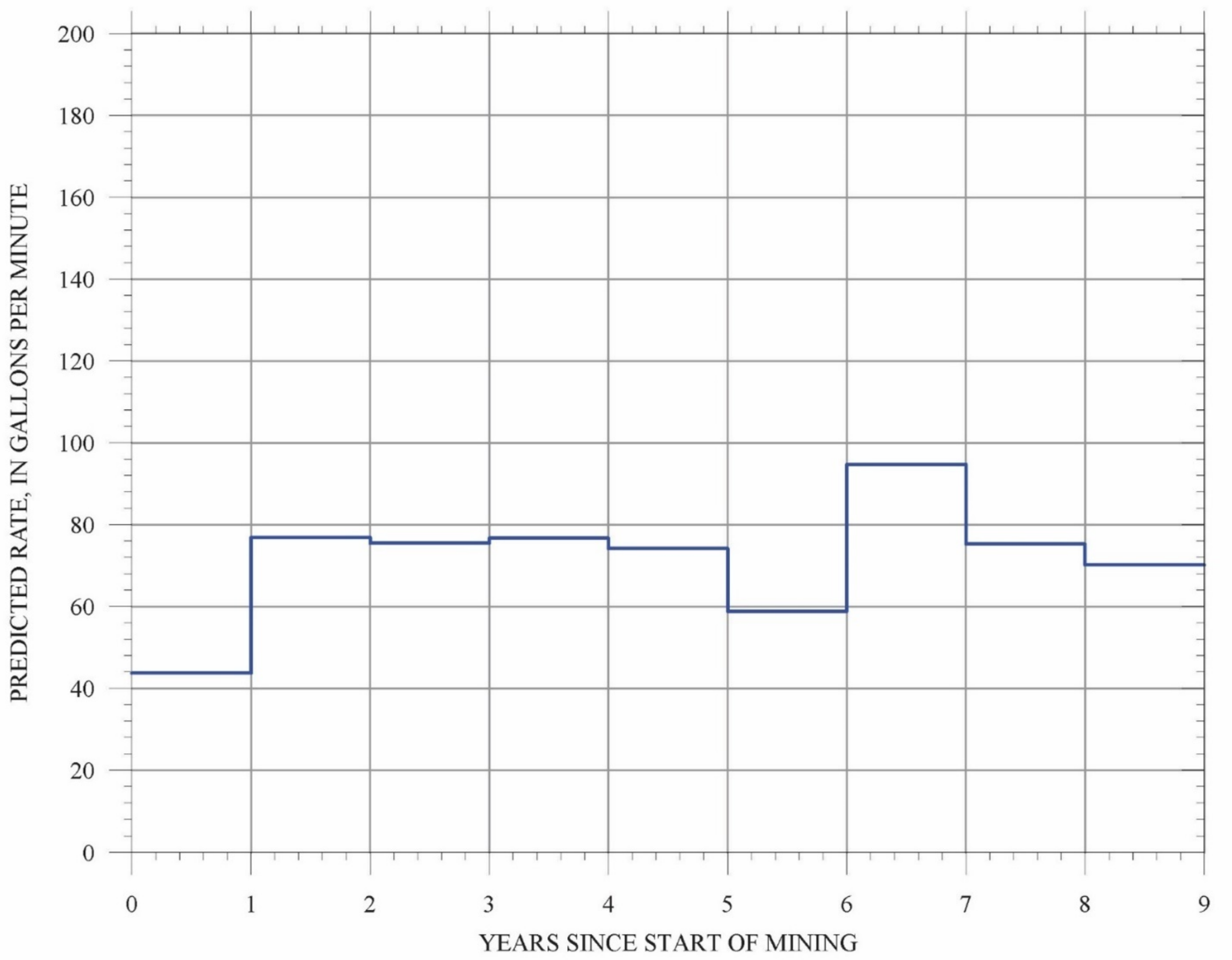


Figure 13-4 Predicted Open Pit Inflows

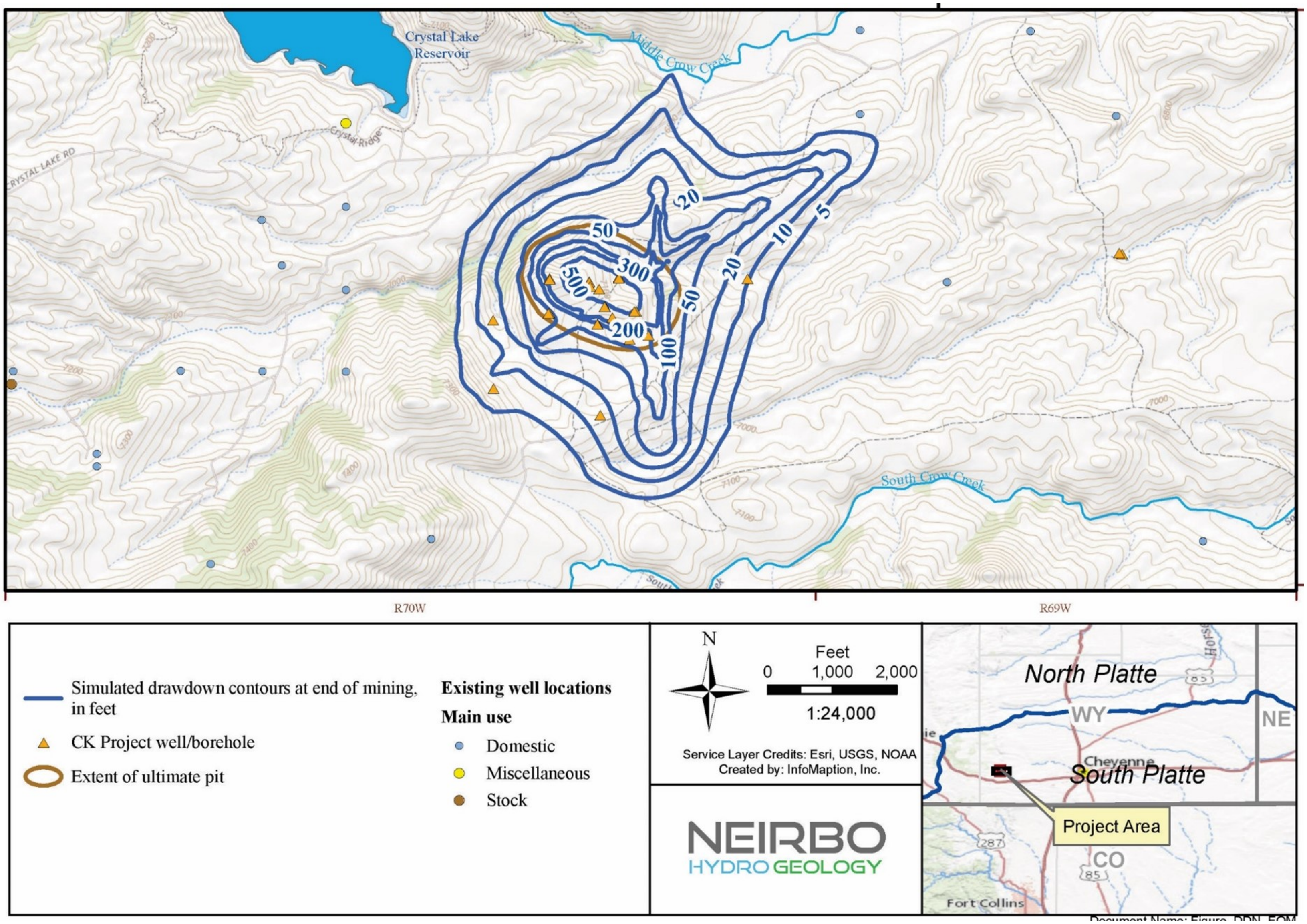


Figure 13-5 Predicted Groundwater Drawdown at End of Mining

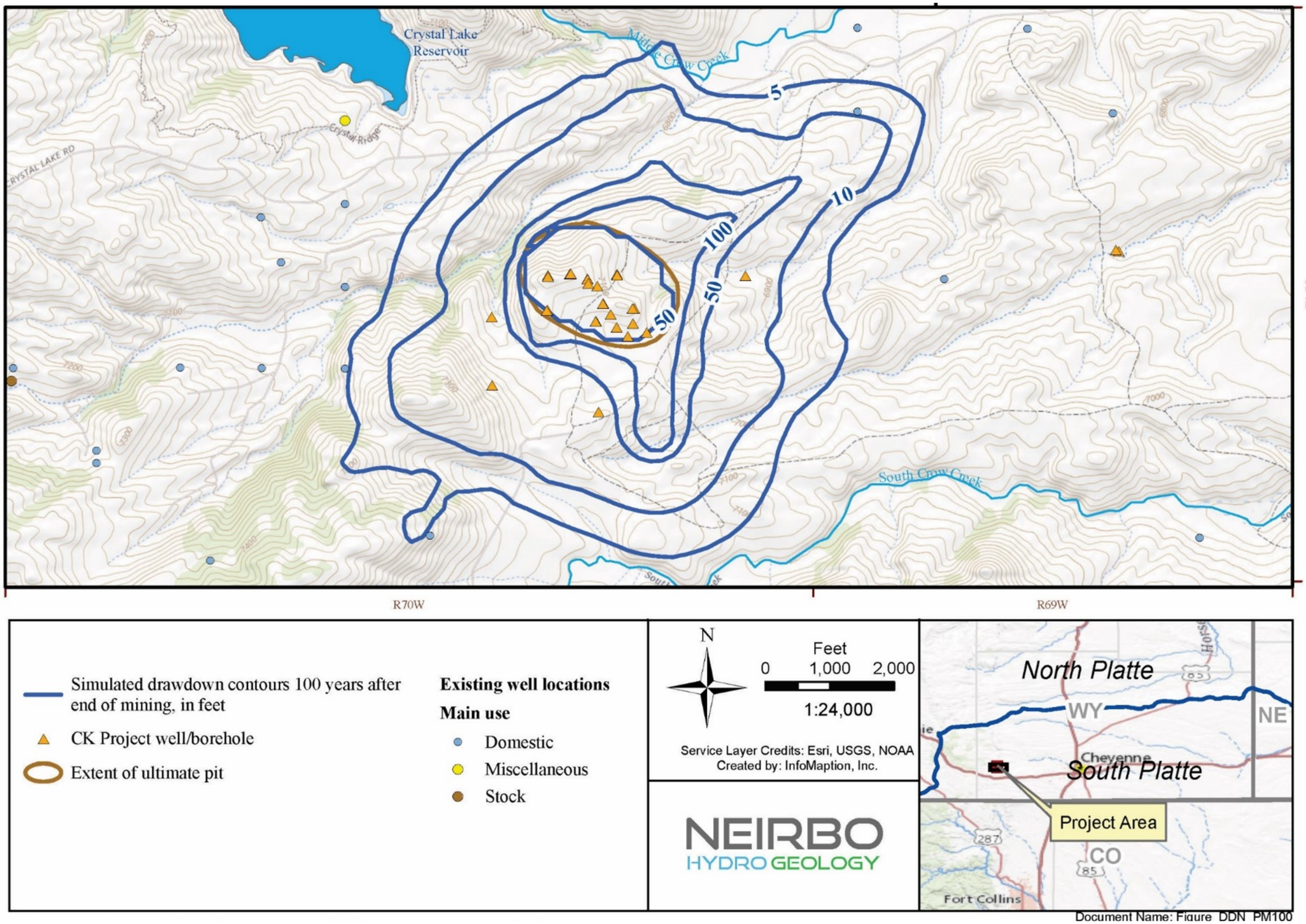


Figure 13-6 Predicted groundwater drawdown 100 years after mining ends

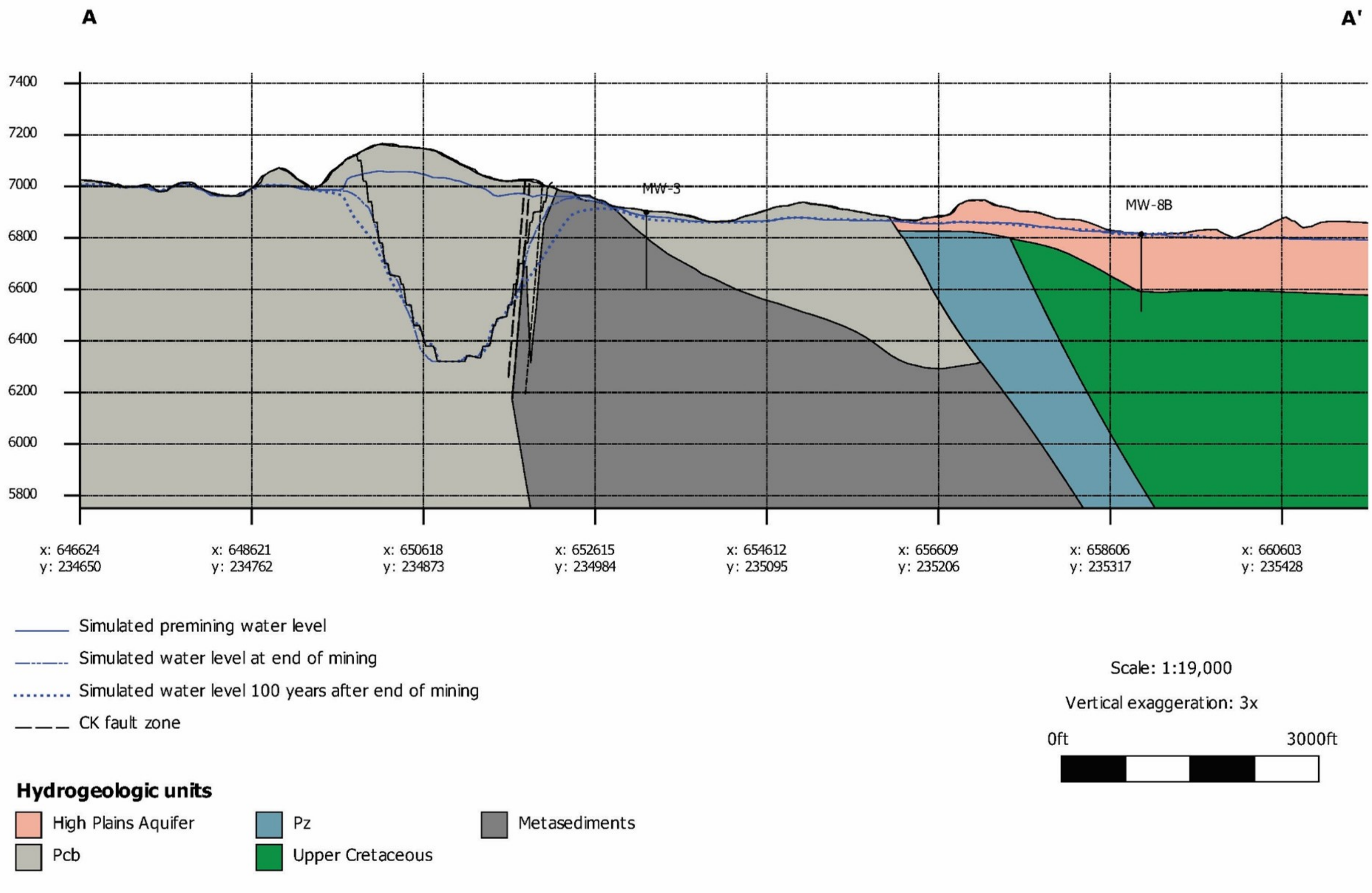


Figure 13-7 Section A-A' showing predicted drawdown at the end of mining and 100 years after mining ends.

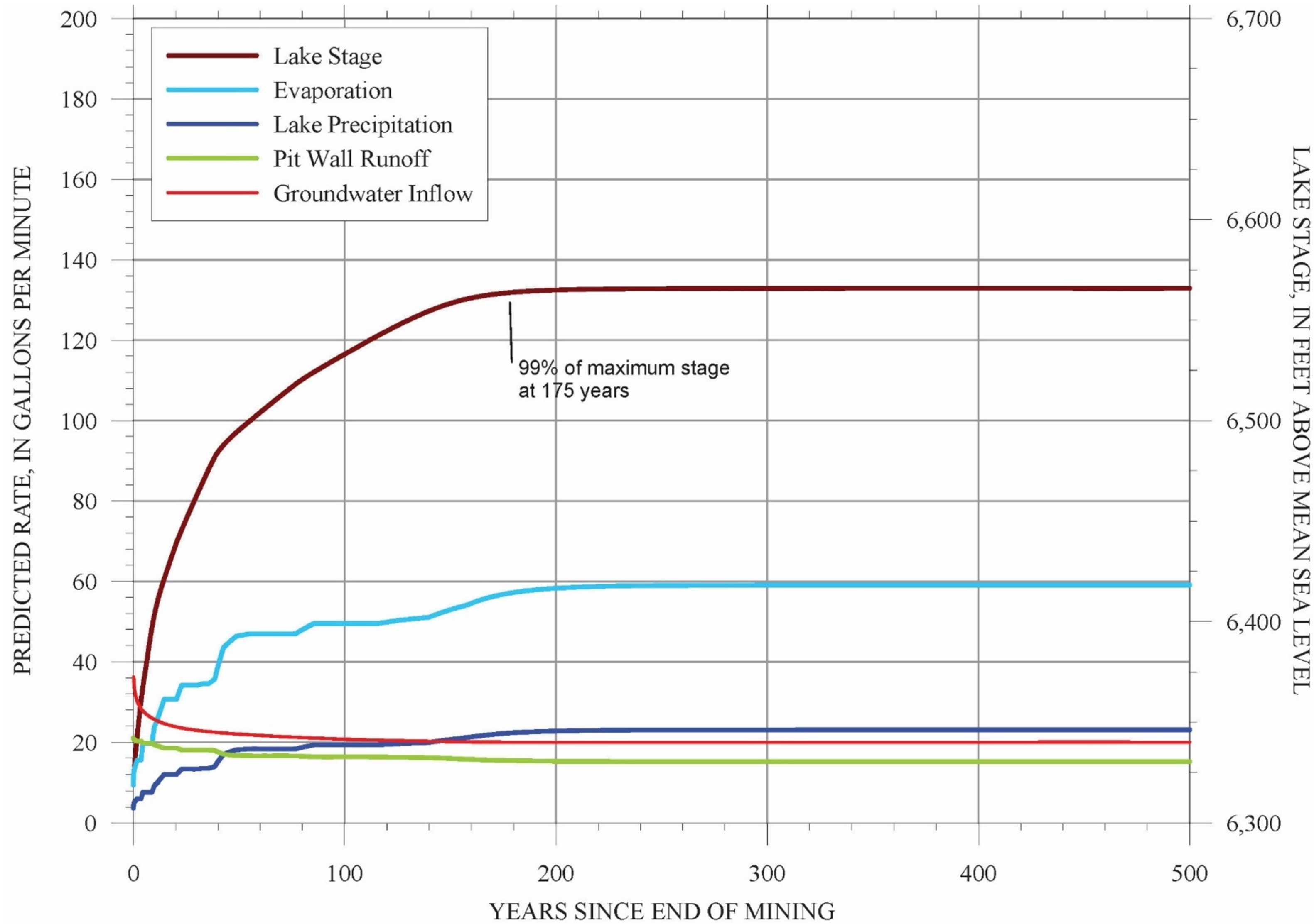


Figure 13-8 Predicted Pit Lake Water Balance

13.4 Mine Design Parameters

US Gold contracted AFK Mining to develop a mine design and schedule for the project. The final mine design is guided by a pit optimization described in Section 12.1.1. The final mine design is comprised of four phases to divide and schedule the excavation. Design parameters are suitable for the mining equipment selected and the geotechnical parameters provided in Section 13.2. A summary of the mine design parameters is shown in Table 13-4.

Table 13-4 Mine Design Parameters

Parameter	Value
Road Width	90ft
Road Gradient	10%
Bench Height	20ft
Catch Bench	Every 4 benches
Catch Bench Width	31ft – 41ft
Face Angle	75 degrees
Inter-Ramp Angle	52-55 degrees

13.4.1 Mine Parameters

The primary mine parameter is the production of a nominal 20,000 tons/day or 7.3M tons/year (18,100 tonnes/calendar day, or 6.6M tonnes/year) of ore delivered to the crusher. At this production rate the mine life is approximately 10 years. Within the excavation there are four different material types, ore, mineralized material, waste, and aggregate material.

The mine design uses parameters that are suitable for the mining equipment selected and achieve stable slope parameters as discussed in the geotechnical section.

13.5 Mine Schedule

The primary driver of the mine schedule is production of sufficient ore, which drives the excavation of waste and other materials to ensure sufficient ore is exposed for mining. The nominal ore production rate is of 20,000 tons/day or 7.3M tons/year (18,100 tonnes/calendar day, or 6.6M tonnes/year) of ore delivered to the crusher. In the first year, ore production is 80% of capacity to account for commissioning of the concentrator. Mine life is approximately 10 years.

Pre-production stripping is scheduled for the year before production begins (year -1) which consists of 700,000 tons of material. There are no other development requirements to achieve the mine schedule.

Table 13-5 Mine Schedule

	Total	Year-1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
Ore Mined	70,400	-	7,620	10,100	8,440	7,630	5,330	5,870	7,500	7,950	7,370	2,625
Waste Mined	65,000	700	8,390	5,890	7,560	8,370	10,700	10,100	8,500	4,050	630	130
Total Material Mined	135,000	700	16,000	16,000	16,000	16,000	16,000	16,000	16,000	12,000	8,000	2,755
Ore to Stockpile	7,800	-	1,780	2,820	1,140	1,150	-	-	200	650	70	-
Stockpile Mined	7,800	-	-	-	-	810	1,970	1,430	-	-	-	3,580
Mill Total	70,800	-	5,840	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	6,200
Au (oz/st)	0.014	-	0.027	0.021	0.017	0.014	0.011	0.014	0.011	0.011	0.011	0.010
Cu (%)	0.176	-	0.231	0.200	0.198	0.182	0.140	0.159	0.176	0.165	0.170	0.145
Ag (oz/st)	0.038	-	0.068	0.055	0.040	0.036	0.041	0.030	0.027	0.025	0.030	0.032
Au (000's Ounces)	1,010	-	155	151	126	102	78	102	81	77	81	61
Cu (millions lbs)	248	-	27	29	29	27	20	23	26	24	25	18
Ag (000's Ounces)	2,660	-	398	402	290	260	300	219	195	181	219	198

13.6 Mining Fleet Requirements

The basis for the calculation of mining fleet is the mining schedule and the haulage model. The amount and type of material moved, and the destination of that material determines the total number operational hours are needed for each category of mining equipment. The total operational hours required then determine the number of units needed and costs associated with operation.

13.6.1 Equipment Productivity and Usage

For major pieces of mining equipment the productivity of each unit is estimated based on manufacturer specifications, job site parameters and observed parameters from similar surface mines. Mining equipment either has a variable annual usage base on the mining schedule or a fixed annual usage. Variable usage equipment has a maximum number of annual hours available for work and a productivity associated with it, shown in Table 13-6. The annual available hours for each piece of equipment is based on the expected availability and utilization. 5,500 hours per year equates to an availability and utilization of approximately 80% each. Table 13-7 shows the annual fleet hours and unit requirements.

Table 13-6 Variable Usage Equipment

Equipment	Annual Hours Available	Productivity	Units
Loader	5,500	1,000	st/hr
Haul Truck	5,500	430 - 250	st/hr
Dozer	5,500	1,000	st/hr
Drill	4,500	1,700	st/hr

Table 13-7 Annual Schedule of Variable Usage Equipment

Year	1	2	3	4	5	6	7	8	9	10	Total
Loader Hours (000's)	19.9	21.5	20.8	22.2	22.3	20.8	20.8	16.8	14.3	9.4	188.9
Loader Units	4.0	4.3	4.2	4.4	4.5	4.2	4.2	3.4	2.9	1.9	3.8
Truck Productivity (t/hr)	415	415	307	307	434	289	437	357	302	251	351
Truck Hours Reqd (000's)	51.7	70.9	72.9	61.3	82.4	59.9	68.6	63.7	60.2	43.0	634.5
Truck Units	9.4	12.9	13.3	11.1	15.0	10.9	12.5	11.6	10.9	7.8	115.4
Dozer Hours (000's)	15.1	15.4	16.5	18.5	22.3	18.3	17.1	12.8	10.6	9.7	156.3
Dozer Units	3.0	3.1	3.3	3.7	4.5	3.7	3.4	2.6	2.1	1.9	3.1

Haul truck productivity is variable and is based on a haulage model that calculates cycle times based on the location of the material mined and the destination. Cycle times and the mine schedule are used to estimate the truck hours needed to meet the schedule. The annual available hours are based on the distance and the average speed for the haulage segment, with allowances for loading, dumping and waiting. For wheel loaders the estimated productivity is based on the calculated loading times to position and fill the selected haul trucks. Dozer productivity is based on manufacturer nomographs. Blasthole drill productivity is based on average penetration rates and blast spacing to break the scheduled rock. Other minor and support equipment does not have a calculated productivity, but a fixed annual usage is assigned based on similar surface mining operations. Table 13-8 shows the fleet size and scheduled hours for the fixed usage equipment.

Table 13-8 Fixed Usage Equipment

Equipment	Hours Scheduled per Unit	Fleet Size
Water Truck	4,000	1
Motor Grader	4,000	1
Service/Fuel Truck	1,000	2
Crane Truck	500	1
Backhoe	500	1

13.7 Mine Personnel Requirements

Hourly mine personnel requirements for equipment operators and mechanic labor are based on the annual equipment hourly usage. Salaried based employees are specified at typical staffing levels. All hourly mine employees and supervision of all mine employees is by the mine contractor. The owner provides Site General and Administrative labor for supervision of the contractor, mine planning and engineering, and environmental compliance. Table 13-9 shows the total project employment over the life of the project and subsequent tables provide mine employment, Table 13-10; concentrator employment, Table 13-11; tailings disposal employment, Table 13-12 and site G&A, Table 13-13 categories.

Table 13-9 Project Employment

Year	-1	1	2	3	4	5	6	7	8	9	10	Avg
Total Project Employment	**15**	**212**	**227**	**229**	**221**	**240**	**219**	**225**	**212**	**203**	**174**	**220**
Mine Employment	6	75	83	85	74	90	75	80	67	53	25	75
Concentrator Employment	0	100	100	100	100	100	100	100	100	100	100	100
Tailings Employment	0	15	21	22	25	28	23	23	23	28	27	23
Site G&A	9	22	22	22	22	22	22	22	22	22	22	22

Table 13-10 Mine Employment

Year	-1	1	2	3	4	5	6	7	8	9	10	Avg
Mine Employment	**6**	**75**	**83**	**85**	**74**	**90**	**75**	**80**	**67**	**53**	**25**	**75**
Loading and Hauling	**2**	**45**	**56**	**56**	**44**	**59**	**44**	**50**	**43**	**33**	**15**	**48**
Loader Operators	0	10	10	10	10	10	10	10	7	5	2	**9**
Truck Operators	1	24	33	33	23	35	23	28	25	20	10	**27**
Mechanics/Electricians	0	11	13	13	11	14	11	12	10	8	4	**12**
Drill and Blast	**1**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**7**	**6**	**3**	**7**
Lead Blaster	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Equipment Operators	0	6	6	6	6	6	6	6	4	3	1	**5**
Labor	0	2	2	2	2	2	2	2	2	2	1	**1**
Mechanics/Electricians	0	4	4	4	4	4	4	4	3	2	1	**4**
Mine Support	**2**	**16**	**14**	**15**	**16**	**18**	**17**	**16**	**12**	**9**	**4**	**15**
Equipment Operators	1	11	9	10	11	12	12	11	8	6	3	**10**
Labor	1	2	2	2	2	2	2	2	2	2	1	**2**
Mechanics/Electricians	0	3	2	3	3	4	3	3	2	1	1	**3**
Mine G&A	**1**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**3**	**5**
Mine Manager	1	1	1	1	1	1	1	1	1	1	1	**1**
Mine Foreman	1	4	4	4	4	4	4	4	4	4	2	**4**

Table 13-11 Tailings Disposal Employment

Year	-1	1	2	3	4	5	6	7	8	9	10	Avg
Tailings Disposal Employment		**15**	**21**	**22**	**25**	**28**	**23**	**23**	**23**	**28**	**27**	**23**
Loader Operators		2	3	3	4	4	3	3	3	4	4	3
Truck Operators		8	12	13	15	17	15	15	15	18	17	14
Dozer Operators		4	6	6	6	7	5	5	5	6	6	6

Table 13-12 Site G&A Employment

Year	-1	1	2	3	4	5	6	7	8	9	10	Avg
Site G&A Total	**9**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**	**22**
General Manager	1	1	1	1	1	1	1	1	1	1	1	1
Accountant	1	1	1	1	1	1	1	1	1	1	1	1
Safety/Environmental	1	3	3	3	3	3	3	3	3	3	3	3
Warehouse Clerk	1	2	2	2	2	2	2	2	2	2	2	2
Payroll	1	3	3	3	3	3	3	3	3	3	3	3
Engineer	1	4	4	4	4	4	4	4	4	4	4	4
Geologist	1	2	2	2	2	2	2	2	2	2	2	2
Technician	1	2	2	2	2	2	2	2	2	2	2	2
Security	1	4	4	4	4	4	4	4	4	4	4	4

Table 13-13 Concentrator Employment

Total Concentrator Labor	**100**
Plant Manager	1
Maintenance Manager	1
Assistant Mill Manager	1
Metallurgical Clerk	2
Chief Metallurgist	1
Senior Metallurgist	1
Junior Metallurgist	2
Metallurgical Technician	1
Chemist	8
Laboratory Supervisor	1
Sample Preparers	4
Analytical Technicians	8
Shift Supervisor	4
Control Room Operator	4
Crusher/Conveying Area Lead Operator	4
Crusher/Conveying Area Laborer	4
Shift Operators Grinding	4
Shift Operators Flotation	4
Shift Operators Concentrate Handling	8
Shift Operators Tailings Thickening/Filtration	4
Reagent Area Operators	1
Utility Operator	6
Electrician	7
Mechanical Fitter	8
Maintenance Foreman	1
Maintenance Planner	1
Boilermaker	2
Instrument Technician	2
Trades Assistant	5

13.8 Mine Map

End of year topographic maps showing the excavation progression are shown for year one, Figure 13-9; year three, Figure 13-10; year five, Figure 13-11; and final pit limits, Figure 13-12.

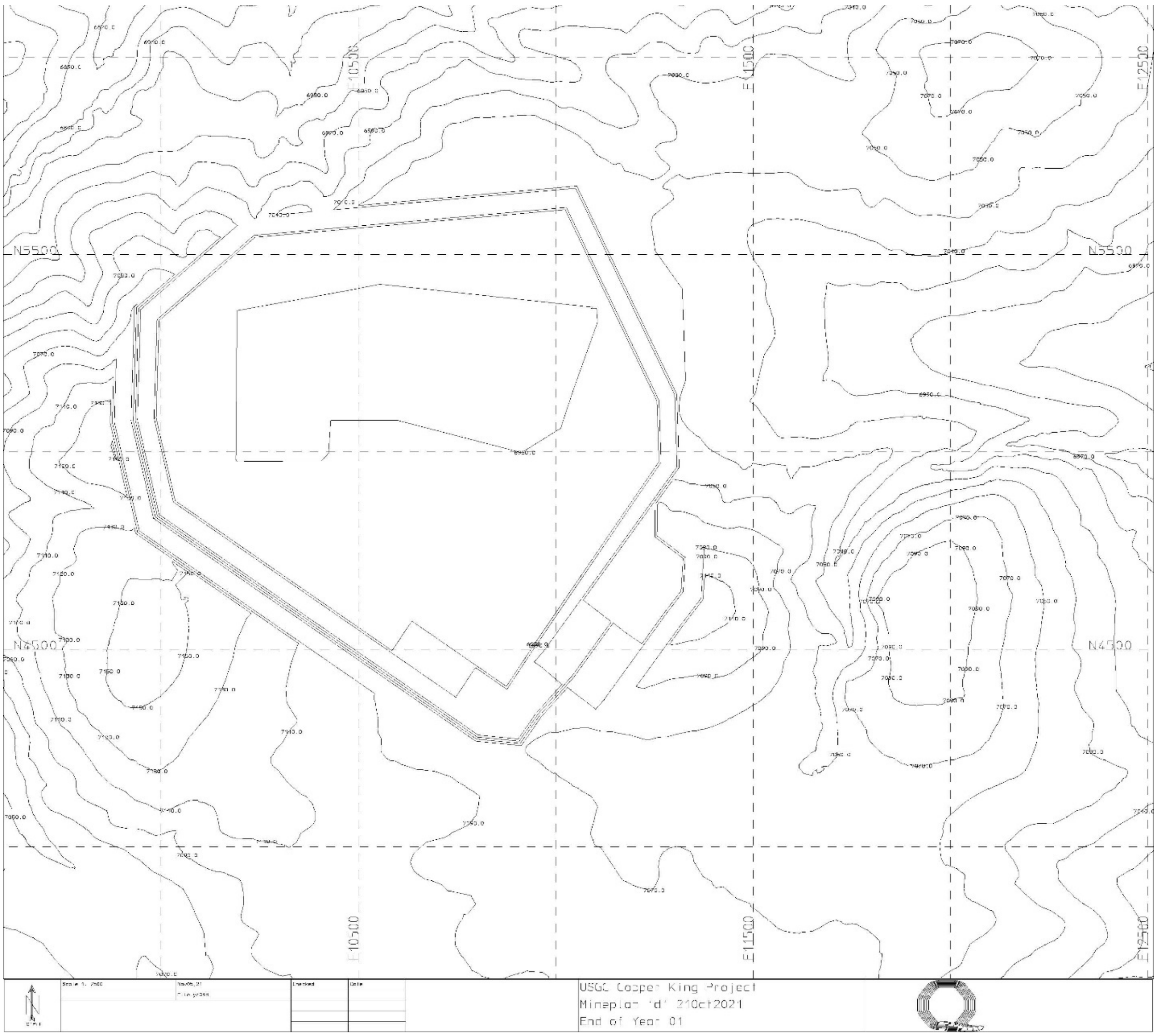


Figure 13-9 Mine Map End of Year 1

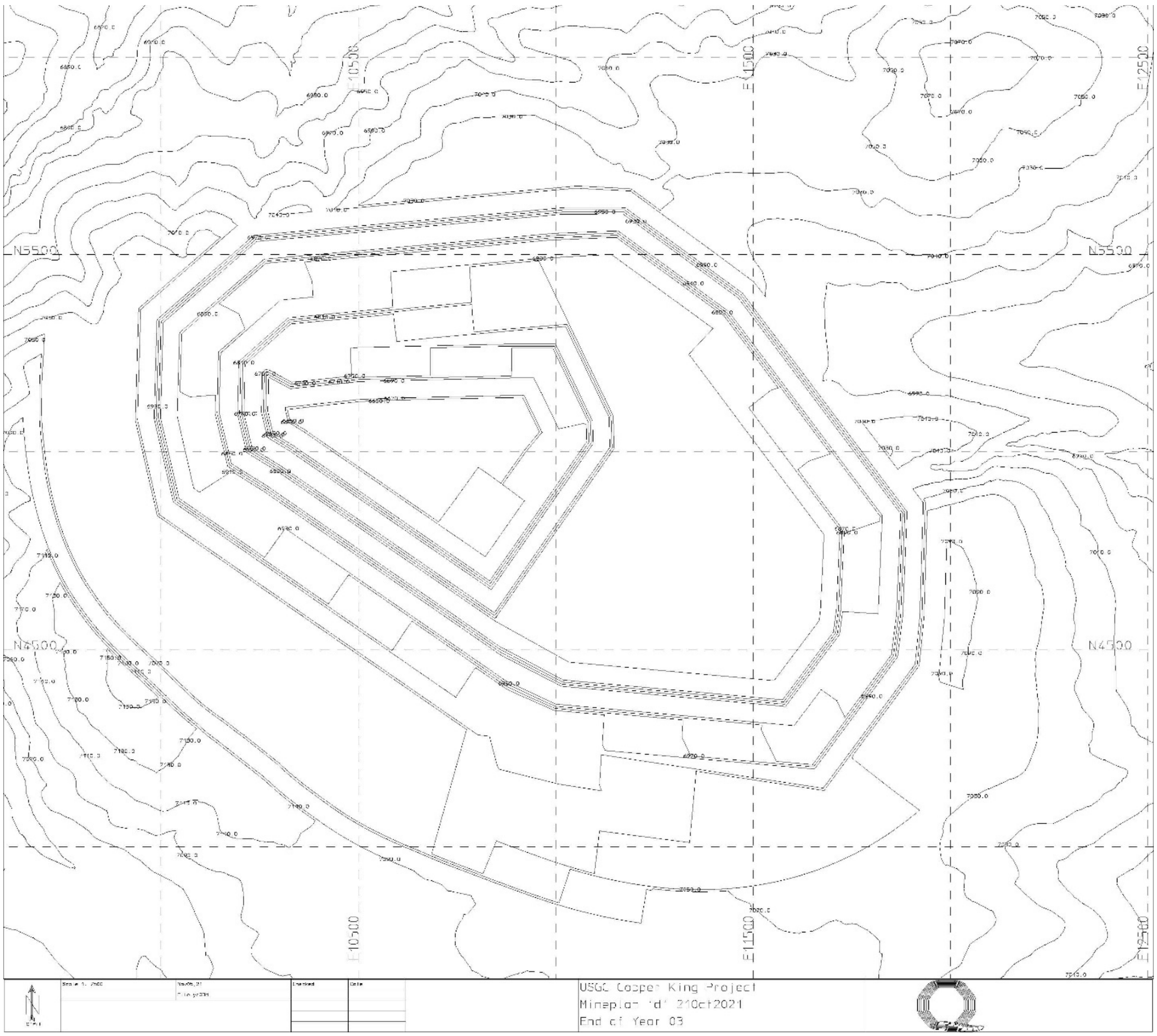


Figure 13-10 Mine Map End of Year 3

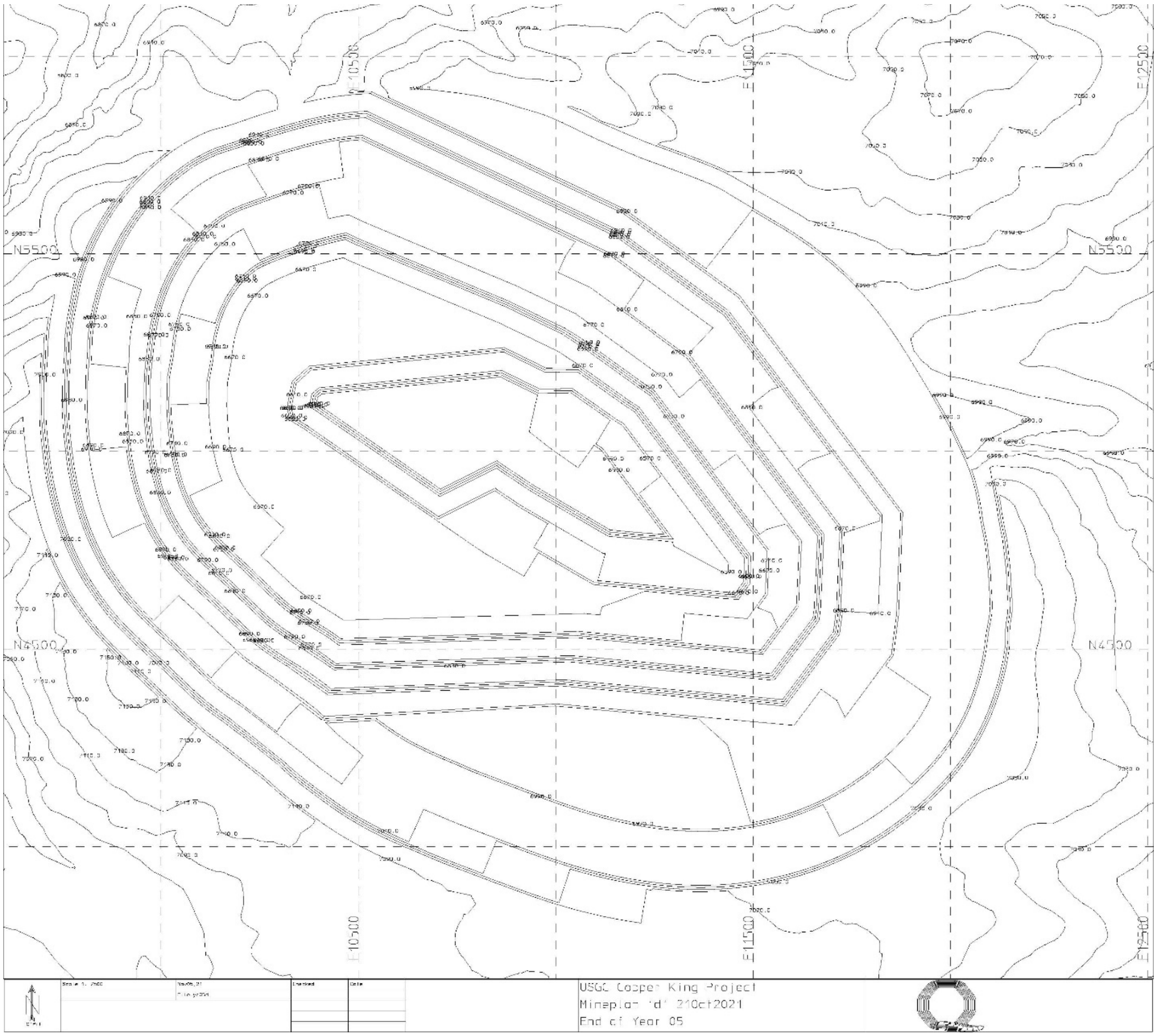


Figure 13-11 Mine Map End of Year 5

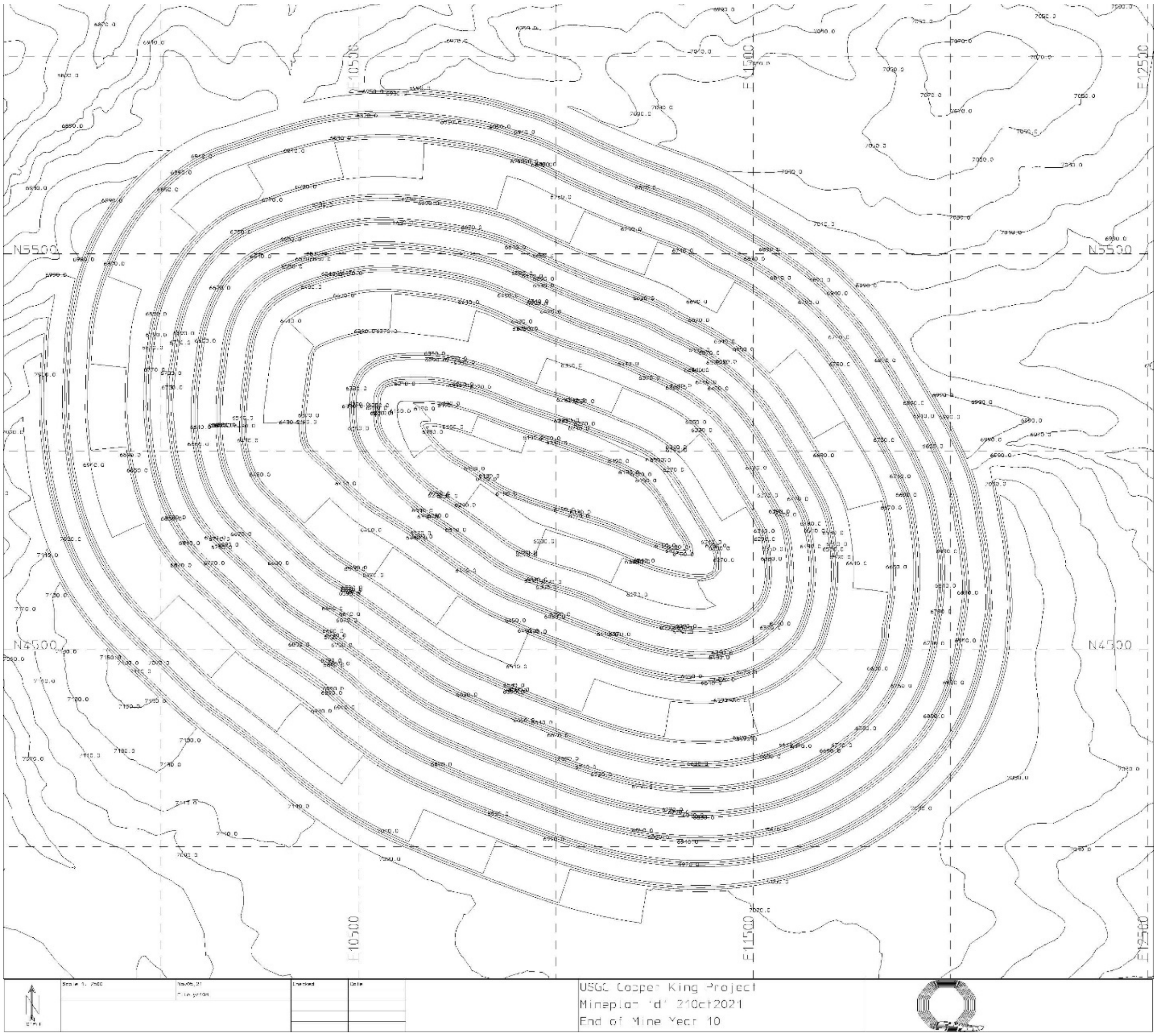


Figure 13-12 Mine Map End of Mine Life

14 Processing and Recovery Methods

This section relies solely upon the report "Processing and Recovery Methods, Technical Report on the Copper King Project". This report was authored by John Wells an Independent Consulting Metallurgist and Qualified Person responsible for this section. The full report contains all referenced appendices that are not included with this report.

14.1 Introduction

In 2010, following the SGS test work, KCA prepared a preliminary report and an Order of Magnitude Capital Cost Estimate for a 9,000 t/d process plant. This capital cost was updated by MDA in 2017 by assuming an annual inflation rate of 1.5%. In that study, MDA assumed a simple copper concentrator flowsheet with standard comminution followed by flotation.

Commencing at the end of 2020 and continuing through the first half of 2021, US Gold, and Alquimia Engineers (Chile), have developed Detailed Process Design Criteria, General Arrangement Drawings, Main Equipment list and Flowsheets for both a 15,000 stpd and 20,000 stpd Copper/Gold/Silver Concentrator. These documents are provided in the full Metallurgical Testing Report cited in Section 25. This work has culminated in Capital Cost and Operating Cost estimates to support the PFS, with an accuracy of minus 10% plus 25% (AACE Class 3).

The following sections describe the development of the Process Plant design based on 20,000 stpd. Figure 14-1 shows a general process flow diagram. The Pre-Feasibility Study process plant design is based upon a conventional comminution and flotation plant. The design includes a jaw crusher and a mechanical rock pick is installed adjacent to the grizzly screen to break these larger rocks or to manipulate them across and off the screen. The grinding circuit is conventional, with one SAG mill, one Ball mill and two pebble crushers, (one operating, one stand-by). The grinding circuit is based upon the harder sulfide ore, and is considered a conservative design. Flotation is conventional, with roughers, first stage cleaners, cleaner scavengers and second stage cleaners, all using conventional cells. The third stage cleaner is a column cell, well proven in copper concentrators. The mineralogy and test work confirms that a fine regrind is necessary and this PFS is based upon a regrind p80 of 25 µm. There are several proven units available for regrinding in addition to conventional ball mills. This study has selected a 1,500HP Verti-Mill. The concentrate section includes a dryer, to reduce the moisture content (from 12-13%) to 6% or less. A vibrating, fluid-bed dryer has been selected for this duty.

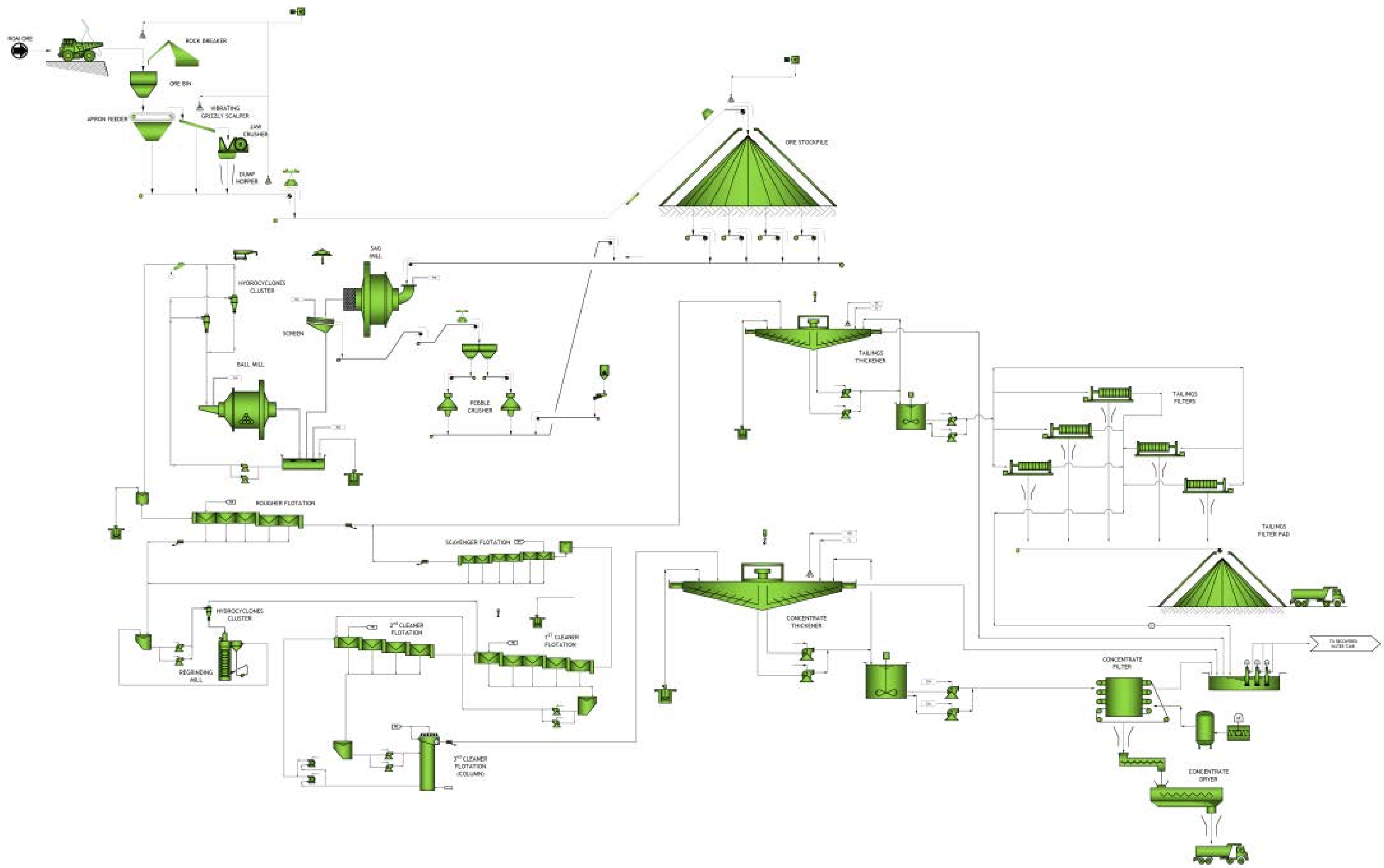


Figure 14-1 Process Flowsheet

14.2 Comminution

14.2.1 Primary Crushing

From the Hazen work, Copper King ore can be described as competent and medium hard. Run-of-Mine ore is delivered by 100-150st capacity trucks to the primary crusher. The ore is direct tipped to a fixed grizzly screen with 30-inch openings between steel bars, (selected jaw crusher can accept 30" top size). The bars are tapered to reduce jamming of larger rocks between the bars. The grizzly screen is inclined at 10 degrees, allowing large oversize to either be broken by the permanent rock-pick or allowed to slide off the grizzly for front-end loader removal to a designated rock breaking site.

It is envisaged that some ore types will be treated on a campaign basis through the concentrator, for example, the high-grade oxide ore. This high -grade oxide will produce a high-grade concentrate and also a final tailing with a gold grade of 1.0 to 1.5 g/t Au, as discussed in Section 10. This high-grade tailing could be filtered and stacked separately for later reclamation and retreatment. For this reason, a large stockpile area is provided close to the primary crusher, from which the ore can be reclaimed and campaigned through the crusher.

A Jaw Crusher has been selected for this duty. Large oversize, which would be too large for the jaw crusher feed aperture, is removed on the fixed grizzly. The grizzly undersize falls into a 150t capacity bin ahead of a vibrating 6 ft x 15 ft screen/feeder with 6-inch openings. From analysis of the anticipated average ROM ore size as shown in the design criteria, it is estimated that the jaw crusher will receive 380 stph of ore. The balance, minus 6-inch material, by-passes the crusher. A C160, 350HP jaw crusher, with feed opening of 47-inch x 63- inch is proposed which has a nominal capacity of 400-600 stph.

The jaw crusher product is combined with the screen undersize and the product, 90-100% minus 6 inch is conveyed to the crushed ore stockpile. The stockpile is designed to provide a live capacity of 24 hours and is covered by a dome structure. Ore is reclaimed from the stockpile by four reclaim belt feeders, (2 or 3 operating, one stand-by) to feed the SAG mill feed conveyor.

14.2.2 SAG, Ball mill and Pebble Crusher circuit

The proposed Copper King comminution circuit is a conventional SAG-Ball-Pebble crusher, SABC system. The SAG mill is fed at a rate of 20,000 stpd, equal to 906 stph at 92% utilization. Based on the 2021 Hazen results on the three main composites, the mill is 34 ft diameter, 17 ft long with 12,000 HP. The three composites had A x b values of 37, 33.3 and 27.8 for high-grade oxide, oxide and sulfide respectively.

The corresponding Bond ball work indices were 12.7, 13.3 and 13.7 kWh/st. Note; the circuit is designed for the main oxide and sulfide ore as the high-grade oxide, Section 10.1.4, represents less than 1-2% of the deposit.

The SAG mill discharges to one operating of two installed 6 ft x 15 ft double deck vibrating screens to remove plus one-inch pebbles, (estimated to be 20% of the new feed), that are recirculated to two shorthead cone pebble crushers, each with a 500 HP motor, (one operating, one stand-by). The pebble crusher product is returned to the SAG mill. Note; if the operation desired an increase in tonnage, both pebble crushers could be utilized.

During discussions with the crusher vendors after the Capex estimate was completed, the idea of installing only one crusher appears suitable for this short-life project. When the crusher is off-line, the pebbles would be diverted either to the ground (for later reclamation) or merely by-pass the crusher and returned directly to the mill. This would reduce the installed Capex by approximately US$1.5 million

The SAG mill screen undersize is combined with the ball mill discharge and pumped to two cyclone manifolds comprising 24, 15-inch cyclones, (25 operating, 3 stand-by). Cyclone feed pressure is 15 psi, to achieve the desired cyclone overflow product size, p80 of 90 µm.

In the same vendor meetings as for the pebble crusher, it was recommended that 20" or 26" cyclones would be appropriate to achieve the p80 of 90 µm. This would reduce the number of manifolds to one, with fewer cyclones. This requires further detailed analysis during the FS. This would reduce the installed Capex by approximately US$1 million.

The ball mill size has been calculated to be 22 ft diameter and 36.5 ft long, with connected power of 12,000 HP. The flotation test work indicated an optimum p80 for the three composites to be between 85 and 95 µm.

The p80 of the primary grind is always one of the key decisions to be made in plant design. In the preliminary work by SGS, they used 90-100 µm. In the 2020-21 program at KCA the primary grind was further investigated. In the rougher test program for High-Grade Oxide, tests 90130 and 90138 at p80=86u gave gold recoveries of 70% and 74% respectively, which were 2-3% higher than the recoveries at 106u. The cleaner tests further confirmed this, with recoveries to the cleaner concentrate of over 70% for tests 90158, 90160 and 90161 all at p80=86 -90 µm.

In March 2021, rougher tests commenced on the Oxide and Sulfide composites. Once again, higher recoveries were achieved with a p80 of 90 µm, as compared to 106 µm. In the case of Sulfide, recoveries were 1-2%, 2-3% and 1-2% higher for gold, silver and copper respectively. For the Oxide, recoveries were 2-3% and 2-3% higher for gold and silver respectively, (with no difference for copper).

These increases in recovery would justify the additional 1,000 HP power required in grinding, (Grinding Circuit Simulations by Alquimia). Alquimia carried out a simulation for three A x b cases, 28,33 and 35, and for each a range of Bwi values from 12.0 to 17.0. They also included a 10% design factor. For the "worst" case, Sulfide ore with an A x B value of 28, one 12,000 HP SAG mill and a 12,000 HP ball mill, with pebble crushing will grind 20,000 stpd to a p80 of 90 µm. The simulation also included a single SAG milling case, (i.e., no ball mill, but a larger SAG mill, as often practiced in South Africa, Chile and Scandinavia). This option may be worthy of review before the start of the Feasibility Study.

As a result, the process plant design proceeded on the basis of a primary grind p80 of 90 µm. However, it is recommended that this should be reviewed once all test work is completed. In particular, the impact of the finer grind on tailings filtration will require analysis during the Feasibility Study. For details of the test results, see KCA, BML and Pocock test work reports, June 2021. In June 2021 BMS carried out tests at p80 primary grinds of 50, 90, 110, and 150 µm. The results appear to confirm previous work that the optimum p80 is between 85 and 95 µm.

14.2.3 Gravity Concentration

During the core inspection and selection process, it was noted that significant coarse granules/nuggets of native copper could be seen, particularly in the high-grade oxide, with less in the other oxide material. For this reason, it was proposed to further investigate gravity concentration, even though the prior work at SGS had not been encouraging. Coarse, visible gold was rarely observed. Gravity concentration for coarse gold or copper is usually achieved by the inclusion of a gravity concentrator installed to treat one of the cyclone underflows. This prevents a build-up of the coarse nuggets in the mill circulating load.

The test work at KCA on the high-grade oxide produced a gravity concentrate of 14.6% Cu, 51.5 g/t Au, with recoveries of 22.7% Cu and 15.4% Au, which was considered encouraging.

With the tests comparing recovery of gravity + flotation with flotation, the copper recovery was 3% higher with gravity. However, no improvement was noted for gold. It was concluded that the native copper granules were ground in the milling process and subsequently recovered by flotation. The equal recovery of gold for either case reflects the general absence of coarse free-gold, as confirmed by the mineralogical test work. Test work on the oxide and sulfide composites showed no benefit with gravity.

14.3 Flotation

The results of the SGS test work and the 2021 KCA and BML test work confirmed that a simple, conventional, roughing, regrinding and three stage cleaning flotation circuit is appropriate for Copper King, as described in Section 10.0 of this PFS report. The test work on the High-Grade Oxide composite was the first to be completed at KCA and resulted in a gold recovery of 70% to a 25% grade copper concentrate. However, as this material accounts for only a minor part of the deposit, these results were not utilized for plant design. The majority of the deposit is sulfide material, (80-85%), with a significant tonnage of oxide and mixed material, (about 15%), and thus the plant design is based upon the processing of these three ore types.

The Process Design Criteria was initially based on the SGS work, but has incorporated test results that were available by mid-year 2021. The PDC has been updated utilizing the latest BML work. The test work on the Oxide and Sulfide composites and the mineralogy indicates that a regrind p80 of 25 – 30 µm is required, due to the fine grain size of the copper minerals and gold/electrum grains. This is followed by first stage cleaner flotation, in an open circuit arrangement, whereby the first cleaner scavenger tails are not recirculated but are added to the rougher tailings to comprise final plant tailings. The first cleaner concentrate is then upgraded by second and third cleaner stages to produce a final copper concentrate with a grade of 20-25% Cu

The metallurgical parameters from test work are summarized in Table 14-1.

Table 14-1 Test Work, Concentrate Grades and Recoveries

Laboratory	Con Grade %Cu	Con Grade g/t Au	Con Grade g/t Ag	Recovery %Cu	Recovery %Au	Recovery %Ag
SGS, 2008-2010						
Sulfide	26%	89 g/t	n.a.	77%	68%	n.a.
Oxide	15%	380 g/t	n.a.	10%	55%	n.a.
KCA, 2021						
Sulfide/Mixed	13.5%	34 g/t	55 g/t	81%	62%	74%
Oxide	8.0%	188 g/t	87 g/t	7%	48%	12%
High-Grade Oxide	25%	186 g/t	110 g/t	60%	70%	40%
Prior Test Work, (pre 2008)						
	25%	n.a.	n.a	80-90%	70-80%	n.a.
Base Metals Lab, 2021						
Sulfide-Mixed	25%	70-80 g/t	60-70 g/t	75.5%	68-70%	47%
Oxide	13%	250-350 g/t	200-220 g/t	11%	60%	50%
High-Grade Oxide	60%	500-600 g/t	250-350 g/t	41%	63%	70%
Sulfide Variability Samples	20%	70-80 g/t	60-70 g/t	80-90%	70%	60%
Oxide Variability Samples	20%			20%	50%	50%
Sulfide Composite 2	21%	40-50 g/t	50-60 g/t	88%	73%	59%

The variation in the results, may be the results in part to sample selection. On the basis of all test work, previous and current, but primarily the 2021 locked-cycle and variability tests, the following recoveries and concentrate grades have been estimated and used in the economic evaluation, as shown in Table 14-2.

Table 14-2 Concentrate Grades and Recoveries

	High Grade Oxide (>0.5%Cu)	**Mixed**	**Oxide**	**Sulfide**
Recovery, Cu	50.0	55.0	15.0	85.0
Recovery, Au	65.0	66.0	60.0	72.0
Recovery, Ag	70.0	56.0	53.0	59.0
Conc Grade, %Cu	25.0	17.0	13.0	21.0
Conc Grade, g/t Au*	300-500	100-150	150-250	40-60
Conc Grade, g/t Ag*	150-250	75-130	100-200	50-60

NOTE*. The concentrate grades of gold and silver will be calculated for each time period. The values in this table reflect actual test results.

The oxide figures in Table 14-1 and Table 14-2 represent the average of holes 1-7.

The mixed figures represent the mathematical average of sulfide and oxide.

The initial variability tests are indicating a good correlation between copper and gold recoveries and the ratio of CuOx:CuT. Other relationships may become apparent as more variability work is completed. It is anticipated that recoveries in the FS will be calculated based upon these "models".

The concentrate grades for gold and silver are an expected range and will be calculated for each year in the cash flow model, depending on head grades, on an annual basis.

The numbers and sizes of the flotation cells, together with residence times are provided in Table 14-3. Additional details regarding flotation parameters can be found in the full Processing and Recovery Methods Report.

Table 14-3 Flotation Equipment

Duty	Residence Time, minutes	Equipment	Installed Power, HP
Rougher Flotation	30	5@model 300 Tank Cells	5@350
Regrind Mills	n.a.	1@Vertimill	1@1500
First Stage Cleaners	15	5@model 20 Tank Cells	5@50
Cleaner Scavengers	20	6@model 20 Tank Cells	6@60
Second Stage Cleaners	10	4@model 10 Tank Cells	4@30
Third Stage Cleaners	n.a.	1@3.8 yards^2 diameter Column Cell	n.a.

The cell sizing is based on a residence tune of 3x test times

Generally, the plant will process mixtures of sulfide and oxide ore, with the proportion of sulfide ore ultimately increasing to over 95%. The High-Grade Oxide will likely be treated in campaigns, as the gold content of the flotation tailings from this material will be in excess of 1.0-1.5 g/t Au. These tailings can be filtered and stacked separately for possible later reclamation and retreatment. No costs or credit for this is assigned in this PFS but it is identified as a possible future opportunity or process enhancement.

The mineralogy and flotation test work have indicated a need for regrinding of the rougher concentrate to a p80 of 20 - 30 µm. Three types of regrind mills have been evaluated during the PFS, namely Isamills, Vertimills and HIGmills. All are well proven units. On the basis of capex and opex, one 1500HP Vertimill has been selected, to operate in closed circuit with cyclones to treat 2,200 stpd of rougher and scavenger concentrate. This selection will be reviewed during the FS, after discussion and possible test work with the mill vendors.

The principal reagents are lime (for pH control), collectors, (3418, 7150, PAX or PEX) and frother. The test work has indicated that a sulfidizer, such as NaSH is unlikely to be necessary. Provision is made in the flowsheets and capital cost estimate for a "spare" reagent system should this be required. This is another area requiring further development during the feasibility stage of metallurgical test work. The reagent systems are described in Section 14.6.

14.4 Concentrate Thickening and Filtration

The sulfide component of the ore body will produce 150-200 stpd of copper/gold concentrate. The oxide component will produce 80-100 stpd of concentrate, thus this section of the plant has been designed to treat the higher tonnage of sulfide concentrate.

Concentrate from the column cell is pumped to a heavy duty 33 ft diameter thickener, where flocculant is added to aid in settling. The underflow density is 62% solids, and this is transferred to an agitated stock tank. This tank provides a storage capacity of 16 hours. This tank then feeds the thickened concentrate to one Larox PF12 continuous belt filter. Due to the fine regrind p80 of 20-30 µm it is anticipated that the filtered concentrate may contain more than 10% moisture. Based on Alquimia data and the test work carried out by Pocock (Salt Lake City), a moisture content of 12-13% is used for the design. The Pocock test work on the sulfide and oxide concentrate was delayed and will be available for the Feasibility Study.

This study assumes the sale of concentrate to a smelter in North America, using rail transportation. However, the sale of concentrates overseas using containerized shipping is also a viable alternative. To assist in concentrate handling

the concentrate loadout section at Copper King includes drying of the concentrate using a vibrating fluid bed dryer, from 13% to 6% moisture. This will allow shipment in lined containers, bulk rail cars or bulk shipping bags.

The high-grade oxide will be treated separately in campaigns and might require a reduced milling rate, due to the higher copper grade, which could temporarily overload the flotation, thickening and filtration sections. However, as this only represents a small part of the ore body, its overall impact would be minor and could be managed by the operating personnel.

14.5 Tailings, Thickening and Filtration

The main design parameters for this section of the plant were provided by the test work carried out by Pocock Engineering in Salt Lake City. They worked on samples of high-grade oxide flotation tailings generated at KCA Laboratory. The test work is described in Section 10, and the Pocock report.

Thickening of the 19,832 stpd of flotation tailings is carried out in one, 165 ft diameter "hi-rate" type thickener, based on a design capacity of 0.04 stph/ft2. Flocculant is added to the thickener feed at a rate of 55 g/t. The thickener underflow has a density of 60% solids, (by weight)

At the outset of the PFS, discussions were held with various vendors and a decision was made to filter the tailings and deposit the filter cake on a designed storage area. Filtration of tailings has become an accepted technology in the last 5-10 years, with advantages that include the following:

- Eliminates the need for a wet tailings impoundment.
- Reduces the demand for fresh make-up water.
- Takes advantage of the major developments in large capacity plate and frame filters by major minerals processing vendor companies.

The Pocock test work indicates that the tailings filtration will require five (5) plate and frame pressure filters, each 150HP and 1090 yd^3. Each filter has an estimated cost of US$2.7M. Thus, the installed capital cost of the filter plant is of the order of US$25-30M. However, this cost is offset by the reduced cost of the tailings impoundment and by the very significant (about 80%) reduction of fresh water demand.

More test work and vendor discussions is a priority for the Feasibility Study.

The filtered tailings are transferred by conveyor to a tailings pad, from where it is loaded into mine trucks for transfer to the tailings storage area.

14.6 Reagents and Water

14.6.1 Reagent Consumption

The test work has indicated reagent requirements as follows in Table 14-4 for the three composites tested.

Table 14-4 Reagent Consumption

Composite	Lime	Collectors	Frothers	Other Reagents
High Grade Oxide	265	55g/t PAX +30g/t 208	28g/t MIBC +10g/t F57	Flocculant, 70g/t
Oxide	200	26g/t PAX + 16g/t 208	28g/t MIBC +20g/t H57	Flocculant, 70g/t
Sulfide	305	4g/t 3418 + 4g/t 7150	100g/t MIBC + 10g/t H57	Flocculant 70g/t

The reagent systems are as follows:

14.6.2 Lime

Lime consumption at Copper King is relatively low, due to the natural alkalinity of the ore and the low pH, 9.0-9.5, required in rougher flotation. Test work indicates 305 g/t, which equates to 6.0stpd. Some test work indicates a natural pH, 8.0, may be satisfactory. Because of the project's proximity to the Interstate highway and large towns, an on-site supply equal to one week's consumption, i.e., 50 tons, will be sufficient. This will be delivered in bulk tankers and pneumatically transferred to the lime silo. This silo will feed a mixing tank where water will be added to produce lime slurry at 15% solids. This milk of lime slurry will be delivered to the ball mill, rougher and cleaner flotation by a ring main, to give a rougher pH of 9.0 and an elevated pH of 10.0-11.0 in the cleaners.

14.6.3 Primary Collector, 3418 and 7150

In June 2021, BML carried out a series of rougher flotation tests with different collector combinations. Although the results were similar, the combination of 3418 and 7150 appeared to give marginally higher recovery, (about 2%). Thus, the final LCT test on the sulfide composite used these collectors, with success, as seen in Table 10-20. These reagents are to be tested on mixed zone samples. A 30-day supply will be maintained at site.

14.6.4 Secondary Collectors, 208 and PAX / PEX

Both PAX and PEX were tested at KCA and BML. PAX was effective for all ore types, with consumption of 8 g/t. It will be delivered in "super sacks" and a 30-day supply will be maintained at site. The contents of the super sacks will be added to a PAX mixing tank to produce a solution strength of 20%. This is then transferred to the PAX feed tank from which it will be delivered to flotation by metering pumps.

14.6.5 Frothers

Three frothers were tested, MIBC, F549 and F57. It is likely that only one will be used at any time. The PFS assumes that frother is delivered to site in drums and transferred to a frother holding tank, from where it will be delivered, undiluted, by a series of monitoring pumps to rougher and cleaner flotation. Alternatively it can be added directly from the drums.

14.6.6 Alternate Reagents, Test tank

One additional, spare reagent system is included. This will be to test alternative reagents.

14.6.7 Flocculant

Flocculant is required for both concentrate and tailings filtration. Consumption is estimated as 70 g/t, based on test work by Pocock Engineering on the High-Grade composite tailings. A standard flocculant plant will be provided by the flocculant vendor.

14.6.8 Water

Fresh water supply for the process plant is calculated to be 2,370 stpd, (plus 800-900 stpd to the mine, workshops and offices) or 400 gpm to the process plant and 150 gpm for other site uses. A fresh water tank with 680,000 gallon (3,000 m^3) capacity, providing over 24 hours of capacity is located above the process plant.

A similar process water tank, 680,000 gallon (3,000 m^3), is located immediately adjacent to the mill building. This provides over 24 hours of supply of process water to the plant, primarily to the SAG and Ball mill circuit.

14.7 Process Control Philosophy

The control philosophy to be implemented for the Project is typical of those used in modern mineral processing operations.

Field instruments provide inputs to a set of Programmable Logic Controllers (PLCs). Process control cubicles are in the Motor Control Centers (MCCs) and contain the PLC hardware, power supplies and I/O cards for instrument monitoring and loop control.

The PLCs perform the control functions by:

- Collecting status information of drives, instruments, and packaged equipment.
- Providing drive control and process interlocking.
- Providing PID (proportional-integral-derivative) control for process control loops.

Standard Personal Computers (PCs) will be in the Main Control Room (MCR) and the Crusher Control Room (CCR)

The Supervisory Control and Data Acquisition (SCADA) system architecture is configured to provide outputs to alarms, control the function of process equipment, and provide logging and trending facilities to assist in analysis of plant operations.

The control rooms are purpose-built structures. Most of the plant is controlled from the MCR, located adjacent the rougher flotation area. The MCR houses two control room operator stations, one engineering station and a printer.

Operator control stations are fully redundant so that the failure of one station does not affect the operability of the other station or control of the plant. Control stations are supplied from an Uninterruptible Power Supply unit (UPS) with 20 minutes standby capability.

Drives that form part of a vendor package are controlled from the vendor’s control panel. As a minimum, ‘Run’ and ‘Fault’ signals from each vendor control panel are made available to the SCADA system via the PLC.

The general control strategy adopted for the Project is as follows:

- Integrated control via the Process Control System (PCS) for areas where equipment requires sequencing and process interlocking.
- Hard-wired interlocks for personnel safety.

- Motor controls for starting and stopping of drives at local control stations via the PCS or hard-wired, depending on the drive classification. All drives can always be stopped from the local control station. Local and remote starting is dependent on the drive class and control mode.
- Control loops via the PCS except where exceptional circumstances apply.
- Monitoring of all relevant operating conditions on the PCS and recording selected information for data logging or trending.
- Trip and alarm inputs to the PCS will be failsafe in operation, i.e., the signal reverts to the de-energized state when a fault occurs.

14.8 Discussion

The Pre-Feasibility Study process plant design is based upon a conventional comminution and flotation plant.

Many projects install gyratory crushers for primary grinding, and it is accepted that for larger projects, certainly those in excess of 20,000 tpd, such units are generally preferred. For Copper King, the design includes a jaw crusher, which represents a significantly lower installed capital cost. It is essential with this type of unit that a fixed and inclined grizzly screen is installed over the feed box to prevent large, (+ 30"), rocks from reaching the crusher. A mechanical rock pick is installed adjacent to the grizzly screen to break these larger rocks or to manipulate them across and off the screen. This crusher choice and sizing warrants further study and discussion with vendors early in the FS.

The grinding circuit is conventional, with one SAG mill, one Ball mill and two pebble crushers, (one operating, one stand-by). Some consideration was given to a single SAG mill grinding circuit, with no Ball mill. Such an approach is less favored than SAG/Ball milling but has been practiced in Scandinavia and South Africa. Initial evaluation indicates the single SAG approach provides a lower capital cost. The grinding circuit is based upon the harder sulfide ore, and is considered a conservative design.

Flotation is conventional, with roughers, first stage cleaners, cleaner scavengers and second stage cleaners, all using conventional cells. The third stage cleaner is a column cell, well proven in copper concentrators. The mineralogy and test work confirms that a fine regrind is necessary and this PFS is based upon a regrind p80 of 25 µm. There are several proven units available for regrinding in addition to conventional ball mills. This study has selected a 1,500HP Verti-Mill. This warrants review in the FS. The flotation test work showed that the copper minerals are fast floating, with very low collector additions. In some tests the copper minerals were observed to be free-floating prior to collector addition, i.e. naturally hydrophobic. The design of the flotation circuit is considered to be conservative and opportunities to reduce the number and/or sizes of the flotation cells is considered possible. The best cell size, configuration and types requires in-depth conversations with the vendors.

The concentrate section includes a dryer, to reduce the moisture content (from 12-13%) to 6% or less. A vibrating, fluid-bed dryer has been selected for this duty. The inclusion of drying has three benefits, namely:

- Reduces weight of concentrate to be transported. This reduction in weight offsets most of the cost of drying.

- Material handling, into and out of lined containers will be easier.
- Sampling will be easier. This is particularly important considering the high value of the gold and silver content of the concentrate.

For the reasons outlined in 14.5, tailings filtration has been included in the plant design. This technology is becoming increasingly accepted by the industry, particularly with the significant advances made by the equipment manufacturers in the last five to ten years. This allows process plants to filter their tailings using fewer machines than in the past. In depth discussions with vendors is required during the FS. The Pocock sample had a p80 of 65 µm, which indicates their results may be overly conservative.

14.9 Conclusions and Recommendations

The process plant is based on a conventional flowsheet to recover copper, gold and silver into a high value copper concentrate.

Recommendations for the next phase of design work, (the Feasibility Study), are as follows:

- Final review of the primary crusher design, with emphasis on the design of the grizzly screen, efficient removal of oversize and the capacity of the feed hopper.
- Possible investigation of one stage, i.e., SAG only grinding.
- Review of regrind mill alternatives and power requirement, to include Vertimills, Isamills and HIGmills.
- Review flotation cell sizing and type.
- Test work with the vendor companies for tailings filtration and specific discussions around optimum size and numbers of filters.

14.10 Risks and Opportunities

Risks

- The results of previous test work have been reviewed. New test work data has been produced at KCA and BML in 2021, Section 10. The results show some variation, probably reflecting the different samples. Great care was taken by US Gold in 2020 and 2021 in collection and preparation of new drill core and thus emphasis is given to the 2021 test results. The recoveries and concentrate grades from all test programs are shown in Table 14-1 and considered to be appropriate for estimating actual plant performance, at a PFS level, Table 14-2. None the less they should be regarded as plus/minus 5% in accuracy. The variability test work planned for the FS for oxide, mixed and sulfide samples with copper assays 0.1-0.5%Cu will reduce any perceived risks.
- In the independent review of the capital cost, the reviewer noted that the unit costs for both steel and concrete are lower than typical South West USA costs. These unit costs, representing 3rd Quarter 2021, were provided by the Wyoming based company TriHydro, who are working on infrastructure elements of the project. The costs, described as budgetary and approximate, were obtained from local suppliers of concrete and steel in Laramie and Cheyenne, with local bulk

concrete plants. This local supply, together with the short distance to the mine site contributes to the low unit costs. Nevertheless, this requires further evaluation and discussion with the suppliers during the Feasibility Study. As a very general comment, should these unit costs be nearer the national average, the impact on the capital cost would be between US$5 and 13 million.

Opportunities

- This PFS was carried out during the Covid pandemic. As a result, almost all communications with Vendors and the Engineering company were carried out "virtually", such as by zoom type meetings. This generally worked well, although it was a new experience for the participants. This provided opportunities for good discussions and exchange of views. However, it was less easy to have the detailed conversations and discussions that are possible with round the table, face to face meetings. It is the author’s opinion¬¬¬ that there are a number of areas where some optimization can be achieved, such as SAG and Ball mill sizing, Primary crusher layout, Flotation and Tailings Filtration. The current strategy is to organize such meetings with both Vendors and the chosen Engineering Company at the outset of the Feasibility Study.
- Further tests on the oxide composite, and a new mixed zone composite, using reagents 3418 and 7150 are required. This represents a possible opportunity to improve gold recovery.
- Alquimia have estimated the capital cost of the process plant to be US$204.3 million, with an accuracy of minus 10% plus 25%. The estimate includes a 20% contingency. Budgetary quotations were obtained from vendor companies for all the major equipment. An independent review has confirmed that these equipment prices and the factors applied for indirects are reasonable at a PFS level of study. These indirect costs reflect the favorable project location and topography, (close to two major cities, Laramie and Cheyenne, highways and railroad) and ease of access to the project site. Opportunities to optimize equipment size and numbers, such as pebble crushers and cyclones and the plant layout should be investigated during the Feasibility Study.

15 Project Infrastructure

15.1 Roads

15.1.1 Project Access Roads

Seven (7) access road alternatives were evaluated for accessing the CK Gold Project during construction, mining, and reclamation. The preferred access road alternative selected for the Project is shown on Figure 15-F1 which bisects the southern portion of the Project area and continues northeast across lands owned by the Ferguson Ranch. At this stage, not considering the need to move bulk aggregates and maintaining the access ROW on the property of the Ferguson Ranch, the selected access simplifies land and permit negotiations, however there is always opportunity to seek a southern access route in the future that might facilitate the export of bulk aggregates from the property to the Interstate 80 and rail corridors some 3-mile to the south of the project. The access road is approximately 4.6 miles long and 28 feet wide centered in 60 feet of right of way (ROW).

Capital construction unit costs for the access road include construction staking, 6 inches of topsoil stripping and stockpiling, scarifying, disking, compaction, sub-grading, grading (assumes 1 foot of cut/fill on average), moisture conditioning, material (sub-base and base) transport and placement, revegetation, fencing, gates, and cattle guards. No stream crossing will be required for the access road. The capital construction unit costs assume that material for sub-grading, sub-base, and base will be sourced from the Project area and the road will be a maintained gravel finish likely incorporating surface treatment to stabilize the road and suppress dust.

Capital construction unit costs for the access road are listed in Table 15-1.

Table 15-1 Access Road Costs

Costing Step	Unit	Cost
Construction Staking	mi	$ 5,250
Topsoil Stripping and storing (6in)	mi	$ 19,712
Scarifying and Disking	mi	$ 1,407
Compaction/Sub-grading	mi	$ 3,481
Grading (assumes 1ft cut/fill on average)	mi	$ 35,200
Material and Placement (Sub-base)	mi	$ 54,873
Material and Placement (Base)	mi	$ 24,200
Topsoil Replacement & Revegetation	mi	$ 16,255
Cattle Guards (x3 Heavy Duty)	ea	$ 30,601
Fencing	mi	$ 18,480
Electric Gate	ea	$ 5,000
Construction $/mi		**$ 178,858**
Construction Cost Cattle Guards and Gates		$ 96,803
Total Construction Cost Access Road (4.6 miles)		**$ 919,550**

15.1.2 Ex-Pit Haul Roads

Ex-pit haul roads for the CK Gold Project were designed to accommodate 100-150 st haul trucks. EX-pit haul roads are designed to be 75 feet in width and to generally follow the existing two-track roads within the CK Gold Project area where possible. Construction of the internal haul roads assumes that material for the haul roads can be sourced from within the CK Gold Project from the pit. The haul roads will be constructed with a running surface of 3 feet thick of crushed pit run material. Table 15-2 summarizes estimated cut/fill volume, capping volume, and associated cost for haul road construction for three phases of the project.

Table 15-2 Haul Road Quantities

	Phase 1	Phase 2	Phase3	Total
Haul Road Grading				
Cut (BCY)	58,000	55,000	56,700	169,700
Fill (BCY)	70,000	70,000	70,300	210,300
Cost	$174,000	$165,000	$170,100	$509,100

Haul Road Capping				
Length (ft)	8,500	8,000	7,665	24,165
Volume (CY)	70,834	66,667	63,875	201,375
Cost	$21,250	$20,000	$19,163	$60,413
Total Cost	$195,250	$185,000	$189,263	$569,513

15.2 Stockpile and Storage Facilities

The CK Gold Project will utilize a mineralized material facility (MMF) and north waste rock facility (NWR) for storing mineralized rock and non-mineralized waste rock from the pit during mining. Figure 15-1 shows the location of each storage area in proximity to the pit, mill area, truck area, and waste rock/tailings co-placement facility (WRTCF). Figure 15-2 shows the MMF and NWR. Each storage facility will have the topsoil stripped and stockpiled in designated areas prior to placing rock material. Additionally, the MMF will have a modified low permeability soil liner and collection drain installed prior to receiving mineralized material. Erosion control measures will also be implemented to control stormwater runoff. Each rock storage area is further described below.

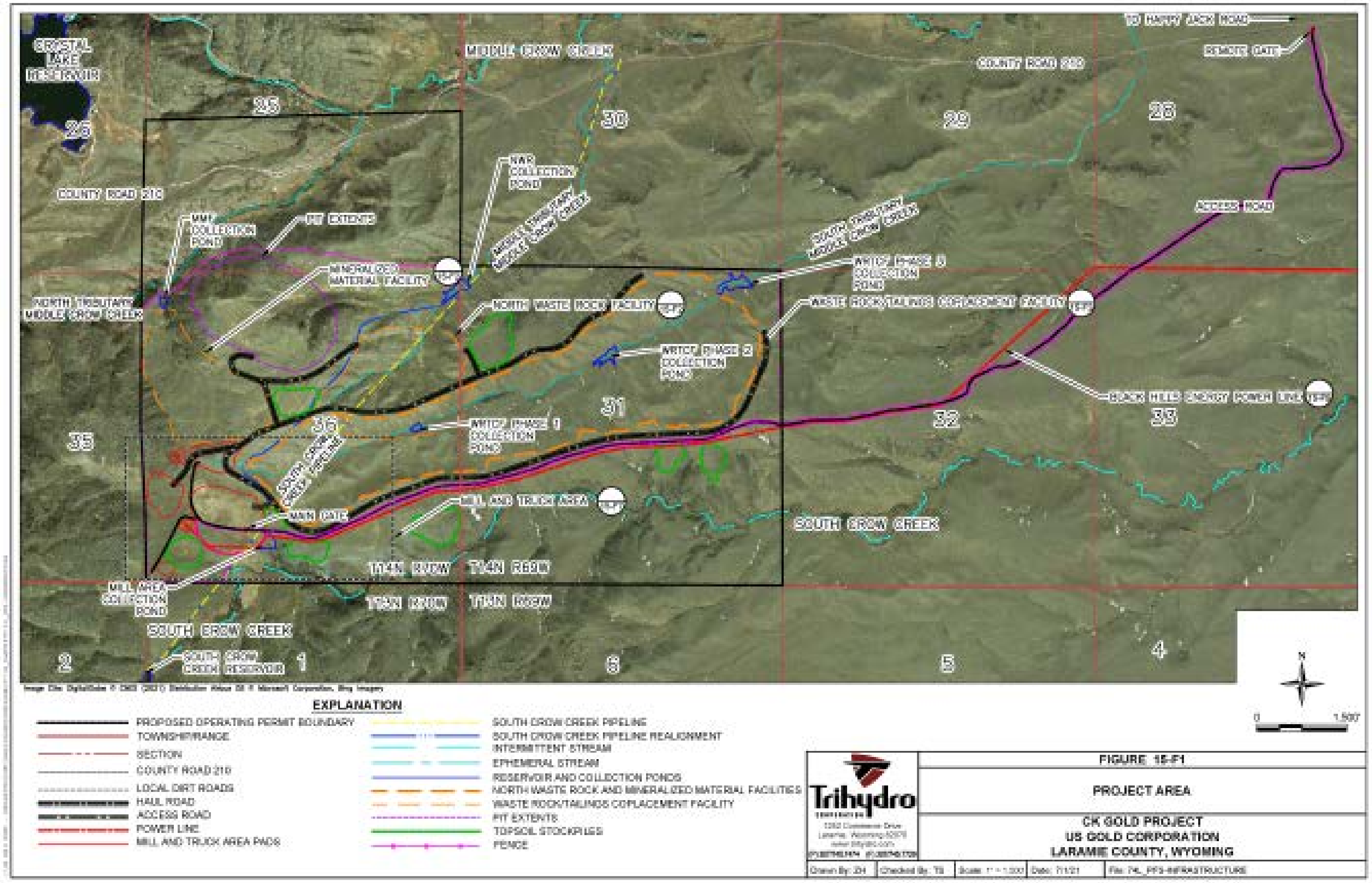


Figure 15-1 Project Area

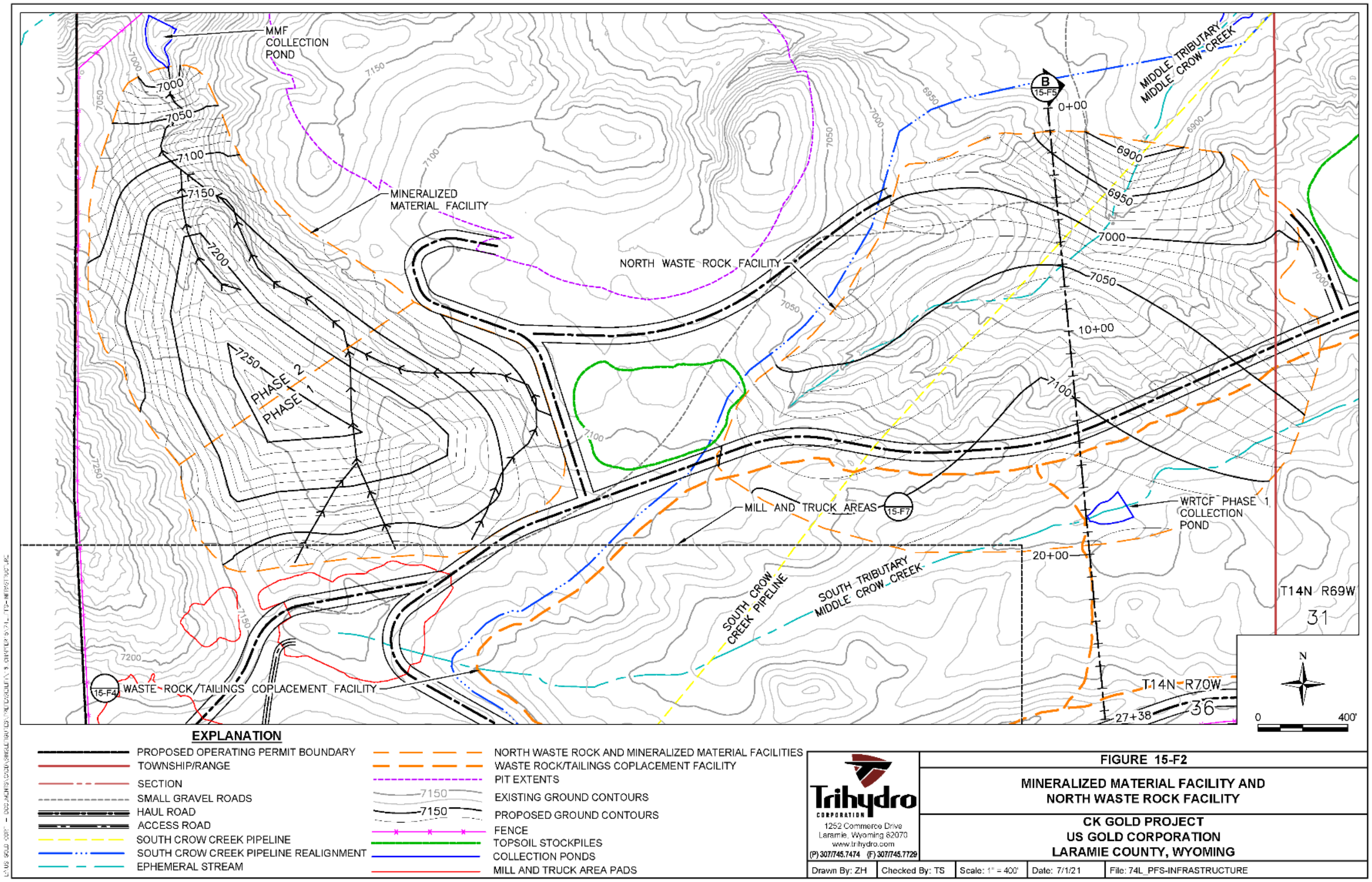


Figure 15-2 Mineralized Material and Waste Rock Facility

15.2.1 *Mineralized Material Facility*

The MMF is located entirely within Section 36 in the valley to the south and west of the pit. The MMF will be used to store the approximately 10.5 million short tons (MST) of mineralized material for future processing. The MMF will also accommodate approximately 2.6 MST of non-mineralized waste rock. The non-mineralized waste rock will be placed lower in the stockpile and will be utilized to construct a pad to store the mineralized rock.

The slopes of the MMF are designed to range between 3H:1V at its steepest and have an average slope of approximately 5H:1V to accommodate replacement of topsoil and revegetation for closure purposes. The MMF is designed to have a stack height of up to approximately 290 feet for a top elevation of 7,261 feet above mean sea level (amsl).

The MMF will be constructed in two phases in coordination with Phase 1 and Phase 2 of the WRTCF. The MMF capacity will be split between the two phases. In each phase, topsoil will be stripped and stockpiled in designated storage areas. The underlying soils are assumed to be suitable for use as a clay liner below the MMF. The underlying soils will be ripped, moisture adjusted, and compacted to create a 3-foot-thick soil liner. Table 15-3 summarizes the topsoil stripping and soil liner construction volumes and costs for the MMF. A collection drain system will be constructed prior to placement of mineralized material and waste rock with the objective of containing “contact water” on site and within prepared sediment basins.

Table 15-3 Mineralized Stockpile Quantities

	Phase 1	Phase 2	Total
Topsoil Stripping (BCY)	76,811	76,771	**153,582**
Topsoil Stripping Cost[1]	$193,563	$193,462	**$387,027**
Top Layer Soil Excavation and Replacement (BCY)	140,821	140,746	**281,567**
Soil Excavation and Replacement Cost[2]	$633,692	$633,359	**$1,267,052**
Approximate Hours Required to Rip Bottom Soil Layer (hr)	327	327	**654**
Soil Ripping Cost[3]	$70,305	$70,305	**$140,610**
Approximate Hours Required to Compact Liner (hr)	120	120	**240**
Compaction Cost[4]	$30,000	$30,000	**$60,000**
Water Truck Cost[5]	$18,000	$18,000	**$36,000**
Total Cost	**$945,561**	**$945,127**	**$1,890,688**

Notes: 1 - Unit cost for topsoil stripping is $2.52/BCY, 2 - Unit cost for soil excavation and replacement is $4.50/BCY, 3 - Unit cost for D10 Dozer is $215/hr, 4 - Unit cost for 815K Wheel Compactor is $250/hr, 5 - Unit cost for water truck is $150/hr

The collection drain system will be built on top of the soil liner and consist of connected collection pipes. Each pipe will be 12-inches in diameter (nominal), N-12, perforated, corrugated, high density polyethylene (HDPE), and wrapped in a drain sock. Each pipe run will be bedded in minus 2 inch (-2”) gravel and covered with riprap. The gravel will have a minimum thickness of 12 inches and the riprap thickness will be able to protect the collection pipe from crushing and allow water to flow downgradient. Figure 15-2 shows the alignments of the collection drain system within the MMF and Figure 15-5 shows typical cross-sections. The costs associated with the MMR drain system is $26,648 for Phase 1 and $3,500 for Phase 2.

15.2.2 North Waste Rock Facility

The NWR is located mostly in Section 36 and partially in Section 31 in the valley in the ephemeral Middle Tributary to Middle Crow Creek (to the southeast of the pit). The NWR will be utilized for short hauls to dump the non-mineralized waste rock. The NWR will accommodate approximately 11.6 MST of waste rock. The NWR, at full height (7,121 feet amsl), will be built upon a portion of the northern slope of the WRTCF. The slopes of the NWR are designed to range between 3H:1V at its steepest and have an average slope of approximately 10H:1V to accommodate replacement of topsoil and revegetation for closure purposes.

Prior to placement of waste rock, approximately 153,525 bank cubic yards (BCY) of topsoil will be stripped from the NWR and placed in designated topsoil stockpiles. Using the topsoil stripping unit cost of $2.52/BCY, the cost to strip and stockpile the NWR topsoil is approximately $386,833.

15.3 Tailings Disposal

As discussed in Section 17.2.4, geochemical testing has been conducted on non-mineralized rock and tailings samples. Testing is ongoing with longer-term kinetic testing aimed at confirming the interim conclusions regarding the waste products resulting from the project. In view of the results to date showing that the non-mineralized rock resulting from mining is net neutral and that the tailings, having had sulfides extracted, are considered as not acid generating, there is little risk of the combined waste and tailings resulting in acid drainage and the mobilization of metals. Furthermore, the process solutions will be removed from the tailings before deposition and do not contain residues of sodium cyanide, since this chemical is not used in the extraction process. For this reason the WRTCF will be designed with a low permeability clay liner, underdrain and surface collection system capturing any run-off or leachate from the facility until reclamation and closure occurs.

Tailings from the CK Gold Project mill tailings loadout will be hauled to and stored in the WRTCF. Figure 15-4 shows the WRTCF. Figure 15-5 shows the phases and cross sections of the WRTCF and typical haul and access road cross sections. The WRTCF has the capacity to store approximately 71 MST of tailings and waste rock with a top elevation of 7,180 feet asml. The WRTCF is located in Sections 36 and 31 in the ephemeral South Tributary to Middle Crow Creek and east of the pit.

The WRTCF will be constructed in three phases with Phase 1 having the lowest capacity of approximately 13.2 MST and being closest to the pit. Phase 2, located to the east of Phase 1 and in the middle portion of the valley, will have an approximate capacity of 22.7 MST and Phase 3 will have an approximate capacity of 35.4 MST and will be to the east of Phase 2 and is the farthest from the pit. Phase 1 will be constructed in Year -1, Phase 2 will be constructed in Years 1 and 2, and Phase 3 will be constructed in Years 4 and 5 to accommodate planned material movement. For the completed WRTCF, slopes average between 8H:1V and 5H:1V. The internal Phase 1 and Phase 2 slopes are approximately 3H:1V.

In each phase, topsoil will be stripped and stockpiled in designated storage areas. The underlying soils are assumed to be suitable for use as a clay liner below the WRTCF. The underlying soils will be ripped, moisture adjusted, and compacted to create a 3-foot-thick soil liner. Table 15-4 summarizes the topsoil stripping and soil liner construction volumes and costs for the WRTCF. An underdrain collection system will be constructed in key areas prior to construction of the soil liner. A collection drain system will also be constructed prior to placement of waste rock and tailings.

Table 15-4 WRTCF Quantities

	Phase 1	Phase 2	Phase 3	Total
Topsoil Stripping (BCY)	184,442	231,359	341,199	**757,000**
Topsoil Stripping Cost[1]	$464,793	$583,026	$859,821	**$1,907,640**
Top Layer Soil Excavation and Replacement (BCY)	402,556	504,957	744,688	**1,652,200**
Soil Excavation and Replacement Cost[2]	$1,811,500	$2,272,304	$3,351,096	**$7,434,900**
Approximate Hours Required to Rip Bottom Soil Layer (hr)	936	1,174	1,730	**3,840**
Soil Ripping Cost[3]	$201,240	$252,410	$371,950	**$825,600**
Approximate Hours Required to Compact Liner (hr)	343	430	635	**1,408**
Compaction Cost[4]	$85,775	$107,600	$158,675	**$352,050**
Water Truck Cost[5]	$51,465	$64,560	$95,205	**$211,230**
Total Cost	**$2,614,773**	**$3,279,900**	**$4,836,746**	**$10,731,420**

The underdrain collection system will be constructed from a separation fabric, gravel, and riprap. The underdrain system will be installed to collect and drain groundwater seepage and spring water downstream to prevent seepage into the WRTCF and mix with contact water. The collection drain system will be built on top of the soil liner and consist of a main collection pipe with connected secondary and tertiary pipes. Each pipe will be 6-inch, 12-inch, or 18-inch in diameter (nominal), N-12, perforated, corrugated, HDPE, and wrapped in a drain sock. Each pipe run will be bedded in minus 2 inch (-2”) gravel and a nominal riprap diameter of 6 inches. The gravel will have a minimum thickness of 12 inches and the riprap thickness varies based on Phase and location. Figure 15-4 and Figure 15-5 shows the alignments of the underdrain and collection drain systems within the WRTCF and typical cross-sections.

Pipe sizing and cross-sectional area of the riprap for each phase is based on the 25-year 24-hour storm event (2.78 inches) with 10 percent (%) water infiltration. Together the pipe and riprap drain will be able to convey the 10% infiltration from a 100-year 24-hour storm (3.54 inches). Secondary collection drains will utilize a 12-inch diameter pipe and tertiary collection drains will utilize 6-inch diameter pipe. Phase 1 will utilize a 12-inch diameter pipe for the main collection drain and Phases 2 and 3 will utilize an 18-inch diameter pipe for the main collection drain. For Phase 1 a 100 square foot (SF) cross-sectional area will be utilized, for Phase 2 a 200 SF cross-sectional area will be utilized, and for Phase 3 a 300 SF cross-section area will be utilized. For the three phases, the secondary collection system requires a 50 SF cross-sectional area and the tertiary collection system requires a 10 SF cross-sectional area. The cross-section area of the underdrain collection system will be approximately 12 SF. Table 15-5 summarizes the cost estimates of the drain system based on the estimated the pipe diameter, pipe length, fittings, gravel area and volumes, riprap area and volumes for each phase.

Table 15-5 Drain System

	Phase 1	Phase 2	Phase 3	Total
Main Collection Drain	$83,203	$346,575	$662,935	**$1,092,713**
Secondary Collection Drains	$129,555	$85,030	$260,334	**$474,919**
Tertiary Collection Drains	$135,955	$143,963	$160,436	**$440,354**
Underdrain Collection System		$28,942	$103,337	**$132,278**
Fittings	$78,357	$74,685	$87,816	**$240,858**
Total	**$427,070**	**$679,195**	**$1,274,858**	**$2,381,122**

At the completion of topsoil stripping and stockpiling, construction of the soil liner, and construction of the drain collection systems for each phase, tailings and waste rock material can be hauled to the facility. As the valley is filled with tailings material, a downstream buttress will be constructed for each phase along with an outer retention shell. The buttress and outer retention shell will be constructed of waste rock. A slope stability analysis was performed to determine and optimize the required outer retention shell thickness and buttress designs. The Phase 1 waste rock buttress requires a bottom thickness of approximately 165 feet and tapers vertically to a top thickness of 25 feet. The Phase 2 waste rock buttress requires a bottom thickness of approximately 180 feet and tapers vertically to a top thickness of 25 feet. The Phase 3 waste rock buttress is combined with the WRTCF retention shell and requires a bottom thickness of approximately 225 feet and tapers vertically to a top thickness of 25 feet. Phase 1 does not require a compacted tailings zone; however, Phase 2 requires an outer compacted tailings zone with an average thickness of 50 feet, and Phase 3 requires an outer compacted tailings zone with a bottom thickness of approximately 50 feet and tapers vertically to a top thickness of 25 feet. The compacted tailings zone will be located between the loose placed tailings and the Phase 2 and 3 buttresses. The northern and southern slopes of the WRTCF outer retention shell require structural waste rock with a bottom thickness of approximately 150 feet and tapers vertically to a top thickness of 25 feet. The western slopes of the WRTCF outer retention shell require structural waste rock with a bottom thickness of approximately 100 feet and tapers vertically to a top thickness of 25 feet. The northern, southern, and western slopes of the WRTCF outer retention shell do not require a compacted tailings zone. The top of the WRTCF will be capped with approximately 25 feet of waste rock.

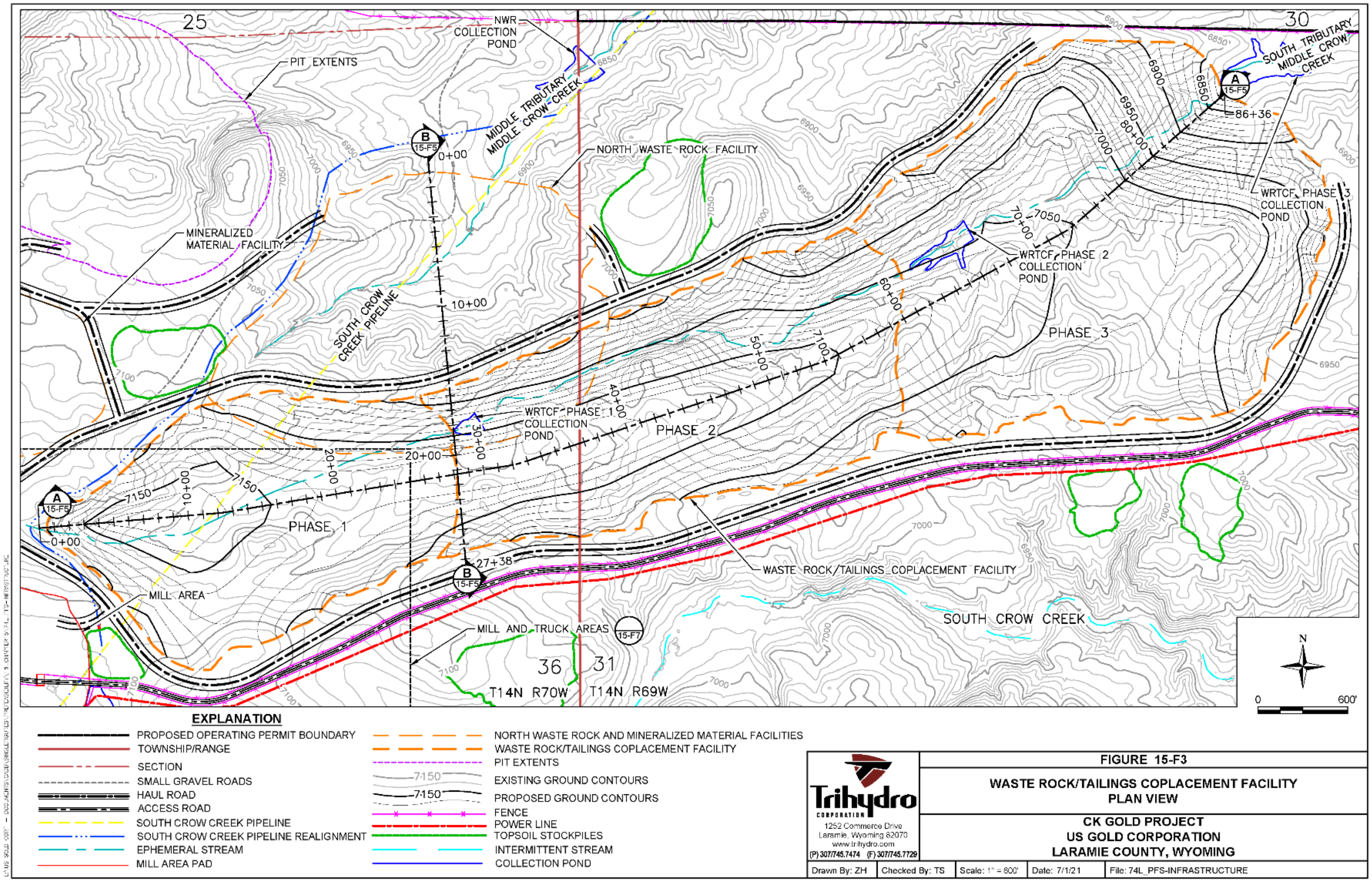


Figure 15-3 WRTCF Plan View

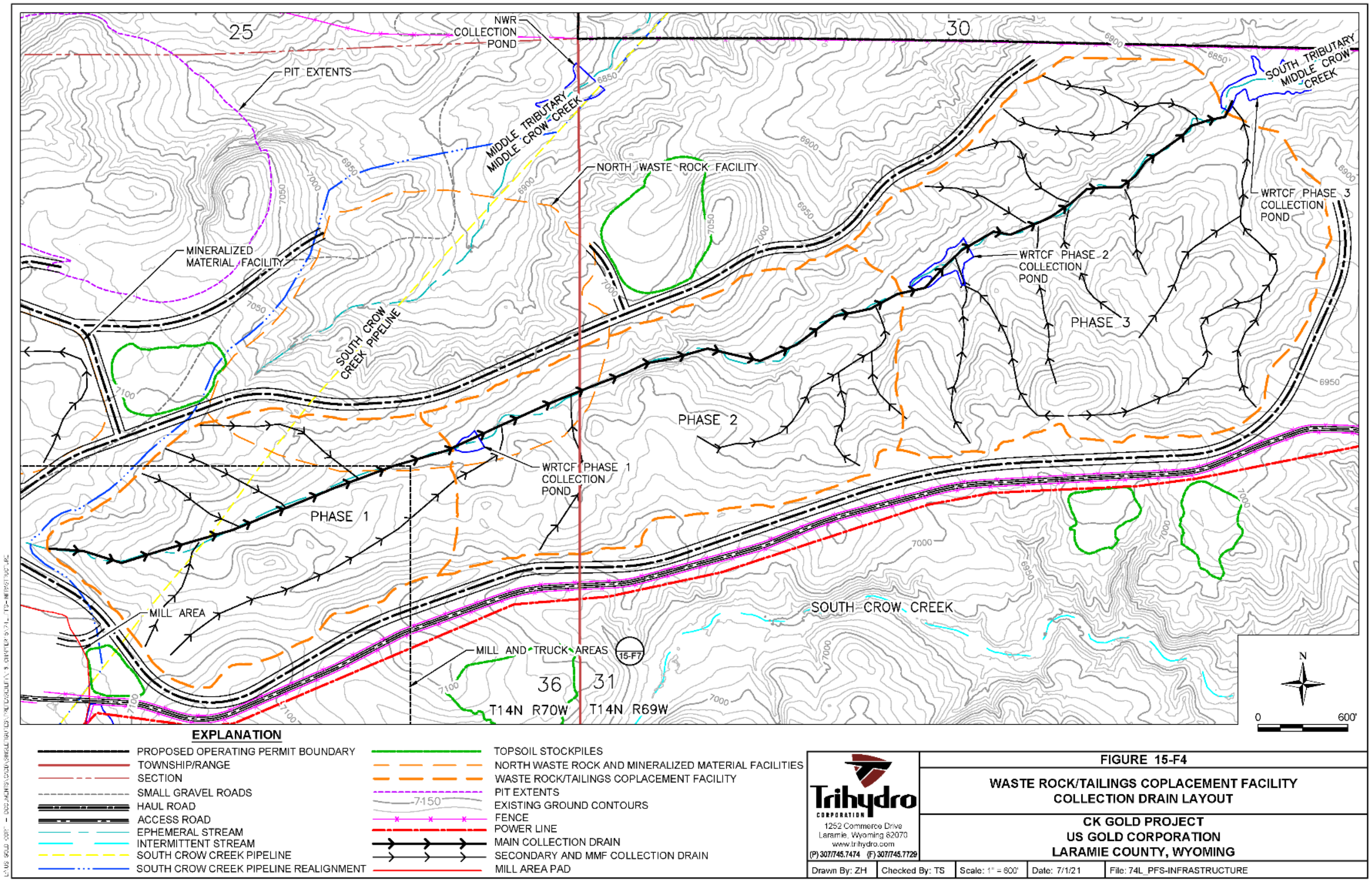


Figure 15-4 WRTCF Collection Drain Layout

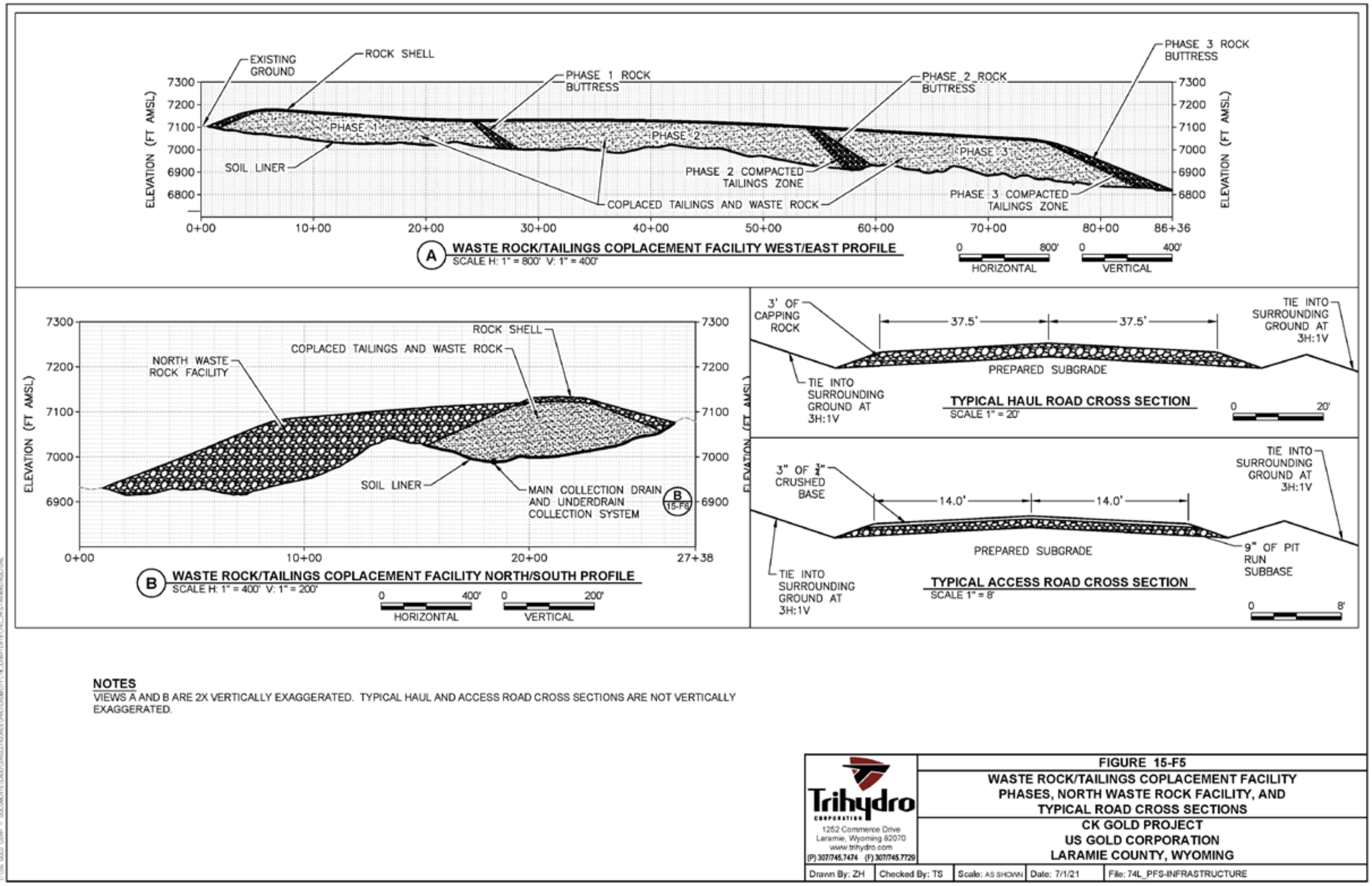


Figure 15-5 Facility Cross Sections

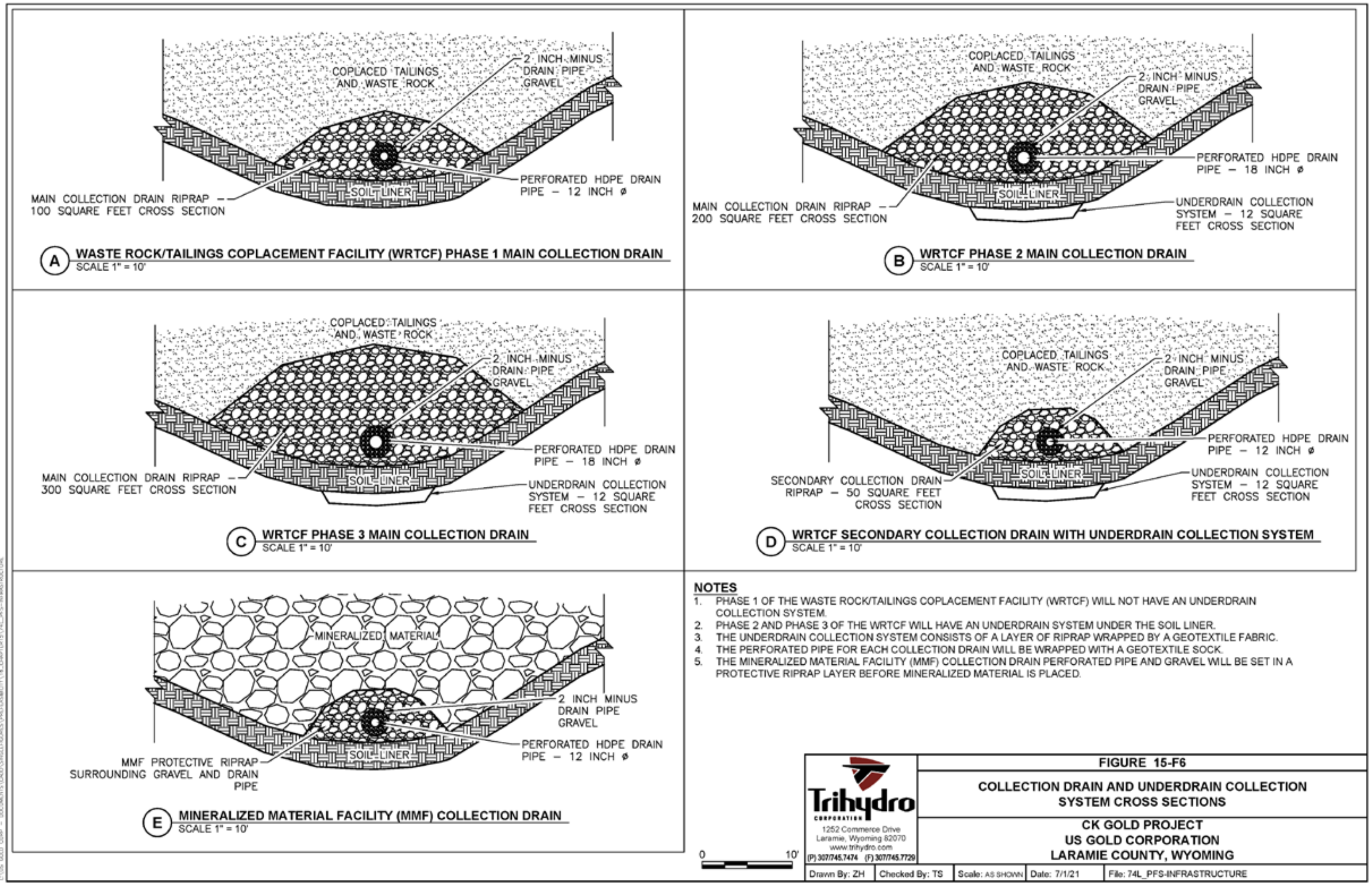


Figure 15-6 Drain System Cross Section

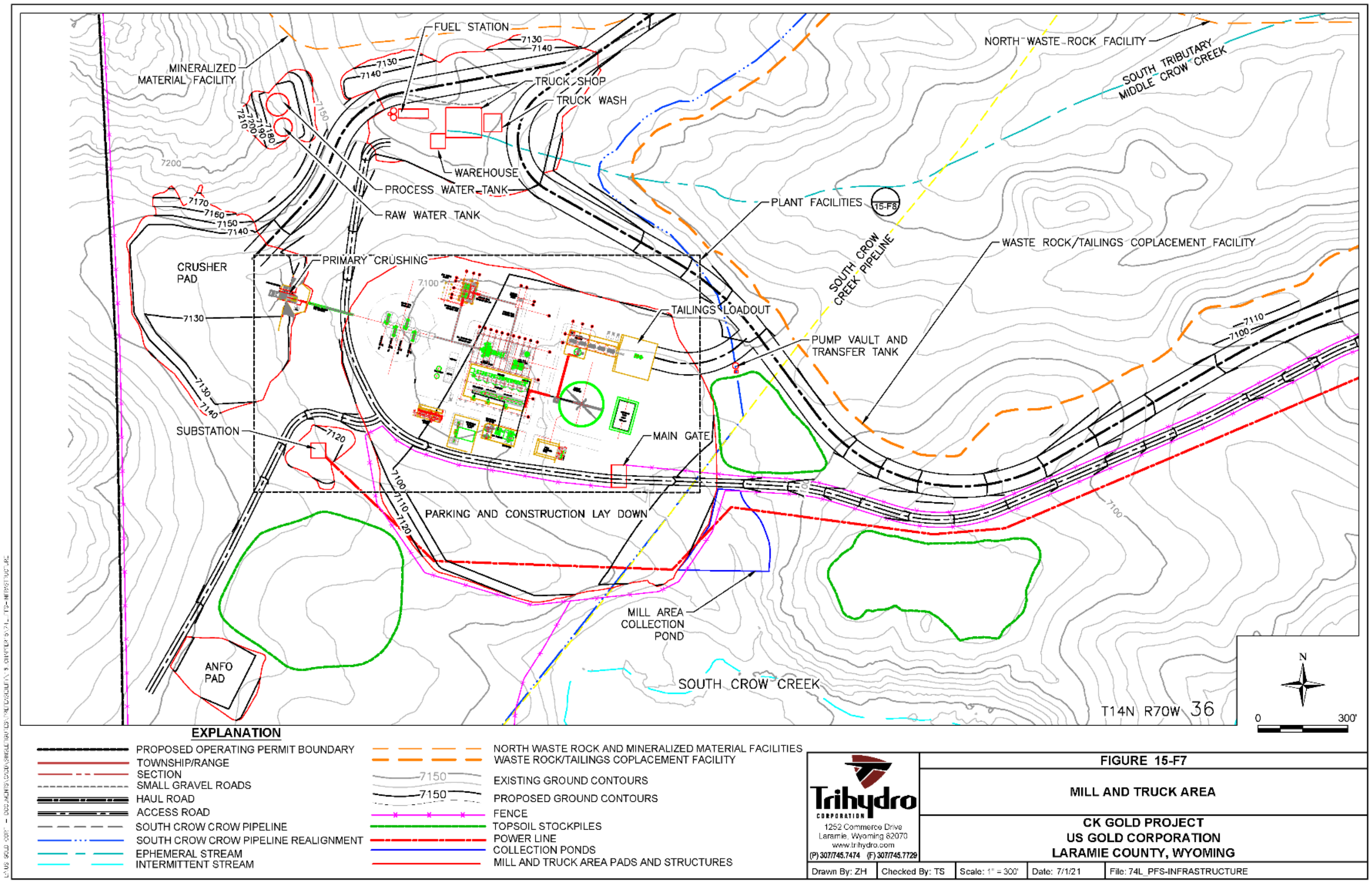


Figure 15-7 Mill and Truck Area

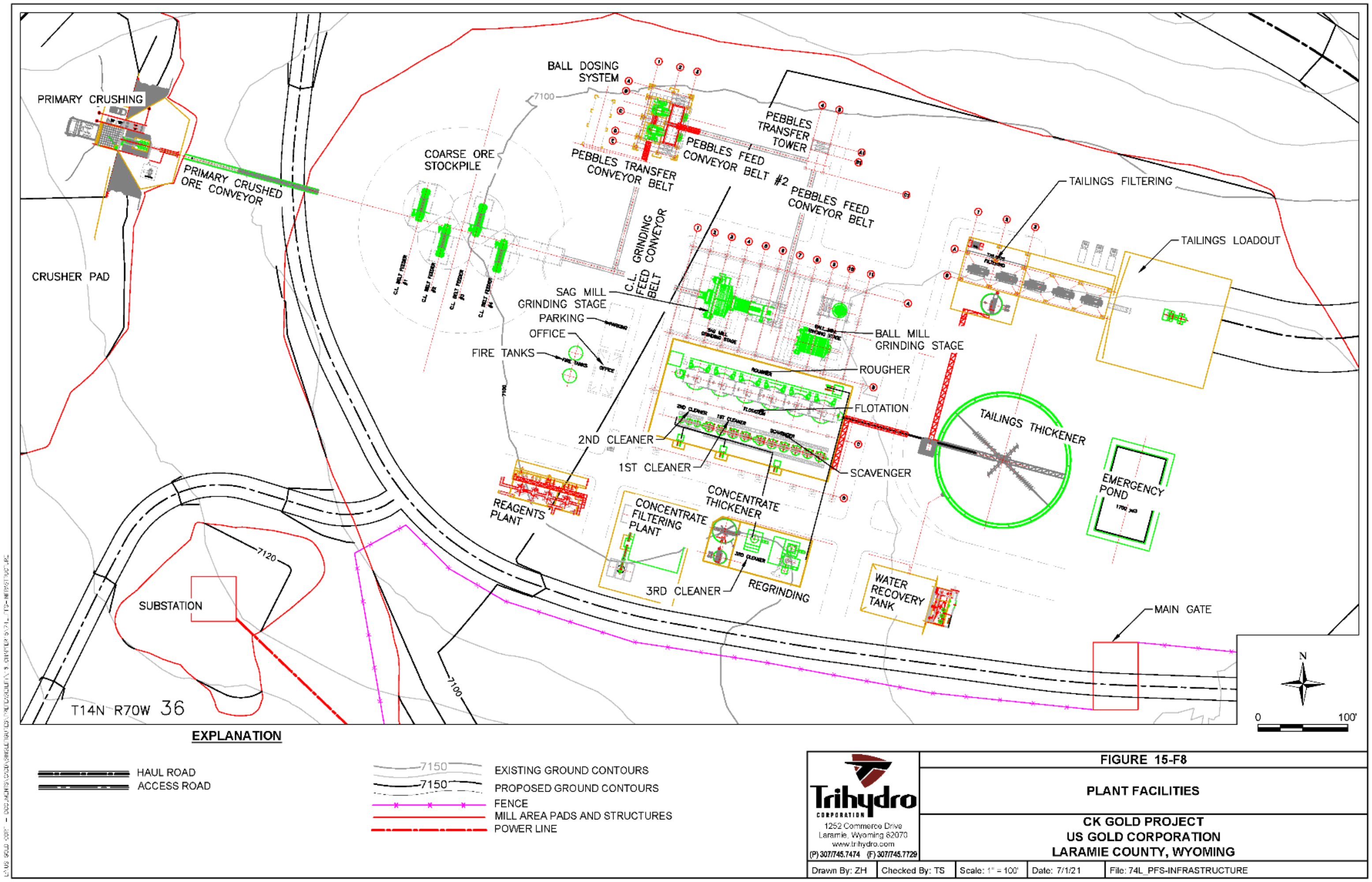


Figure 15-8 Concentrator Plan View

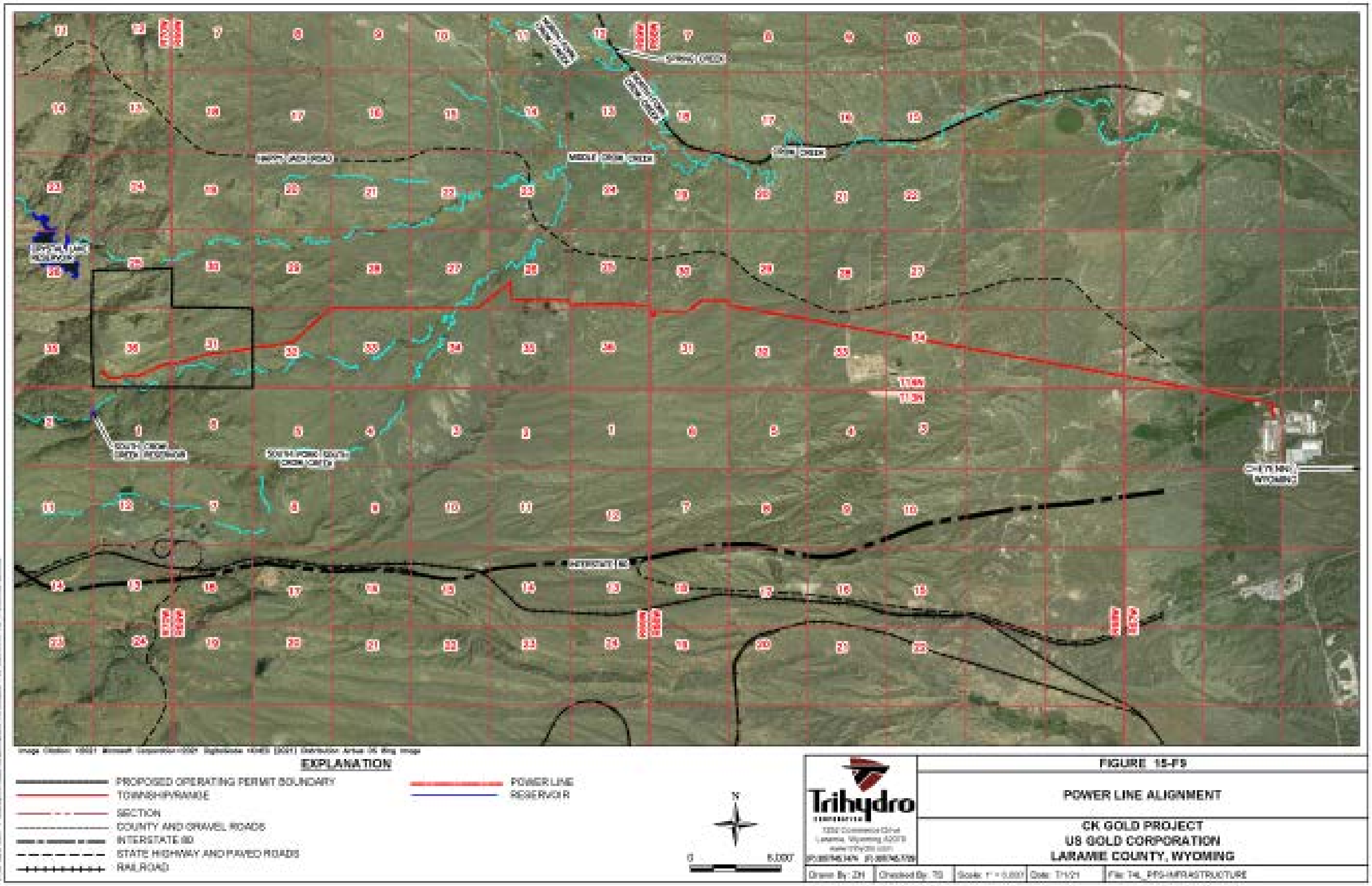


Figure 15-9 Proposed Powerline Alignment

15.4 Plant facility Earthwork

The CK Gold Project's plant facilities are located south of the pit in Section 36 and are shown on Figure 15-7. Figure 15-8 shows the layout of the plant facilities in more detail. Proposed ground grading designs were prepared for the mill area, truck shop and warehouse area, primary crusher and stockpile, and supporting facilities. The grading designs utilized 3H:1V to 5H:1V slopes to balance the cut and fill areas, address stormwater runoff, and reduce erosion. Generally, each pad has a 2% slope. Table 15-6 summarizes the bank cut and loose fill volumes and corresponding costs for each grading area shown on Figure 15-7.

Table 15-6 Plant Area Quantities

Grading Area[1]	Phase 1		
	Cut (BCY)	Fill (LCY)	Cost
Crusher Area[2]	0	0	$ -
Truck Area	57,800	19,600	$ 202,800
Mill Area	132,600	143,400	$ 612,900
Water Tank Pad	5,400	4,600	$ 23,100
ANFO Pad	0	7,100	$ 10,650
Substation Pad	1,040	1,025	$ 4,658
Subtotal	196,840	175,725	**$ 854,108**

15.5 Power and Water

Electrical power for the CK Gold Project will be supplied by a local utility company, Black Hills Energy, under an Industrial Contract Service Agreement. The anticipated peak power consumption for the Project is approximately 22.6 megawatts (MW) with 24.9 MW to be installed, which includes a 10% increase on the electrical power required by the processing plant to power the shops and office. The power demand for the Project requires that a dedicated feeder power line be constructed for the Project. The dedicated line would be constructed from Black Hills Energy's North Range substation located approximately 16 miles east of the Project near the intersection of CR 210 and Diamond Creek Road. Figure 15-1 shows the alignment traversing through the project area and Figure 15-9 shows the approximate alignment of the proposed new dedicated feeder powerline between the North Range substation to the Project's substation. The powerline would be approximately 15.9 miles and the alignment would take advantage of existing easements and planned county roads in the vicinity of the CK Gold Project. The alignment would require easements from the City of Cheyenne, State of Wyoming, and two local ranches. The substation and transformers costs are summarized in Chapter 18. Preliminary meetings with Black Hills suggest the supply to the property would come in at 29.2 KV and may pass through and serve and new sub-division development (Whispering Hills) that could mitigate installation costs.

Unit costs for construction of the infrastructure for the dedicated feeder powerline, and unit rates for the delivered power under an Industrial Contract were provided by Black Hills Energy in June 2021. Right of way costs for the easements were estimated from easement rates in Laramie County provided Pacer

Energy, LLC from August 2020, and from easement rates for surrounding landowners of the CK Gold Project from Black Hills Energy in June 2021. The estimated construction costs for the proposed power line is $1.75 million and the easement costs are $556,000. The power unit rate is 7.5₵/kWh. The CK Gold Project anticipates negotiating a lower power unit rate as a large power consumer.

The Project will operate in a net water deficit situation, given that the mean annual evapotranspiration exceeds the mean annual precipitation. The Project's water demand is currently estimated at 550 gpm. Potential sources of water for the Project include the City of Cheyenne's water supply system, which comprises several water storage reservoirs and pipelines in the Project vicinity, as well as on-site existing surface water rights and potential new on-site wells. The City of Cheyenne have sufficient capacity currently to supply the mine's needs, however there is a reluctance to commit to selling the project water over the whole project life as future demands from the city grow. As a consequence, US Gold is seeking other alternatives which beyond new wells could also include the purchase of water from third parties "wheeling" water into the City's system to replace raw water extracted at the point of capture near the mine site. The mine will operate as a zero-discharge facility. Water generated from pit dewatering, surface runoff, and waste rock and tailings seepage will be recycled for use in mineral processing and/or dust suppression.

16 Market Studies

16.1 Flotation Concentrates

The CK Gold Project will produce a flotation concentrate of suitable quality for typical smelters handling copper-gold flotation concentrates. A market and demand exists for this type of concentrate and the assumption is made that CK Gold will be able to sell all flotation concentrates produced if indicated qualities from the metallurgical test work are met. The basis of this market absorption assumption is:

- Projected concentrate copper grades exceed typical smelter minimum requirements
- Deleterious elements are below typical threshold levels
- Modest annual quantity of concentrates compared to output of smelter complexes
- Robust demand and market prices for Au, Cu and Ag drives increases in demand for concentrates containing these metals

The current plan is to ship concentrates to a smelter in North America via rail. However, the opportunity exists to ship the concentrates world wide.

16.2 Metal Markets

Table 16-1 shows the metals pricing is used throughout the project in pit optimization, cutoff grades and cash flow model.

Table 16-1 Metals Pricing

	Imperial		Metric	
Gold	$1,625	$/oz	$52.24	$/g
Copper	$3.25	$/lb	$7,165	$/tonne
Silver	$18.00	$/oz	$0.58	$/g

16.3 Contracts and Status

There are no current contracts or agreements, executed or under negotiation, for the sale or further processing of flotation concentrates, including hedging arrangements. However, there have been expressions of interest and conversations with various concentrate traders indicating that the CK Gold concentrate would be very marketable. There are no current contracts, executed or under negotiation, for the development of the CK Gold project including mining, processing or transportation. Current plans call for a mine services contractor to perform the mining activities at the CK Gold project. US Gold will continue to refine and develop plans for contracting mine activities.

17 Environmental Studies, Permitting and Social or Community Impact

17.1 Introduction

This chapter presents the available information on environmental compliance, permitting and community engagement, including the following specific topics:

- Results of environmental studies (Section 17.2)
- Requirements and plans for waste and tailings disposal, site monitoring, and water management during operations and after mine closure (Section 17.3)
- Project permitting requirements, the status of permit applications, and requirements to post a reclamation bond (Section 17.4)
- Plans, negotiations, and agreements with local individuals and groups (Section 17.5)
- Mine closure plan, including remediation and reclamation, and associated costs (Section 17.6)
- The qualified person's opinion on the adequacy of current plans to address issues related to environmental compliance, permitting, and local individuals or groups (Section 17.7)
- Commitment to local procurement and hiring (Section 17.8)

The Project will occupy state owned and private land. Construction and operation of the mine will require various permits issued at the state and local levels. The agency with primary jurisdiction over development and operation of the Project is the Wyoming Department of Environmental Quality (DEQ). The applicable permits required under this agency include:

- Permit to Mine
- Air Quality Permit to Construct and Operate
- Industrial Siting Construction Permit
- Stormwater Permit
- Permit to Construct Water Supply and Wastewater Facilities
- Operator Certification for Drinking Water Systems

Additional permits will be needed from the following agencies:

- State Engineer’s Office Permits for Water Use and Water Related Facilities
- State Historical Preservation Office
- State Fire Marshall
- Laramie County

Two streams flowing through the Project site have been classified as “Waters of the United States” by the US Army Corps of Engineers. However, none of the planned Project infrastructure would impact these surface waters, therefore no major federal permitting will be required.

Permitting and bonding so far have been associated with mineral exploration activities. Exploration work performed to date has been approved by the DEQ’s Land Quality Division. No permit applications for mine construction or operation have been submitted to any regulators at this time. The Project is in the process of compiling the information required for these permit applications.

Environmental baseline studies began in October 2020 to establish the pre-mining site conditions and fulfill the information requirements of the permit application documents to be submitted to the DEQ and other applicable regulators. These studies are ongoing and will continue through 2021 until the various permit application requirements are met.

Geochemical testing of mine rock and tailings samples indicate that the tailings will not be acid generating, nor will the large majority of waste rock and pit wall rock. Therefore, the risk of metal leaching from waste rock, tailings and pit walls, and associated potential impacts on water quality, are not expected to be significant. This finding will be confirmed through ongoing geochemical testing.

Waste rock and tailings generated during mining and mineral processing will be deposited on site in engineered facilities. The tailings will be filtered to extract as much moisture as feasible prior to their deposition, maximizing their structural strength and avoiding the need for tailings dams and their associated structural stability risks.

The filtered tailings will be co-placed with waste rock into a facility located within one of the ephemeral drainage basins on site. The facility, which will be developed over three phases, is designed with structural zones around its perimeter to support non-compacted filtered tailings placed in its interior. The structural zones will comprise both compacted tailings and waste rock. The waste rock will be used for structural buttressing and slope armoring. Clay soils found within the host basin will be exposed, regraded and compacted to form a low-permeability liner minimizing seepage into the subsurface. A collection drain installed over the liner will convey seepage to a collection basin. The waste rock and filtered tailings will be hauled by truck and placed with front end loaders. Dust emissions will be controlled by maintaining a moist working front by water spraying.

A groundwater flow model is under development with the objective of assessing the interactions between the proposed open pit and the groundwater system. The rock hosting the mineral deposit is of relatively low permeability. Groundwater inflow into the pit is expected to be less than 100 gallons per minute (gpm). It is anticipated that the pit can be passively dewatered during mining, with no dewatering wells needed. Pit dewatering is not expected to significantly affect surface water bodies or water supply sources in the vicinity of the mine. The open pit will form a terminal hydrologic sink, meaning that water within the pit's capture zone will be contained and will not migrate out of the pit. A pit lake is predicted to form after the end of mining. These findings will be confirmed through additional groundwater monitoring and modeling.

The Project will operate in a net water deficit situation, given that the mean annual evapotranspiration exceeds the mean annual precipitation. The Project's water demand is currently estimated at 550 gpm. Potential sources of water for the Project include the City of Cheyenne's water supply system, which comprises several water storage reservoirs and pipelines in the Project vicinity, as well as on-site existing surface water rights and potential new on-site wells. The mine will operate as a zero-discharge facility. Water generated from pit dewatering, surface runoff, and waste rock and tailings seepage will be recycled for use in mineral processing and/or dust suppression.

In addition to the permitting requirements and associated interaction with the DEQ and other state and local agencies, development of the CK Gold Project will require certain agreements with other local entities, including: (1) Ferguson Ranch for land use rights and easements for access road, power line and water supply well(s) and pipeline; (2) City of Cheyenne Board of Public Utilities for a water supply agreement, and an agreement to relocate an existing water pipeline and easement for the power line; and (3) Black Hills Energy, a subsidiary of Black Hills Corporation, for a power supply agreement. US Gold has also reached out and provided Project information to various additional local entities which may be affected by and/or interested in the project, including: Laramie County; City of Cheyenne; City of Laramie; neighboring residents and property owners west of the Project site; Wyoming State Parks; Wyoming Game and Fish Department; Wyoming School Boards Association; University of Wyoming; Granite Canyon Quarry, which operates south of the Project site; and the Ferguson, Sutherland and King Ranches, cattle ranching operations on and around the Project site. There are no indigenous, Native American or Bureau of Indian Affairs lands adjacent to the Project, and no indigenous or Native American cultural sites are known to exist within the Project area.

A closure and reclamation plan will be prepared in accordance with the requirements of the DEQ's Land Quality Division, as part of the Permit to Mine application. The closure objective as currently foreseen is to reclaim most of the site to enable the resumption of its current use of cattle grazing. Progressive reclamation will be practiced during the life of mine to reclaim portions of the Project site as soon as feasible prior to the end of mining, securing corresponding early releases in bonding obligations. Cattle grazing will continue as feasible during mining on Project areas not directly affected by mine operations. At the end of mineral processing operations, the mineral processing plant and support structures and facilities would be dismantled or demolished, and their footprints revegetated. The waste rock and tailings facilities would be regraded to the extent necessary to achieve long-term stability, covered and revegetated. Certain structures, roadways and/or wells may be left in place if requested by the landowners or State Lands Office.

To help increase the local area's long-term water storage capacity, discussions have begun with the Cheyenne Board of Public Utilities about the possibility of converting the post-mining open pit into a water storage reservoir. The hydrogeological and geochemical study results to date indicate that the pit wall permeability will be low enough overall to contain water with no significant leakage, and the pit wall rock will be geochemically stable enough to preserve water quality to applicable standards. Assuming these findings are confirmed by the ongoing environmental studies, US Gold intends to put forth the concept of converting the pit to a water storage reservoir as the preferred closure concept. At the end of mining, water could be transferred from external sources to the new reservoir to meet the local area's water storage needs. In the event that further studies identify significant obstacles to this preferred pit closure concept, alternative concepts will be evaluated, including potentially a cost-benefit analysis of partially backfilling the pit with mine waste. A post-closure monitoring plan will be implemented to verify that closure objectives are met, including the physical and chemical stability of the closed facilities.

17.2 Environmental Studies

17.2.1 Land Use

A baseline data review of the land use and history within the CK Gold Project area was performed in March 2021. The review included summarizing the past and present land uses and coalescing of information from historic reports and studies. A summary is included below.

The primary land use of the Project site over the past 140 years is a combination of mineral exploration, mining operations and cattle ranching. An extensive amount of mining activity has occurred on the

Project site and the surrounding historical Silver Crown Mining District (SCMD) since the district was established in 1879, including prospecting, exploration drilling, surface mining, and expansive underground excavation. The CK Gold Project is considered one of the top five gold deposits in the state of Wyoming (Hausel, 2019). The deposit was discovered in 1881 and developed as an underground copper mine. Despite numerous mining campaigns spanning several generations and transfers of ownership, much of the deposit is still intact due to historically low precious metal prices and insufficient technology. At least ten exploratory drilling programs have occurred at the Project site since 1938 for metallurgical, technical, hydrological and resource/reserve delineation purposes.

The CK Gold Project site has also been utilized as rangeland, though it has historically not been prime rangeland or targeted for development due to limited access, soil conditions, inclement weather and terrain. The City of Cheyenne's Board of Public Utilities installed a sixteen-inch diameter cast iron pipe in 1911 from the South Crow Creek Reservoir through the Project to their pipelines along County Road 210 that supply water to the City of Cheyenne. There is also an irrigation ditch that is used by the surface owner for ranching that crosses from the southwest corner to the northeastern corner of the Project site. Incidental wildlife also occupies the CK Gold Project site.

17.2.2 Climatology

The CK Gold Project commissioned the installation of a meteorological weather station that was installed in November 2020 to monitor and record weather conditions in real-time and compile the data into an online accessible database. The station was installed on Section 36 on the southwestern end of the CK Gold Project, south of the proposed pit.

Site Weather Station Data

The meteorological weather station uses cellular communications to transfer the meteorological data hourly from the station data logger. The weather data is reviewed and compiled into monthly, quarterly, and annual reports. Prior to finalizing data for the reports, the data is validated according to EPA and state air monitoring stations protocols. Reports are submitted to US Gold within 90 days of the end of the quarterly reporting period.

Surrounding Stations for Historic Record

There are more than 20 weather stations located between Laramie and Cheyenne, Wyoming that provide temperature, precipitation, wind speed, and wind direction measurements dating back to January 1997. In order of proximity to the CK Gold Project, Hecla 1 E (0.35 miles NE), WY29 (2.58 miles SW), and F.E. Warren Air Force Base (Warren AFB) 20.6 WSW (4.57 miles SW) are three weather stations that may be used to approximate the historic meteorological conditions at the CK Gold Project. Temperature, precipitation depths, wind speed, and wind direction measurements are summarized for the time periods since January 2011 in Tables 17-1 through 17-4.

April, May and July tend to be the three wettest months with monthly precipitation average depths of 2.00 inches, 3.15 inches and 2.47 inches, respectively. The three driest months tend to be December, January and February, with monthly precipitation average depths of 0.77 inches, 0.60 inches and 0.82 inches, respectively. The average annual precipitation for the area is estimated to be 17.74 inches.

17.2.3 Air Quality

The CK Gold Project baseline air quality monitoring program was initiated in November 2020 to collect micro scale ambient air quality and establish the pre-mining air quality. The air quality monitoring station is located approximately 0.2 miles northwest of the CK Gold Project Access Gate on the Ferguson Ranch Homestead along CR 210. The location was selected in general accordance with 40 CFR Part 58 – Ambient Air Quality Surveillance. The station collects integrated particulate matter data sized less than 10 microns (PM10) once every six days over a 24-hour period to document the 24-hour average concentrations of background particulate matter. The station is regularly serviced by a technician who collects the filter media samples, replaces the filter media and calibrates the station for the next sampling event. Filter media samples are collected by the technician and shipped to Chester LabNet, a specialized air quality laboratory located in Tigard, Oregon. The results of the particulate matter data are validated according to the Environmental Protection Agency's (EPA) State and Local Air Monitoring Station (SLAMS) protocols and reported to US Gold on a quarterly basis. To date, the air quality has met relevant standards.

17.2.4 Geochemistry

Mine rock samples were identified for geochemical analysis using a three-dimensional model of core chemical assay results, using the computer code Leapfrog. Specific samples were identified to meet two principal objectives: (1) obtaining samples that spatially correspond to the projected ultimate pit surface, distributed widely both horizontally and vertically, and (2) obtaining waste rock samples from within the bulk of the pit projected excavation, again distributed widely both horizontally and vertically. Samples of representative tailings from oxide and sulfide ore obtained from bench scale metallurgical testing work were also analyzed. Industry standard best practices analytical procedures were used to characterize the acid rock drainage (ARD) potential, net acid generation (NAG) characteristics and whole rock compositions. The approach is consistent with that set forth in the Global Acid Rock Drainage (GARD) Guide sponsored by the International Network for Acid Prevention (INAP).

Acid-base accounting (ABA) characterization of the analyzed mine rock indicates that the potential for ARD is shown in only 3 of the 28 rock samples. Two of these samples are associated with the ultimate pit surface, on the west side of the projected pit about halfway up the side. The majority of mine rock is characterized as non-acid generating, with an overall median net neutralization potential of 19.5 and neutralization potential ratio of 30. All three metallurgical testing tailings samples analyzed are likewise characterized as non-acid generating. Tailings samples had no detectable sulfide sulfur, translating to no potential to produce ARD.

NAG pH measurements on both mine rock and tailings samples were consistent with the results of ABA characterization. The three potentially acid generating rock samples produced acidic pH values. Overall, NAG pH indicated a low potential for ARD, with a median value of 6.2. NAG metal concentrations were noted to be generally low, although several metals were released to produce appreciable concentrations. Higher concentrations of metals were observed to be associated with acidic NAG pH conditions, including copper, zinc and iron.

Whole rock analysis showed several chemical constituents of potential environmental concern in mine rock at concentrations above crustal averages, including arsenic, cadmium, copper, lead and zinc. These elements were also present in NAG metal testing results. The results of whole rock and NAG metal testing point to the need for subsequent leach testing using the Meteoric Water Mobility Procedure (MWMP) and humidity cell testing (HCT), which will further refine the potential for ARD and help predict contact water quality.

17.2.5 Surface Water and Wetlands

Surface Water Flow and Quality

The surface water baseline monitoring program was initiated in October 2020 and includes collecting surface water quality samples, field water quality parameters, and stream flow measurements on a monthly basis at up to six monitoring locations within the Project site. The monitoring locations are located along the primary surface water features within the CK Gold Project and include the intermittent South Crow Creek, the South and North tributaries to Middle Crow Creek, and one spring in the South tributary of Middle Crow Creek. Surface water flow in the drainages is typically derived from snowmelt runoff, rainfall runoff following precipitation events, and contributions from groundwater (i.e. springs). The six monitoring points were established at the upgradient and downgradient locations along the primary drainages as they cross the CK Gold Project boundary in general accordance with the Wyoming Department of Environmental Quality – Land Quality Division (DEQ-LQD) Guideline 8 baseline hydrology recommendations.

Surface water flow has been observed to be inconsistent during the baseline monitoring program due to the intermittent and ephemeral nature of the drainages within the CK Gold Project area. Documented flow rates at the surface water monitoring points between October 2020 and April 2021 is show in Table 17-5. South Crow Creek's flow through the Project can be classified as intermittent and was documented as dry (no flow) at the upgradient and downgradient locations (SW-1 and SW-2) between October and December 2020. Monitoring point SW-1 on the upgradient location of South Crow Creek has shown measurable flows since January 2021 and SW-2, on the downgradient location of South Crow Creek, had measurable flow since February 2021. Monitoring location SW-3 is located along a spring in the ephemeral South tributary to Middle Crow Creek. This spring has been dry, boggy, or frozen during the baseline monitoring events and only stagnant water has been observed. Monitoring point SW-6 is located at the downgradient end of the ephemeral South tributary to Middle Crow Creek and has been dry throughout the baseline monitoring program. Monitoring point SW-4 is the upgradient monitoring point along the North tributary to Middle Crow Creek and is the only monitoring point which has been documented with perennial flow throughout the monitoring program. Monitoring point SW-5 is the downgradient point of the North tributary to Middle Crow and has been dry throughout the baseline monitoring program. The ephemeral Middle tributary to Middle Crow Creek, has also been inspected during baseline monitoring and will be sampled opportunistically if stormwater flow is observed. The Middle tributary is located in a smaller drainage basin and no runoff has been observed in this drainage.

Surface water samples have been analyzed for the recommended constituents in DEQ-LQD's Guideline 8 including additional trace metals. Baseline surface water quality results from October 2020 through April 2021 are available in the full report. The baseline surface water quality is relatively good and meets the Wyoming DEQ–Water Quality Division's (DEQ-WQD's) Surface Water Quality Standards for livestock, irrigation water, and drinking water. The Project area drainages are characterized as Class 2A waters by the DEQ-WQD. Designated water uses include drinking water, aquatic life other than fish, recreation, wildlife, industry, agriculture, and scenic value.

Wetlands

An Aquatic Resources Inventory (ARI) was performed in September 2020 to identify jurisdictional Waters of the United States (US) within the CK Gold Project. The United States Army Corps of Engineers (USACE) regulates jurisdictional Waters of the US which are defined and regulated by Section 404 of the Clean Water Act (CWA) 33 CFR Part 328.3 and Section 10 of the Rivers and Harbors Act (RHA) 33 USC 1344, including streams and wetlands. The primary purpose in identifying jurisdictional waters and wetlands within the CK Gold Project was for planning areas available for use as mine infrastructure locations and to prevent impacts to waters of the US.

The surface water features investigated under the ARI included the intermittent South Crow Creek, the ephemeral South and Middle tributaries of Middle Crow Creek, and the perennial/intermittent North tributary of Middle Crow Creek. South Crow Creek is an intermittent stream with sporadic wetland areas that bisects the southern portion of the CK Gold Project in Sections 36 and 31. The South tributary to Middle Crow Creek is an ephemeral drainage that starts on the east central end of Section 36 and trends northeast bisecting Section 31. The ephemeral South tributary to Middle Crow Creek incudes a series of discontinuous stepped springs along the drainage bottoms. Similarly, the Middle tributary to Middle Crow Creek is an ephemeral drainage that starts on the northeast quadrant of Section 36 and trends north-northeast towards the northwest corner of Section 31. The Middle tributary to Middle Crow Creek also includes a series of discontinuous stepped springs along the drainage bottoms. The North tributary to Middle Crow Creek bisects the CK Gold Project Area from the northwest corner of Section 36 and trends northeast across Section 25. The North tributary to Middle Crow Creek is a perennial stream for a relatively short length on the northwest end of Section 36 into the southwest end of Section 25 Figure 17-1. Downgradient of this point, the North tributary to Middle Crow Creek becomes an intermittent stream.

Based on the findings of the ARI, on February 5, 2021 the USACE issued an Approved Jurisdictional Determination (AJD) (file number NWO-2020-02117-RWY) for the drainages and wetlands within the CK Gold Project area. The AJD is the official determination from the USACE on the Waters of the US that are present in the CK Gold Project area. The AJD for the CK Gold Project concluded that the drainages and wetlands associated with the South and Middle tributaries to Middle Crow Creek are not jurisdictional Waters of the US. The jurisdictional Waters of the US identified in the AJD include South Crow Creek and the North tributary to Middle Crow Creek at the locations shown-on Figure 17-1. The CK Gold Project mine facilities have been designed to avoid and will not impact jurisdictional Waters of the US, and 404 Permit will not be required with from the USACE.

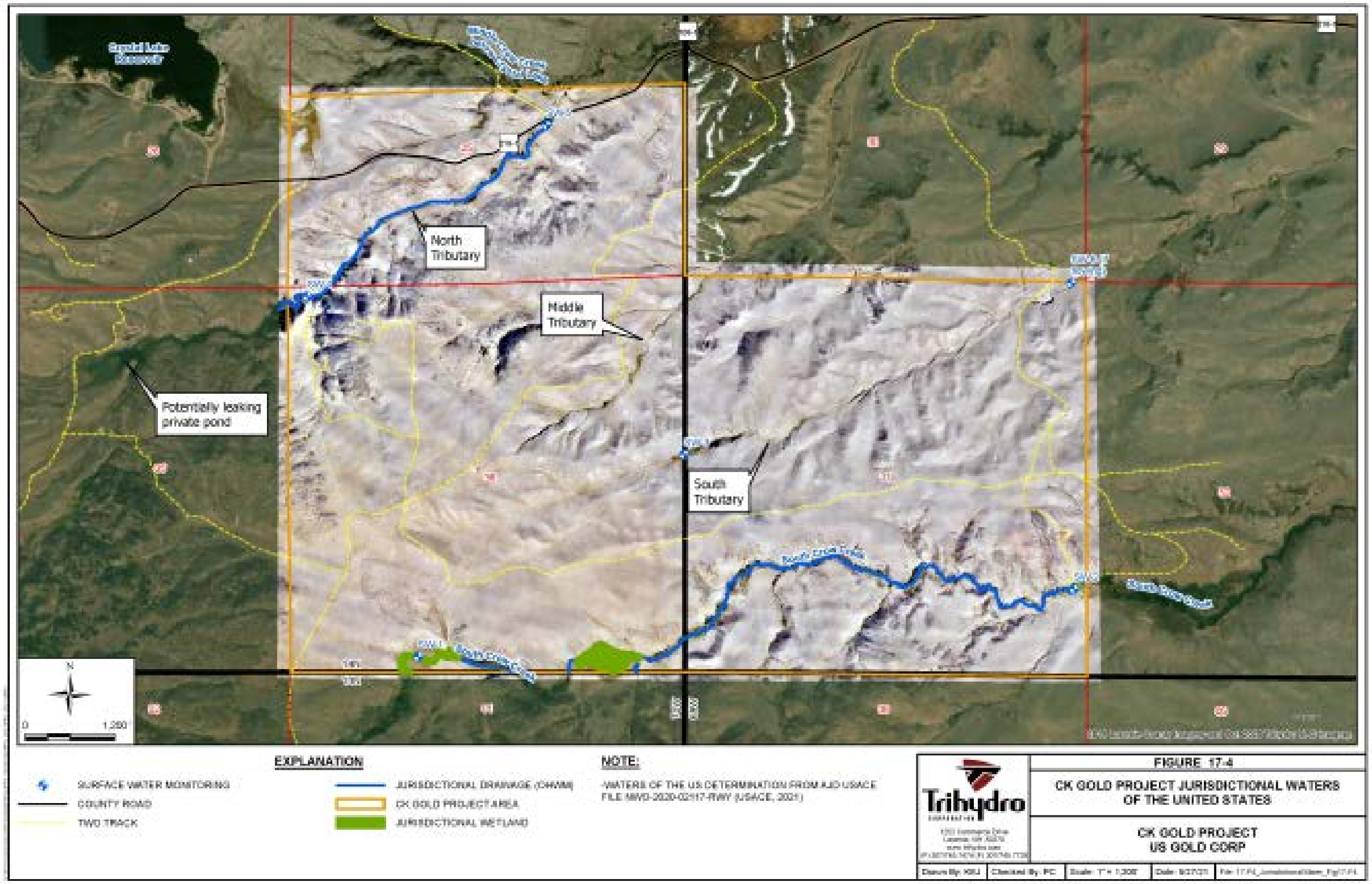


Figure 17-1 Project Surface Waters

17.2.6 Groundwater

Groundwater Monitoring and Aquifer Testing

Groundwater characterization at the Project site started in September 2020 using groundwater monitoring wells, standpipe piezometers, Vibrating Wire Piezometers (VWP), core holes, and Reverse-Circulation (RC) boreholes. Monitoring and testing in these boreholes includes groundwater levels, pore pressures, packer testing, air-lift testing, and water-quality sampling. Additional details are provided in Section 13.2.

Quarterly water-quality monitoring began in December 2020. Seven monitoring wells have been drilled, completed, developed and sampled for baseline water quality.

Groundwater flow directions are being defined by monitoring wells, standpipe wells and VWPs. Groundwater levels are being monitored in the monitoring wells and two standpipe wells. Pore-water pressures are being monitored hourly in four VWP boreholes with a total of 12 piezometers.

Hydrogeologic monitoring and testing is planned to continue during 2021. Water-quality sampling will continue in the seven existing wells and will be initiated in 11 additional wells planned for 2021. Aquifer testing will be conducted in all of the wells. These tests will include pumping for 4- to 24-hours depending on the well yield. Preliminary indications suggest that well yield is typically less than 5 gallons per minute (gpm).

Exploration core holes that intersect previously identified faults will have packer tests to estimate the fault properties. RC boreholes will have air-lift testing during drilling to estimate groundwater inflow rates. A summary of hydrogeology tests planned for the 2021 core holes is provided in Section 13.2.

Stream-aquifer interactions will be monitored with paired wells located on the Middle and South forks of Crow Creek. At each location, a shallow alluvial well and a deeper bedrock well will be installed. These streams flow through shallow alluvium and the White River formation that overlies the granite bedrock. The hydraulic connection between the granite aquifer and streamflow will be investigated.

The Hydrogeology Program will also use rock core, geophysical logs, and Rock Quality Data (RQD) obtained from exploration core holes. These data assist in identifying fracture and faults zones and their potential as groundwater flow paths.

Hydrogeology

The ore deposit is in granitic granodiorite rocks that are part of the metasedimentary and volcanic bedrock shown on the surface geology map. In the pit area the saturated granite forms a confined aquifer with low permeability and low storage. Wells in this area typically yield little water and slowly recover from pumping. In low lying areas immediately to the north and south of the proposed open pit, the granite is overlain by the White River Formation. Domestic wells west of the proposed open pit are collared in the White River with several drilled into the underlying granite. The primary aquifer providing water to these wells is currently unclear.

North and south of the open pit are the Middle and South forks of Crow Creek. These streams flow through shallow alluvium that overlies the granite bedrock. These are intermittent streams with low discharge, except during periods of surface runoff during spring snowmelt and following summer thunderstorms. In the higher elevation areas west of the project area, the streams gain flow from the underlying granite aquifer. The streams are dammed, forming Crystal Reservoir and South Crow Creek Reservoir. The reservoir outflows are controlled, and the streamflow is lost to diversions, evapotranspiration and infiltration into the alluvium as they flow east. The hydraulic connection between the granite aquifer and stream-channel alluvium will be investigated with paired wells, as described above.

The geologic units, faults, surface-water features and wells are visualized in the three-dimensional conceptual model. The Precambrian granite groundwater flows from the higher elevation areas of the Laramie Range, west of the project area, to the east. The granite can yield water to small domestic wells but is not considered a significant aquifer in Laramie County. East of the pit, the White River formation thickness increases as the depth to the granite unit increases. The White River is underlain by Cretaceous formations. Monitoring well MW-8b was completed in the White River formation and its total depth reached the underlying Pierre Shale. Test borings into the Cretaceous units are planned for the 2021 field season. These borings will provide data on the geologic unit thicknesses, lithology, and water yielding potential.

The Tertiary High Plains Aquifer occurs east of the Project area and consists of the White River Group, Arikaree Formation, and the Ogallala Formation, according to the Wyoming Water Development Commission’s 2008 Water Resource Atlas of Laramie County. Due to the low permeability of the granite aquifer, there is little potential for groundwater flow between the granite and High Plains aquifer.

Underlying the High Plains Aquifer are the Lance, Fox Hills, and Casper Aquifers. Due to its depth, the Casper Aquifer is only a feasible water source in a narrow band along the east flank of the Laramie Range, west of Cheyenne. The Lance and Fox Hills Aquifers are a minor source of water (according to the Water Resource Atlas).

Groundwater Modeling

A groundwater flow model is under development with the objective of assessing the interactions between the proposed open pit and the groundwater system. Hydrogeologic features, including streams, reservoirs, irrigated land and wells in the project area are shown in Figure 17-8. The model incorporates these features, as well as aquifers, faults, stream-aquifer interactions, recharge, evapotranspiration, and external boundary conditions. The model simulates the changes in hydrogeologic conditions from pre-mining, through active mining, and into the post-mining period. Average annual conditions are simulated.

Groundwater inflow to the pit will begin when pit advancement reaches the water table. The inflow rates are predicted to be low due to the low permeability and low storage properties of the granodiorite ore deposit. Permeability of the rock matrix, as estimated from packer testing, is very low. Packer testing in the fractured rock indicated a permeability of several orders of magnitude higher than the rock matrix, but the fractured rock permeability is still relatively low.

Based on preliminary model runs, the open pit will form a terminal hydrologic sink. This means that groundwater will flow into the pit and will not flow out of the pit. Any water within the pit’s capture zone will be contained and will not migrate out of the pit. A pit lake is predicted to form after the end of mining. A geochemical testing program is ongoing to estimate the pit lake water quality (Section 17.1.4).

The low permeability rocks will yield low rates of groundwater inflow into the pit. Most inflow will be through faults; the rock matrix will produce little water. Preliminary groundwater modeling predicts annual average inflows during the first year of 42 gpm. As the pit deepens and additional faults are intercepted, the inflows increase to about 75 gpm in years 2 through 5. The inflow decrease in year 6 indicates that water is draining from the faults. The peak annual average groundwater pit inflow is 95 gpm in mining year seven (Figure 17-13).

Groundwater drawdown in the granite aquifer slowly diminishes away from the open pit. The predicted drawdown at the end of mining is shown in Figure 17-14. Groundwater drawdown extends radially around the pit, with less than 5-feet of drawdown predicted at Middle Crow Creek to the north and South Crow Creek to the South. The drawdown is greatest along fault zones where the permeability is higher than the less fractured rock matrix. Drawdown continues to expand after the end of mining and reaches a maximum extent about 100 years after the end of mining. A short reach of Middle Crow Creek is predicted to have about 5-feet of drawdown 100 years after mine closure (Figure 17-15). Less than 5-feet of drawdown is predicted at South Crow Creek after 100 years. An east-west section view of drawdown is shown in Figure 17-16.

Drawdown in the granite aquifer does not necessarily indicate that shallower groundwater or surface water will be impacted. The granite's overall low permeability suggests that it is not hydraulically connected to the overlying units. Paired wells completed in the alluvium and bedrock are planned for 2021 and will investigate these hydrogeologic conditions.

After mining ends, the pit will slowly fill with water and a pit lake will form. The rate of filling depends on groundwater inflow, precipitation, and evaporation. The pit lake water balance is shown in Figure 17-17. Predicted groundwater inflow is 36 gpm at the end of mining and it gradually decreases to 20 gpm after 150 years. The lake will reach 99-percent of its equilibrium stage of 6,670 feet after 175 years. This reflects the low aquifer permeability, low precipitation, and high evaporation rates in the project area.

These model predictions are subject to change as the site investigation and groundwater model development continues. Additional drilling and testing during 2021 will refine the aquifer permeability and storage properties.

17.2.7 Soil

Topsoil

According to the Natural Resource Conservation Service (NRCS), the CK Gold Project soils primarily consist of widespread loamy soils and igneous and metamorphic rock outcrops at the land surface and there are nine soils map units or associations occurring within the CK Gold Project (Figure 17-18). The information obtained from the NRCS includes the soil mapping unit description and the Geographic Information System (GIS) shapefiles outlining the soils map units. Topsoil horizons for the nine soils map units and associations is reported to generally be thin (0-6 inches below ground surface (bgs)) along hills and ridges and thicker along draws and valley bottoms (+ 8 feet bgs).

Clay Deposits

The primary soils complex in the Project area is the Ipson-Trimad Complex, 15 - 45% slopes (Ipson-Trimad) as shown on Figure 17-18. The soil texture for the Ipson-Trimad soils complex is classified by the NRCS as a loam to a very gravelly sandy loam. Potential sources of clay deposits that may be suitable for use as liner material are expected to be present within the Ipson-Trimad Complex. Deposits of clayey materials will be identified as part of the baseline soil survey and subsurface investigation for the proposed waste rock and tailings co-placement facility and mill area.

Soil Survey

Field verification of the NRCS soils map units is planned to be performed in June and July 2021 in coordination with the subsurface investigation for the proposed waste rock and tailings co-placement facility and mill area. For the soil survey, a hand auger will be used to evaluate the soils within the nine soils map units until the parent material is encountered or auger refusal is met. The location of each survey point will be recorded using a map-grade GPS and photographed. At each survey point, variability in the vegetation, soil horizon type and thickness, organic matter content, soil texture, grain size, and parent material will be observed and recorded.

Test Pitting

Approximately 128 geotechnical test pits will be excavated in the proposed waste rock and tailings facility and mill areas to characterize the soils for use as a clay liner, delineate the soil thickness available, and outline zones of coarse-grained soils for use as borrow material (Figure 17-18). The subsurface investigation is planned to be performed in June and July 2021. A long-armed excavator will be used to strip the topsoil and excavate test pits in the waste rock and tailings co-placement facility and Mill Area down to bedrock, to refusal, or as far as the excavator can reach. For each test pit a geologist will log the observed soil classifications using the Unified Soil Classification System (USCS). Based on the soils and lithology encountered, the geologist will select, prepare, and submit samples from the test pits for geotechnical analysis. Following sample collection, the test pits will be backfilled, topsoil replaced, and contoured to match the surrounding terrain. The test pit disturbance areas will be re-seeded by hand broadcasting of the DEQ approved seed mixture. The soil samples will be submitted to a geotechnical laboratory for analyses to evaluate the clay for use as a liner material in the waste rock and tailings facilities and to characterize the sand and gravel content of the coarse grained soils for use in constructing roadways and the mill pad.

17.2.8 Vegetation

Vegetation Desktop Study

A baseline vegetation desktop study was conducted in March 2021 to identify the vegetation communities anticipated to exist within the CK Gold Project and the presence or absence of critical habitats for Endangered Species Act plant species. Vegetative community information was reviewed from the Natural Resource Conservation Services Soil Survey Ecological Site Descriptions and the United States Geological Survey (USGS) landcover data (Figure 17-19). Additionally, the United States Fish and Wildlife Service's (USFWS's) Information for Planning and Consultation (IPac) tool was evaluated to identify federal listed threatened or endangered (T&E) plant species that may occur within the Project.

Based on the desktop study, the primary vegetative community within the Project is the grassland/herbaceous community, followed by the shrub/scrub community, and minor amounts of emergent herbaceous wetlands associated with the intermittent South Crow Creek (Figure 17-19). No critical habitats were identified for T&E plant species within the Project, though the Project boundary overlaps with the Area of Influence (AOI) for the threatened Ute ladies'-tresses (Spiranthes diluvialis), and the threatened western prairie fringed orchid (Platanthera praeclara). The AOI is defined as the area within which a project should consider potential effects to the listed species. The threatened Ute ladies'-tresses (Spiranthes diluvialis) and the threatened western prairie fringed orchid (Platanthera praeclara) were evaluated in the baseline studies and neither of these species are expected to occur within the Project site. Based in the IPac information, the closest known occurrence of Ute ladies' tresses is approximately 30 miles northeast of the CK Gold Project, and there are no known occurrences of the western prairie fringed orchid in Wyoming.

Vegetation Field Survey

A baseline field vegetation survey is planned to be conducted in July 2021, during the flowering phase of the on-site vegetative communities and T&E species. Vegetative cover sampling will be performed by randomly placed 50 meter transects established during the desktop assessment. A map grade, handheld GPS will be used to locate each transect and the vegetative cover data will be collected at 1 meter intervals along each transect, in general accordance with the point-intercept method as recommended in the DEQ-LQDs Guideline 2 – Vegetation Requirements for Exploration by Dozing, Regular Mines, and In-situ Leaching. Potential habitats for Ute Ladies' Tresses and western prairie fringed orchid will also be surveyed though they are not expected to occur in the Project, and a noxious weed species survey will be conducted.

17.2.9 Wildlife Desktop Study and Field Survey

A desktop study reviewed several readily available data sources in March 2021 to determine the potential for protected or sensitive wildlife species within the Project. The Natural Resource Energy Explorer (NREX) mapping tool (NREX 2021) was queried for the Wyoming Game and Fish Department (WGFD) Species of Greatest Conservation Need (SGCN) with the potential to be present within the Project. The NREX tool identified a portion of the Project site that falls within pronghorn antelope (Antilocapra americana) crucial and seasonal range, and identified the whole Project area, and surrounding area, as within mule deer (Odocoileus hemionus) crucial and seasonal range. The crucial seasonal range for antelope and mule deer is shown on Figure 17-20.

Other readily available wildlife data sources that were reviewed included the Wyoming Natural Diversity Database (WYNDD), the Bureau of Land Management (BLM) Wyoming Sensitive Species List for the region, and the USFWS's IPac tool. A query of the WYNDD database was performed to generate a list of species likely to be found within or near the Project. The list identifies species that have been observed within or adjacent to the Project site or are expected to occur within the Project site. The BLM Wyoming Sensitive Species List (BLM 2010) was also reviewed as part of the desktop assessment and includes 15 wildlife species with the potential to occur within the Project Area. These 15 species include four mammals, ten birds, and one amphibian. The USFWS IPaC tool was also used to identify federally listed species with the potential to occur in the Project area. In total, four wildlife species were included on the

USFWS Official Species List, including the Preble's meadow jumping mouse (Zapus hudsonius preblei), piping plover (Charadrius melodus), whooping crane (Grus Americana), and pallid sturgeon (Scaphirhynchus albus). However, based on the desktop assessment, there is no suitable habitat for the piping plover, whooping crane, or pallid sturgeon within the Project site. Habitat for the Preble's jumping mouse will be evaluated as part of the planned wildlife field survey.

Using the data obtained from the desktop study, the wildlife field surveys were conducted on June 1-3, 2021. Field based surveys consisted of the following:

- A habitat assessment of the Mine Area and proposed access road, which included verification of primary habitat types.
- A ground-based raptor nest survey of the Mine Area, proposed access road, and a one-mile buffer surrounding both.
- A ground-based habitat assessment for state and BLM sensitive species.
- Surveys for avian species along two, 1,000 x 100-meter belt transects within the mine boundary. Avian surveys were completed within 1.5 hours of sunrise on June 2nd and 3rd.
- Early morning avian surveys focused along riparian areas.

A comprehensive species list was derived from the desktop and field phases of this baseline wildlife survey. Two BLM sensitive species were observed during field surveys, including the northern goshawk and the Brewer's sparrow. No federally listed species were observed during surveys; however, it was determined that potentially suitable habitat for Preble's Meadow Jumping Mouse does exist within the Mine Area along the creeks. The raptor survey included the Mine Area and the proposed access road, in addition to a one-mile buffer around these areas and resulted in the identification of eight raptor species protected under the MBTA or BGEPA.

17.2.10 Archeology and Paleontology

A Class I Cultural Resource Data Review was completed by Western Archaeological Services, Inc. (WAS) in June 2021. The review examined the State Historic Preservation Office (SHPO) and WAS records for documented cultural resources within the Project boundary. Two sites were identified within the Project boundary, the Fort D.A.Russell to Fort Sanders Wagon Road which is eligible for nomination to the National Register of Historic Places (NRHP) and the Copper King Mine, which is ineligible for nomination to the NRHP. The wagon road described on General Land Office maps crosses the northern end of Section 25 T14N, R70W but lies primarily north of County Road 210 and beyond all anticipated development activity. The Copper King Mine has been reclaimed by the Wyoming DEQ – Abandoned Mine Lands Division.

The Project is not located adjacent to any indigenous, Native American, or Bureau of Indian Affairs lands. No indigenous or Native American cultural sites are known within the Project area.

Most of the mining and mine waste storage activity will take place within the Pre-Cambrian age granite formation, an igneous intrusive rock which does not contain fossils. Some activity will occur in the sedimentary White River formation, which could host paleontological resources.

17.3 Requirements and Plans for Waste and Tailings Disposal, Site Monitoring, and Water Management

This section is divided into three subsections as follows:

- Waste Rock and Tailings Management (Section 17.2.1)
- Site Monitoring (Section 17.2.2)
- Water Management (Section 17.2.3)

Design and operational requirements during mining, closure and post-closure, as currently foreseen based on existing Project information, are summarized in this section. Written management plans will be developed and implemented upon finalizing the engineering design and issuance of permit conditions of approval (Section 17.3).

17.3.1 Waste Rock and Tailings Management

Waste rock and tailings generated during mining and mineral processing will be deposited on site in engineered facilities. The tailings will be filtered to extract as much moisture as feasible prior to their deposition, maximizing their structural strength and avoiding the need for tailings dams and their associated structural stability risks. The filtered tailings will be stored in a Waste Rock/Tailings Co-Placement Facility. Waste rock will also be deposited within two additional facilities: the North Waste Rock Storage Facility and the Mineralized Materials Facility.

17.3.1.1 North Waste Rock Storage Facility

The North Waste Rock Storage Facility is located to the east of the pit and north of the Waste Rock/Tailings Co-Placement Facility. It is designed to hold 19 million cubic yards of waste rock and have maximum slopes of 3:1.

Any potentially acid generating (PAG) waste rock will be segregated and kept out of the North Waste Rock Storage Facility. The small amount of PAG material expected to be generated will only be placed in either the Mineralized Material Facility or the Waste Rock/Tailings Co-Placement Facility.

Site preparation for the North Waste Rock Facility will consist of removal of topsoil and any unsuitable subsoil. Topsoil will be segregated and stockpiled for use in reclamation. The remaining underlying soil will be scarified and compacted.

The waste rock will be hauled from the pit with trucks and dumped into place. Dust emissions will be controlled by maintaining a moist working front by water spraying. Seepage and runoff from the waste rock will be collected in an engineered basin at the downstream toe of the facility. When completed, the facility will be reclaimed by placement of topsoil and revegetation of exposed surfaces.

17.3.1.2 Mineralized Material Facility

Low-grade mineralized material will be stockpiled south of the pit. This material may be processed towards the end of the mine life, or it may remain as waste rock. This facility is designed to hold 7 million cubic yards of rock, and have maximum side slopes of 3:1.

Site preparation for the Mineralized Material Facility will consist of removal of topsoil and any unsuitable subsoil. Topsoil will be segregated and stockpiled for use in reclamation. Clay soils will be exposed, regraded as needed, and compacted to provide a low-permeability liner minimizing seepage from the facility into the subsurface. Based on geochemical testing to date (Section 17.1.4), a large majority of the excavated mine rock will not be acid generating. Therefore, metal leaching from the Mineralized Material Facility to the subsurface and groundwater is not expected to be significant.

The mineralized material will be hauled from the pit with trucks and dumped into place. Dust emissions will be controlled by maintaining a moist working front by water spraying. Seepage and runoff from the mineralized material will be collected in an engineered basin at the downstream toe of the facility. When completed, the facility will be reclaimed by placement of topsoil and revegetation of exposed surfaces.

17.3.1.3 Waste Rock/Tailings Co-Placement Facility

Waste rock, together with the filtered tailings will be placed in the Co-Placement Facility located within a drainage basin extending eastwards from the process plant. Most of the waste rock deposited in this facility will be used for structural buttressing and slope armoring. The facility is designed with structural zones around its perimeter to support non-compacted filtered tailings placed in its interior. The structural zones are needed to contain and support the non-compacted filtered tailings, which may be susceptible to liquefaction (sudden loss of strength) under certain loading conditions. The structural zones supporting the non-compacted filtered tailings will comprise both compacted filtered tailings and buttresses built from waste rock. The final facility design will be based on design parameters resulting from geotechnical testing of tailings samples and foundation soils, followed by slope stability analyses simulating static, pseudo-static and post-liquefaction residual strength conditions.

The Co-Placement Facility will be constructed in three phases. The initial phase will be developed closest to the pit, with subsequent phases extending eastwards as the mine development progresses. The final facility will be approximately 7,000ft long and a maximum elevation of 7,200ft amsl, with maximum slopes of 3:1.

Site preparation for the Waste Rock/Tailings Co-Placement Facility will start with clearing and grubbing of the facility's footprint within the host drainage basin. Unsuitable soil will be removed, and topsoil will be segregated and stockpiled for use in reclamation. Clay soils will be exposed, regraded as needed, and compacted to provide a low-permeability liner minimizing seepage into the subsurface. Based on geochemical testing to date (Section 17.1.4), the tailings will not be acid generating, nor will a large majority of the waste rock. Therefore, metal leaching from the Waste Rock/Tailings Co-Placement Facility to the subsurface and groundwater is not expected to be significant.

An underdrain will be installed beneath the clay liner to convey non-contact groundwater beneath the facility and dissipate associated hydrostatic pressure. A collection drain will be installed over the clay liner to collect and remove incident groundwater and seepage, which will drain to a basin at the downstream toe for each phase of facility development. The tailings will be graded to drain runoff away from slopes toward perimeter ditches.

The waste rock and tailings will be transported to the facility by haul truck and placed with front end loaders. Waste rock will be placed in the downstream end of each phase of the facility as a buttress to contain the tailings. Waste rock will also be placed as a shell covering the tailings on side slopes. Tailings will be roller-compacted in structural zones where increased strength is needed for stability.

Dust emissions will be controlled by maintaining a moist working front by water spraying and placing waste rock cover over tailings. Other measures, such as application of magnesium chloride to compacted surfaces, may also be used to control dust if needed. When completed, each phase of the facility will be progressively reclaimed by placement of topsoil and revegetation of exposed surfaces.

17.3.2 Site Monitoring

Site monitoring activities during mine construction, operation, closure and post-closure will be governed by permit conditions of approval, once issued (Section 17.3). At that time the appropriate environmental management and monitoring plans will be developed and implemented. Currently, it is anticipated that the following site monitoring activities will be performed:

- Meteorology – The current meteorological monitoring program (Section 17.1.2) will continue through the construction and operating phases of the mine.
- Air quality – Pollutant emission monitoring is expected to be required from certain material handling and mineral processing emission sources, as determined by the Air Quality Permit when issued. The current ambient PM-10 monitoring program (Section 17.3) may also continue through the construction and operating phases.
- Surface water – Monitoring of flow and water quality in streams (Section 17.1.5) will continue through operations. The monitoring frequency may be reduced to quarterly or semi-annually depending on permit conditions. Monitoring points will be added for drainage channels and outfalls, and surface runoff and seepage collection ponds during operations.
- Groundwater – Monitoring of groundwater level and quality (Section 17.1.6) will continue through operations. Additional groundwater monitoring wells may be installed and periodically sampled. Some existing and planned monitoring wells will be lost to mine open pit development. Open pit dewatering and waste facility seepage collection water quality and flow rates will be monitored during operations.
- Mine open pit wall stability – Monuments will be placed around the excavation and a monitoring program initiated once pit slope are established. Additionally, ongoing geotechnical mapping and monitoring of the slope faces withing the open pit will be conducted. Any movement beyond that which would be expected from rock mass dilation and unloading will trigger redesign or remedial measures.
- Noise and vibrations – Monitoring may be conducted during operations, depending on permit conditions or community agreements.
- Topsoil stockpiles – Monitoring of wind and water erosion of stockpiles will be ongoing during operations. Stockpiles will be oriented to minimize wind erosion and surrounded by a trench to help prevent the topsoil from mobilizing. Topsoil stockpiles in place longer the one year may need to be re-seeded with an approved seed mixture to reduce erosion.

- Weed growth – Depending on permit conditions, operational areas, stockpiles and reclaimed areas may be monitored to limit the spread of noxious weed species during operations and reclamation. Reclaimed areas and stockpiles will be seeded with native grass species, according to permit conditions. Removal or spraying of noxious weeds may be required.
- Raptor nesting – A mitigation and monitoring plan will be implemented if required by permit conditions.
- Other wildlife monitoring – A mitigation and monitoring plan for mule deer, antelope, or potentially other species, will be implemented if required by permit conditions.
- Cultural and paleontological finds – In the event that cultural or paleontological resources are encountered during construction or mining operations, activities must be halted at the find location and the DEQ-LQD and Wyoming SHPO must be contacted within five days of discovery. If a resource is encountered on State land (Section 36), the Office of State Lands and Investments must also be notified. Agency approval would be required in order to resume work at the find location.

Post-closure monitoring – A post-closure monitoring plan will be implemented to verify that closure objectives are met, including water quality, the closed facilities' long-term physical and chemical stability and establishment of post-mining land use.

17.3.3 Water Management

The CK Gold Project will operate in a net water deficit situation, given that the mean annual evapotranspiration exceeds the mean annual precipitation. The Wyoming Climate Atlas (http://www.wrds.uwyo.edu/sco/climateatlas/) indicates that evaporation at the Project site is approximately 35 inches per year (Figure 17-21). The Cheyenne Board of Public Utilities estimates that there is approximately 34 inches per year of evaporation at Crystal Reservoir, which is approximately one-half (1/2) mile from the CK Gold Project site. Precipitation data (from the PRISM Climate Group at Oregon State University) shows that there is approximately 17.8 inches of annual precipitation at the CK Gold Project site.

The Project's water demand is currently estimated at 550 gallons per minute (gpm), or 887 acre-feet/year. Potential sources of water for the Project include the following:

- Cheyenne Board of Public Utilities
- Existing surface water rights
- Wells
- Third party water rights holders

The mine will operate as a zero-discharge facility. Water generated from the following Project site sources will be recycled for use by the Project:

- Mine pit water
- Waste rock and tailings seepage
- Surface runoff

17.3.3.1 Cheyenne Board of Public Utilities

The Cheyenne Board of Public Utilities (BOPU), Cheyenne's water and sewer department, operates several facilities near the CK Gold Project site that could supply water to the Project. Figure 17-22 is a schematic diagram of the BOPU surface water supply system. As shown on this diagram, BOPU operates pipelines and reservoirs near the Project site. US Gold Corporation is in discussions with BOPU about purchasing water.

The closest BOPU pipeline and potential water source for the Project is the South Crow Creek pipeline which runs through the Project site. This pipeline is permitted by the Wyoming State Engineer's Office to divert 7 cubic feet per second (cfs) (approximately 3,150 gpm) from South Crow Creek and to convey this water to BOPU's system. The South Crow Creek pipeline includes a diversion dam and small reservoir which feeds the pipeline. The annual runoff in South Crow Creek at the diversion dam is approximately 980 acre-feet per year. The Project could tap into the South Crow Creek pipeline and relocate a portion of it from its current alignment across the Project's proposed mine waste facility.

Although the water right for the South Crow Creek pipeline is 7 cfs, this amount of water is not always available in South Crow Creek. Figure 17-23 shows the mean daily discharge in South Crow Creek. This data was obtained from the discontinued US Geological Survey (USGS) stream gage in South Crow Creek near Hecla, WY (Gage No. 06755000). This gage was operated from 1932 to 1969 and was located just upstream from the South Crow Creek pipeline diversion dam. The red line in Figure 17-23 illustrates the 550 gpm (1.23 cfs) rate estimated to be required for the Project compared to the mean daily discharge (blue line). Based on this data, South Crow Creek would have sufficient water to meet the Project demand only from mid-March through the end of June during average years (neglecting on-site water sources such as the open pit, which could supply on average about a tenth of the Project's water needs – Section 17.1.6).

The flow in South Crow Creek varies significantly from year to year, as illustrated in Figure 17-24, which shows the annual discharge in acre-feet per year at the South Crow Creek stream gage. The annual discharge data (acre-feet per year) was ranked and classified as "Dry", "Normal", and "Wet" years. The middle 50-percent of the annual flow was classified as normal flow, while the upper and lower 25 percent are classified as wet and dry years, respectively. Based on this data, normal flows range from 600-1,300 acre-feet per year; high flows 1,300-1,900 acre-feet per year; and low flows 300-600 acre-feet per year. This information is presented in Table 17-10.

In addition to the South Crow pipeline system, the Cheyenne BOPU also operates two reservoirs near the CK Gold Project site: Granite and Crystal Reservoirs. The capacity of Granite Reservoir is 5,320 acre-feet (AF) and the capacity of Crystal Reservoir is 3,400 AF. Crystal Lake Reservoir and Granite Springs Reservoir both collect native water from the Middle Crow Creek Basin, as well as storing non-native water (trans-basin diversions) brought through pipelines from the North Platte River Basin. The North Platte water is stored in Rob Roy Reservoir, which has a capacity of approximately 35,000 AF, prior to being conveyed into the Crow Creek basin.

Water is conveyed from Crystal Reservoir to the Sherard Water Treatment Plant via pipelines that run along County Road 210. These pipelines begin at the Crystal Lake Reservoir dam. The nearest of these pipelines is just over one-half (1/2) mile from the CK Gold Project mine. The Project has discussed with the BOPU the concept of tapping into these pipelines to provide water for the Project, when sufficient water is not available from the South Crow Creek system. Pumps would be required to pump water from the pipeline(s) near County Road 210 to the Project site and a new pipeline would be necessary to convey this water. The County Road 210 system has the advantage of being a more consistent and reliable water source than South Crow Creek.

17.3.3.2 Existing Surface Water Rights

The Project is evaluating the feasibility of changing existing agricultural irrigation surface water rights on the Project site to industrial use. The existing rights total approximately 2 cfs (approximately 900 gpm) and are senior water rights. However, the irrigation ditches divert water from South Crow Creek, so when the flows in South Crow Creek drop, there likely will not be water available.

17.3.3.3 Wells

Groundwater exploration drilling, geophysical testing, and test well construction is planned on private land adjacent to the Project site to explore and develop groundwater sources for the Project. Figure 17-25 shows a simplified stratigraphic column of the Project area taken from research by the University of Wyoming (Libra, Collentine and Feathers, 1981).

The uppermost aquifer near the CK Gold Project site is the Tertiary aged White River Formation. The White River is a common aquifer and source of water for many wells in Laramie County, Wyoming. The Cheyenne Federal Well Field, located approximately six miles north of the Project site, produces water from sands and gravels in the base of the White River. In many areas near the Project site, the White River is present at the surface and covers the older formations and associated structure.

Beneath the White River, several Cretaceous aged formations are known aquifers. These include (listed from youngest to oldest) the Fox Hills, Hygiene, Frontier, Newcastle, and Cloverly Formations. Other older aquifers include the Chugwater and Casper Formations. There are significant geologic structures near the Project site, including folds and faults. To the north of the Project site, the Chugwater, Frontier and Newcastle are exposed in a faulted anticline. To the east of the Project site, the Casper formation is exposed along a thrust fault.

There are many existing wells near the Project site, nearly all of them completed in the pre-Cambrian granitic rocks, Quaternary deposits, or Tertiary formations. In order to minimize conflicts with existing wells and water right holders, it may be desirable to target deeper aquifers. However, in Wyoming water levels in a well are not protected or guaranteed. Therefore, new wells constructed for the CK Gold Project could be completed in the same aquifers as existing wells.

Managed pumping and monitoring of new Project wells should be expected. Typical limitations or conditions on new well permits in Laramie County, WY require measurement and reporting of pumping rates, annual pumping volumes, and static and pumping water levels. New wells are generally required to be completed in only one aquifer to avoid comingling water from different aquifers.

17.3.3.4 Mine Pit Water

Based on preliminary groundwater modeling (Section 17.1.6), the open pit will form a terminal hydrologic sink. This means that groundwater will flow into the pit and will not flow out of the pit. Any water within the pit's capture zone will be contained and will not migrate out of the pit. A pit lake is predicted to form after the end of mining.

Preliminary groundwater modeling predicts annual average inflows during the first year are 42 gallons per minute (gpm). As the pit deepens and additional faults are intercepted, the inflows increase to about 75 gpm in years 2 through 5. The inflow decrease in year 6 indicates that water is draining from the faults. The peak annual average groundwater pit inflow is 95 gpm in mining year seven.

It is anticipated that the pit can be passively dewatered. Groundwater seeping into the pit from the low-permeability granite and faults will be collected in sumps. This water will be pumped from the pit and used for operational activities like mineral processing and dust suppression. Dewatering wells are not expected to be needed due to the low inflow rates.

17.3.3.5 Waste Rock and Tailings Seepage

Seepage from the waste rock and tailings facilities will be collected at the downstream toe of the facilities at each stage of facility development (Section 17.2.1). This water will be used in mineral processing and/or dust suppression.

17.3.3.6 Surface Runoff

Surface runoff from Project site disturbed areas (contact runoff), including the process plant area, primary crusher, concentrate handling area, waste rock and tailings facilities and other disturbed areas, will be conveyed via surface drainage channels to sedimentation ponds. This water will be used in mineral processing and/or dust suppression. Accumulated sediments will be periodically removed, tested, and disposed of per applicable regulations. Non-contact stormwater runoff will be allowed to flow off site following natural drainage patterns.

Sedimentation ponds will collect contact runoff and seepage. The ponds will be designed to meet DEQ-LQD standards, including the requirement to retain the volume from the 10-year, 24-hour storm event. The size of each sediment pond will be less than 20 acre-feet in volume and the dams will be less than 20 ft high, thereby avoiding triggering increased permitting requirements (Section 17.3.6). The Project site drainage basins and sedimentation pond locations are shown in Figure 17-26.

17.4 Required Permits and Status

Permitting and bonding so far have been associated with mineral exploration activities. Exploration work performed to date has been approved by the Wyoming Department of Environmental Quality's (DEQ) Land Quality Division (LQD), which has primary jurisdiction over mining projects in Wyoming. Future planned mineral exploration and site investigation activities will also be permitted and bonded under the LQD as required.

The CK Gold Project will occupy state owned and private land. Construction and operation of the mine will require various permits issued at the state and local levels. The only major federal permitting that could be triggered is with the US Army Corps of Engineers in the event that a federally regulated wetland or stream is impacted. At this time, no federally regulated wetland or stream is proposed to be impacted (Section 17.1.5).

No permit applications for mine construction or operation have been submitted to any regulators at this time. The Project is in the process of compiling the information required for these permit applications.

Following are the most significant agencies and associated permits that will be required, or potentially required, for mine construction and operation (as explained in the following subsections):

- US Army Corps of Engineers: Section 404 Permit for construction within Waters of the US (Section 17.3.1)
- Wyoming Department of Environmental Quality:
    - Land Quality Division: Permit to Mine (Section 17.3.2)
    - Air Quality Division: Air Quality Permit to Construct and Operate (Section 17.3.3)
    - Industrial Siting Division: Industrial Siting Construction Permit (Section 17.3.4)
    - Water Quality Division (Section 17.3.5)
- Groundwater Pollution Control Permit
- Stormwater Pollution Prevention Plan and Notices of Intent and Termination under the Large Construction General Permit (for Construction) and Industrial General Permit (for Operation)
- Permit to Construct Water Supply and Wastewater Facilities
- Operator Certification for Drinking Water System
- State Engineer’s Office Permits for Water Use and Water Related Facilities (Section 17.3.6)
- State Historical Preservation Office (Section 17.3.7)
- State Fire Marshall (Section 17.3.8)
- Laramie County (Section 17.3.9)

17.4.1 Section 404 Permit for Construction Within Waters of the US

In February 2021 the US Army Corps of Engineers (USACE) Omaha District, Wyoming Regulatory Office, issued an Approved Jurisdictional Determination (AJD) covering the CK Gold Project site. Under this AJD, the following two surface water bodies and associated wetlands in the Project area are considered Waters of the United States and subject to USACE jurisdiction and permitting for discharging of dredged or fill materials:

- South Crow Creek
- North tributary to Middle Crow Creek and abutting wetlands

There are no plans for any Project infrastructure that would lead to deposition of dredge or fill material in the above surface waters on the Project site, therefore no USACE permitting is anticipated in connection with Project site facilities.

17.4.2 Permit to Mine

Mining projects in Wyoming fall under the jurisdiction of the LQD, which has various permitting procedures and requirements for different types of mining projects. The CK Gold Project falls under LQD's "Complex Path" permitting process, which begins with a "Pre-Application Meeting" during which the Project Permit Area is established on the basis of the aerial extent of planned Project facilities, existing land use rights, existing infrastructure and environmental considerations. This information is presented and discussed during the meeting, after which an Action Plan is agreed between the project proponent and LQD defining the subsequent preparation of the Permit to Mine application package. The permit application requires site-specific environmental baseline data to be collected and analyzed, including typically a year's worth of hydrologic data. A permit decision can be expected generally about one year after the submittal of a complete application. The Permit to Mine is an operating permit, but it is needed in order to start project construction activities.

The Pre-Application Meeting between the CK Gold Project and LQD was held on 29 October 2020, and a written Action Plan was developed which is currently being implemented by the Project. The Action Plan defines the information, environmental studies, and operational and closure plans required as part of the Permit to Mine application. The application package is expected to be ready for submittal to LQD around the end of 2021.

Following are the four main components required in the Permit to Mine application package:

1. Adjudication File – Signed application forms; reclamation bond; landowner consent and list of landowners of record; tabulation of lands within the Project Permit Area; associated maps and aerial photos; and proof of public notification. Landowner consent is required only for private dwellings or certain public facilities located within 300 feet of the proposed Project boundary. Reclamation bonding can take the form of an irrevocable letter of credit, self-bond, or collateral bond (including federally insured certificates of deposit, cash, government securities or real property). The bond amount is determined by the LQD approved Reclamation Plan and associated cost estimate (see item 4).

2. Baseline Studies – Land use, history, archeology, paleontology, climatology, topography, geology, hydrology, soils, vegetation, wildlife, and wetlands (Section 17.1).

3. Mine Plan – General description of mining operation, mining method and schedule, mining hydrology, waste disposal, public nuisance and safety measures, and mineral processing and tailings disposal.

Reclamation Plan – Post-mining land use; land contouring plan; surface preparation; topsoil and/or subsoil placement; revegetation; hydrologic restoration; infrastructure and processing facility decommissioning, stabilization and reclamation; reclamation schedule; reclamation cost estimate; and public nuisance and safety measures (see also Section 17.5). The reclamation cost estimate is based on the cost that would be incurred if the LQD were to hire contractors to reclaim the mine and facilities.

17.4.3 Air Quality Permit to Construct and Operate

The CK Gold Project will require an Air Quality Permit to Construct issued by the DEQ's Air Quality Division (AQD). This permitting process will start with the development and submittal to AQD of the

Project's air emission inventory and potential-to-emit (PTE) emissions calculations based on engineering to be completed during the Feasibility Study phase. Electrical power to operate the mill and processing facilities will be supplied from a local utility, rather than from on-site generators. It is expected that the Project will be classified as a minor source and will fall under the AQD's requirements for general air quality permitting to construct and minor source permitting to operate. Title V of the Clean Air Act is not expected to apply.

Baseline ambient air quality data and dispersion modeling are generally not required by the AQD as part of a minor source permit application package. Baseline ambient PM-10 monitoring by the Project has nevertheless been ongoing since November 2020. The Project expects to be in a position to submit the permit application package and receive the Air Quality Permit to Construct within approximately the same time frame needed to obtain the Permit to Mine (Section 17.3.2).

17.4.4 Industrial Siting Construction Permit

The CK Gold Project may require an Industrial Siting Construction Permit issued by the DEQ's Industrial Siting Division (ISD) before starting construction activities. This permit requirement is triggered if the construction cost equals or exceeds $227,715,000. If the construction cost is lower, but not less than 80 percent of that amount ($182,172,000), a Certificate of Insufficient Jurisdiction is required from the ISD.

The intent of this permit is to plan for and mitigate potential environmental and socioeconomic impacts arising from a temporary influx of construction workers during the construction phase of a large project. "Construction cost" is understood to comprise the initial capital expenditures needed to place a project into operation. Sustaining capital expenditures during the project operating phase are assumed to be excluded.

This permitting process will start off with a Jurisdictional Meeting to be held with the ISD when the Project's cost model is completed during the Feasibility Study phase, if 80 percent of the threshold construction cost will be exceeded. In the event that only the Certificate of Insufficient Jurisdiction is required, that document would be expected to be issued by the ISD shortly after the Jurisdictional Meeting.

If the upper threshold of the construction cost amount will be exceeded, the Jurisdictional Meeting would be followed by public notifications to affected local government(s), informational meetings and the preparation of a permit application package. The permit application would include a project description, impact assessment and management plan, including traffic, noise and socioeconomic studies. Agency review of the application would include public hearings. A permit decision could be expected approximately eight to twelve months after submittal of a complete application.

17.4.5 Water Quality Division Permits

The DEQ's Water Quality Division (WQD) issues several permits applicable, or potentially applicable, to the CK Gold Project as summarized below.

Groundwater Pollution Control Permit

The DEQ regulations (Chapter 9 of the WQD Rules and Regulations) require a Groundwater Pollution Control Permit for "any discharge to the subsurface" that could degrade groundwater quality. This permit applies to in-situ or solution mining operations where process fluids are pumped into the subsurface, and to subsurface waste discharge operations such as injection wells. The WQD has not required this permit for passive seepage from open pits or mine waste facilities, which is the only type of subsurface discharge applicable to the CK Gold Project. Mine and mine waste seepage is regulated by the Permit to Mine (Section 17.3.2). A Groundwater Pollution Control Permit is therefore not expected to be required.

Stormwater Pollution Prevention Plan and Notices of Intent and Termination

A Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) must be submitted and approved by the WQD prior to the start of construction. Stormwater discharges from the Project site during the construction phase are expected to be approved by the WQD under the Large Construction General Permit (LCGP). Upon completion of the construction phase, the Project must file a Notice of Termination of the stormwater discharges approved under the LCGP. Before the start of mining operations, another SWPPP and NOI must be submitted to WQD for approval of stormwater discharges from the project site during the operations phase under the Industrial General Permit (IGP). Permit decisions by the WQD for both the LCGP and IGP can generally be expected within 30 days of submittal of complete SWPPPs and associated notices.

Permit to Construct Water Supply and Wastewater Facilities

Construction of the CK Gold Project's water supply and wastewater infrastructure will require a WQD permit. The permit application must include plans, specifications, design data and potentially an environmental monitoring plan. A permit decision can generally be expected in 60 days.

Operator Certification for Drinking Water System

The CK Gold Project must obtain an operator certificate from the WQD in order to operate the water treatment and distribution system of potable water serving Project site personnel and visitors. The certificate must be renewed every three years.

17.4.6 State Engineer's Office Permits for Water use and Related Facilities

The State Engineer's Office (SEO) issues permits to appropriate water for beneficial use, as well as permits to construct and operate water related infrastructure such as wells, mine dewatering systems and reservoirs – including stormwater or sediment control structures. Applications for permits to appropriate groundwater will be submitted to the SEO's Groundwater Division for new wells and for mine dewatering. The project site is not in a groundwater management district or "Control Area" and therefore new wells likely can be permitted.

Permit applications for surface water diversions will be submitted to the SEO's Surface Water Section. The permit applications must include drawings and information on associated drainage channels, pond storage capacity, embankment height and outlet structures, including hydraulic calculations. Surface water permits for sedimentation reservoirs will be required, along with the associated water use permits, if the collected water is put to beneficial use (dust control or mineral processing).

There are at least three levels of reservoir permitting, depending on the dam height and storage volume. Even diminutive facilities (dams less than 6’ high) must be permitted, but the level of design and associated review is relatively simple. On the other end of the spectrum, reservoirs with dams greater than 20 ft in height and storing more than 50 acre-feet must undergo the most detailed and complex Safety of Dams permitting.

Changing or transferring an existing water right is possible provided that the existing water right has been historically used for the purpose, at the location, and at the flow rate permitted. Changes or transfers can be temporary, under Temporary Water Use Agreements (TWUAs), or permanent via a formal petition to the Wyoming Board of Control. A TWUA can be reviewed and approved by the SEO staff and are widely used. They are typically issued for a period of two years but can be renewed. A formal petition results in a permanent change of the water right, but the mapping and review process for a petition can be complex and lengthy. Transfers or changes of water use from a BOPU facility would likely require a water user agreement with BOPU, in addition to a TWUA and/or formal petition.

17.4.7 State Historical Preservation Office Permit

The State Historical Preservation Office (SHPO) requires a Cultural Resource Clearance if cultural resources are encountered within the Project site. A cultural resource review was completed in June 2021 and additional details are available in Section 17.2.10.

17.4.8 State Fire Marshal Permits

An electrical plan and above ground fuel storage tank plan must be submitted to the State Fire Marshall for approval in accordance with 2020 National Electrical Code.

A fire protection system plan must be submitted in accordance with the Wyoming Department of Fire Protection and Electrical Safety. The State of Wyoming has adopted the 2018 International Codes, including the 2018 International Fire Code. Additionally, the fire protection system plan must meet the Laramie County Rural Fire Protection Development Rules and the Mining Safety and Health Administration (MSHA) regulations.

Fire hazard in the CK Gold Project area is generally low as the area primarily consists of grassland. The pit, stockpiles, and mine facilities will be stripped of vegetation and topsoil prior to disturbance during development and mining. Mine site water trucks will be available for fire suppression. Mobile equipment must have fire extinguishers per MSHA regulations.

17.4.9 Laramie County Permits

Laramie County will require a permit for the Project access road intersection or approach to County Road 210. The County will also require a Road Use Agreement. A traffic study will be needed to establish baseline traffic volumes. Any work on County Road 210 will also require coordination and review by the Wyoming Department of Transportation (WYDOT).

Additional County permits include a site grading permit, stormwater and erosion control permit, and building permits. The Project will be subject to inspections by the County Building Department.

17.5 Community Engagement

In addition to the permitting requirements and associated interaction with the relevant federal, state and local agencies as summarized in the previous section, development of the CK Gold Project will require certain agreements with local entities as follows:

- Ferguson Ranch – Land use rights and easements for access road, power line and water supply well(s) and pipeline.
- City of Cheyenne Board of Public Utilities (BOPU) – Water supply agreement, agreement to relocate an existing water pipeline and easement for the power line.
- Black Hills Energy, subsidiary of Black Hills Corporation – Power supply agreement.

US Gold has also reached out and provided Project information to various additional local entities which may be affected by and/or interested in the project, as follows:

- Laramie County – Host county potentially affected by Project environmental and socioeconomic impacts (employment, procurement, tax revenue, worker influx, traffic, etc.).
- City of Cheyenne – Potentially affected by Project environmental and socioeconomic impacts, and potential supplier of water to the Project.
- Neighboring residents and property owners west of the Project site – Potentially affected by Project environmental impacts
- Wyoming State Parks – The Project site is in close proximity to Curt Gowdy State Park
- Wyoming Game and Fish Department – The Project site occupies mule deer winter range
- Wyoming School Boards Association – The state-owned section of the Project site is held in trust specifically to benefit Wyoming public schools.
- University of Wyoming – The Geology Department has collaborated on the Project’s mineral exploration activities.
- Granite Canyon Quarry – Nearby producer of construction aggregates.
- Sutherland and King Ranches – Neighboring cattle ranches.

The Project is not located adjacent to any indigenous, Native American, or Bureau of Indian Affairs lands. No indigenous or Native American cultural sites are known to exist within the Project area.

17.6 Mine Closure

The definitive Project closure and reclamation plan is subject to the conditions of approval of the Permit to Mine, once it is issued (Section 17.3.2). The closure objective as currently foreseen is to reclaim most of the site to enable the resumption of its current use of cattle grazing. A conceptual closure plan is envisaged as follows:

Topsoil will be removed from disturbed surfaces during the mine construction and operating phases and stockpiled on site for subsequent use as cover soil and revegetation during site reclamation. Progressive reclamation will be practiced during the life of mine to reclaim portions of the Project site as soon as feasible prior to the end of mining, securing corresponding early releases in bonding obligations. Cattle grazing will continue as feasible during mining on Project areas not directly affected by mine operations.

At the end of mineral processing operations, the mineral processing plant and support structures and facilities will be dismantled or demolished down to their foundations, with the latter left in place under a layer of revegetated cover soil. Materials and equipment will be salvaged or disposed of off-site. Process vessels and fuel and reagent tanks will be cleaned prior to salvaging or disposal, and any contents and residues will be managed and disposed of according to the relevant regulations. Certain structures or facilities may be left in place if requested by the landowners or State Lands Office.

Quarries, borrow pits, yards, pads, drainage channels and impoundments will be regraded and revegetated, except for drainage ditches and ponds needed to protect physical and chemical site stability post-closure. Roadways will be similarly reclaimed, except for any segments to remain operational for post-closure monitoring purposes or at landowners' request. Wells will be abandoned and plugged, unless the landowners wish to retain them.

The waste rock and tailings facilities will be regraded to the extent necessary to achieve long-term stability, covered and revegetated. In certain areas of natural rock outcrop, the final exposed surface of the waste facility may be bare rock instead of vegetation. Based on geochemical study results to date (Section 17.1.4), the waste rock and tailings are not expected to be significantly acid generating, and seepage from these facilities is expected to meet applicable water quality standards. If these preliminary findings are confirmed by ongoing geochemical studies, seepage will be conveyed via surface drainage ditches from the waste rock and tailings facilities into established natural drainages in a controlled manner that prevents erosion and sediment transport.

In order to help increase the local area's long-term water storage capacity, discussions have begun with the Cheyenne Board of Public Utilities about the possibility of converting the post-mining open pit into a water storage reservoir. The hydrogeological and geochemical study results to date (Section 17.1.6 and 17.1.4, respectively) indicate that the pit wall permeability will be low enough overall to contain water with no significant leakage, and the pit wall rock will be geochemically stable enough to preserve water quality to applicable standards. Assuming these findings are confirmed by the ongoing hydrogeologic and geochemical studies, US Gold intends to put forth the concept of converting the pit to a water storage reservoir as the preferred closure concept. At the end of mining, water could be transferred from external sources to the new reservoir to meet the local area's water storage needs. In the event that further studies identify significant obstacles to this preferred pit closure concept, alternative concepts will be evaluated, including potentially a cost-benefit analysis of partially backfilling the pit with mine waste.

A post-closure monitoring plan will be implemented to verify that closure objectives are met, including the physical and chemical stability of the closed facilities.

17.7 Adequacy of Plans

Currently, environmental compliance is focused on mineral exploration and other site investigation pre-mining activities, including management of surface disturbance, drilling, water use and discharge, reclamation of drill pads and roads, and associated bonding. Environmental management of these activities appears to be good. The CK Gold project has a positive, collaborative relationship with the Office of State Lands, the State Department of Environmental Quality, and the affected private landowner.

A second area of current focus is community engagement, including reaching out to and negotiating with the various private and public entities with whom the project owner seeks agreements to enable further Project development. Current community engagement efforts also extend to other affected and interested local groups (Section 17.4).

Thirdly, a Permitting Plan is in place to manage the activities of Project personnel and specialty consultants, along with their schedules and budgets, in the development of information and documentation needed for the various permit applications and approvals (Section 17.3).

Prior to the start of construction of the mine facilities, a Project Environmental Management System (EMS) should be developed and implemented consisting of a series of site-specific plans and procedures governing the environmental management of the specific Project activities causing potential environmental impacts during construction, operations, closure and post-closure. The plans and procedures should identify management measures designed to avoid, mitigate or compensate for such impacts. The EMS should address the physical, natural biological and human community environmental components of the Project site and surroundings, including potentially affected local individuals and groups. The final engineering design of the Project, as well as the results of the various environmental baseline studies currently underway (Section 17.1), and the permit conditions of approval, once received (Section 17.3), should collectively form the basis for developing the Project EMS.

17.8 Commitments to Local Procurement or Hiring

The CK Gold Project’s policy is to prioritize procurement and hiring from within the State of Wyoming to the extent feasible.

To date, environmental baseline studies and preparation for permit applications, geological field work and logging, revegetation and reclamation, miscellaneous site works and preparation in support of drilling and test pit activities, sample transportation, local hydrologist, site geotechnical studies and testing, rock quality testing for aggregates, site management support, community and social relations, are all areas where the company has found and utilized excellent local/instate providers. Where the expertise exists, equipment and spares, consumer items, and personnel are available, and all things equal, the company will purchase locally as a policy and preference.

18 Capital and Operating Costs

18.1 Operating Cost Estimate

Estimation of operating costs for the project is performed within the economic model for the project on an annual basis. The operating cost estimate is based on the project and material schedule. The components of the operating cost are based on the project schedule, equipment sizing and productivity, labor estimates, and unit costs for supply items. Inputs to the operating cost are based on vendor quotes, private and commercially available cost models, and actual and factored unit costs from similar mining operations. The operating cost estimates have an accuracy of +/- 25%.

Table 18-1 shows a summary of the operating costs at the CK Gold project categorized by general area over the duration of the project, or life of mine (ROM). Table 18-2 provides additional detail to the cost categories on an annual basis.

Table 18-1 Project Operating Cost Summary

	Total LOM ($millions)	Avg Annual ($millions)	$/ton processed
Total Project Operating Costs	**$853**	**$88.0**	**$12.06**
Mining Cost	$229	$23.6	$3.23
Process Cost	$468	$48.3	$6.61
Waste/Tails Co Disposal Cost	$80.7	$8.3	$1.14
Site G&A	$75.9	$7.8	$1.07

Table 18-2 Annual Operating Costs

Years	Total	-1	1	2	3	4	5	6	7	8	9	10
Total Project Costs (Millions $)	**853**	**4.67**	**74.5**	**89.3**	**89.5**	**89.3**	**94.7**	**88.4**	**89.2**	**84.4**	**80.7**	**68.4**
Mining Cost	**229**	**1.59**	**24.2**	**26.4**	**26.7**	**24.4**	**29.4**	**25.1**	**25.5**	**20.6**	**15.4**	**9.5**
Load Haul	118	0.5	11.6	14.1	14.1	11.8	16.0	12.1	12.8	10.7	8.2	6.1
Drill / Blasting	64.0	0.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	5.7	3.9	1.6
Mine Support	26.5	0.4	3.1	2.6	2.9	3.1	3.5	3.4	3.1	2.2	1.5	0.7
Mine G & A	9.4	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.6
Contingency	10.9	0.1	1.2	1.3	1.3	1.2	1.4	1.2	1.2	1.0	0.7	0.5
Process Cost	**468**		**38.1**	**48.3**	**48.1**	**48.3**	**48.4**	**48.3**	**48.5**	**48.5**	**48.5**	**42.8**
Labor	92.3		7.6	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	8.5
Power	137		11.3	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	12.6
Maintenance Materials	20.4		1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.9
Reagents and Consumables	181		14.4	18.7	18.5	18.7	18.8	18.7	18.9	18.9	18.9	16.4
Miscellaneous	15.3		1.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.4
Contingency	22.3		1.8	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.0
Site G&A	**75.9**	**3.1**	**7.0**	**7.2**	**7.2**	**7.9**	**7.3**	**7.3**	**7.3**	**7.3**	**7.3**	**6.9**
G&A	72.4	3.0	6.6	6.9	6.9	7.5	7.0	7.0	7.0	7.0	7.0	6.6
Contingency	3.6	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Waste Tailings Co Disposal	**80.7**		**5.2**	**7.4**	**7.4**	**8.8**	**9.7**	**7.7**	**7.9**	**8.0**	**9.5**	**9.2**
Operations	76.8		5.0	7.1	7.1	8.4	9.2	7.3	7.5	7.6	9.0	8.8
Contingency	3.8		0.2	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4

Table 18-3 and Table 18-4 shows additional detail on the project operating costs for mining and processing categories.

Table 18-3 Mining Costs LOM Summary

	Total LOM ($millions)	Avg Annual ($millions)	$/ton processed	$/ton Mined
Total Mining Costs	**$229**	**$23.6**	**$3.23**	**$1.69**
Load Haul	$118	$12.2	$1.67	$0.87
Drill / Blasting - Total Cost	$64.0	$6.6	$0.90	$0.47
Mine Support - Total Cost	$26.5	$2.7	$0.37	$0.20
Mine G & A - Total Cost	$9.4	$1.0	$0.13	$0.07
Contingency 5%	$10.9	$1.1	$0.15	$0.08

Table 18-4 Process Operating Costs LOM Summary

	Total LOM ($millions)	Avg Annual ($millions)	$/ton Processed
Total Process Costs	**$468**	**$48.3**	**$6.61**
Labor	$92	$9.5	$1.30
Power	$137	$14.1	$1.93
Maintenance Materials	$20.4	$2.10	$0.29
Reagents & Consumables	$181	$18.7	$2.56
Miscellaneous	$15.3	$1.58	$0.22
Contingency 5%	$22.3	$2.30	$0.32

18.2 Capital Cost Estimate

Capital costs are categorized as either initial capital or sustaining capital. Initial capital costs are expended in the year before production begins, year -1. Sustaining costs are expended in two phases which are divided evenly between two years, Phase 1, years 1 and 2; Phase 2, years 4-5.

The capital cost estimate is based on the project and material schedule. The components of the operating cost are based on the project schedule, equipment sizing and productivity, labor estimates, and unit costs for supply items. Inputs to the capital cost are based on vendor quotes, private and commercially available cost models, and actual and factored unit costs from similar mining operations. The capital cost estimates have an accuracy of +/- 25%.

Table 18-5 Initial Capital Costs

Item	Cost (Millions)
Total Initial Capital	**222**
Process Plant	**204**
Plant	170
Contingency	34.1
Site Infrastructure	**17.8**
Water Infrastructure	3.26
Power Infrastructure	2.31
Buildings Infrastructure	2.82
Ex-Pit Roads	0.94
Mineralized Material Facility	1.05
North Waste Rock Dump	0.39
Waste Rock Tailings Co-Disposal Facility	3.30
Site Earthworks/Grading	0.79
Contingency	2.97

Table 18-6 Sustaining Capital Costs

Item	Cost (Millions)	
	Phase 1	**Phase 2**
Total Sustaining Capital	**6.72**	**8.29**
Water Infrastructure	0.08	0.08
Ex-Pit Roads	0.02	0.02
Mineralized Material Facility	1.02	0.00
Waste Rock Tailings Co-Disposal Facility	4.30	6.64
Site Earthworks/Grading	0.19	0.19
Contingency	1.11	1.37

19 Economic Analysis

The economic analysis of the CK Gold Project is reliant on the project schedule, mine schedule, capital and operating costs discuss in the previous sections of this report. This economic analysis excludes Inferred Resources, and the positive economic outcome is used to delineate a Mineral Reserve for the Project. The economic parameters used are believed to be reasonable for the type of project. All figures are in constant 2021 US Dollars.

19.1 Model Parameters

The economic model is a series of annual cashflows through the life of the project modeled in a spreadsheet. The annual cashflow has three primary components; income (discussed in this section,) and operating and capital costs, in Section 18. The economic model spans 1 years of pre-production (year -1), 10 years of concentrate production and 1 post-production year.

Table 19-1 Economic Model Parameters

Parameter	Value
Project Funding	100% Equity
Working Capital	25% of year 1 operating costs
Discount Rate	5%
Contingency Operating Costs	5%
Contingency Capital Costs	20%
Gold Price	$1,625/oz
Copper Price	$3.25/lb
Silver Price	$18.00/oz

19.2 Taxes, Royalties, Depreciation and Depletion

The CK Gold Project is subject to a production royalty of 5% on the gross sales value of the product sold, less deductions for costs incurred for processing, transportation, and related costs. This royalty is paid to Office of State Lands, State of Wyoming. The value of the product sold less deductions is calculated by taking the gross refining receipts and subtracting concentrate transport and processing, on-site processing costs, tailings disposal and half of the site general and administrative costs in the same manner as calculated for the purposes of calculating severance and ad valorem production taxes utilized by the Wyoming Department of Revenue. This concentrate value less applicable deductions is multiplied by 5% to yield the royalty payment. The project's net income value already considers the royalty payment.

A Federal tax rate of 21% is assessed on taxable income. Federally taxable income is gross revenue less operating costs, sustaining capital, depreciation, depletion, property taxes, state severance taxes and tax losses carried forward.

Deprecation of project capital costs for the purpose of federal tax calculation is based on a units of production depletion model. Depletion for federal tax purposes is calculated by using percentage depletion method. For this property the depletion percentage is 15% of the gross revenue less royalties, not to exceed 50% of the taxable income.

Property taxes are assessed at 6.7% and a Wyoming severance tax of 2%.

19.3 Cashflow Forecasts and Annual Production Forecasts

The results of the economic analysis are provided in Table 19-2 and Table 19-3.

Table 19-2 Economic Model Results

Key Project Indicator	Value
Pre Tax Economics ($ Millions)	
IRR	39.4%
Cash Flow (Undiscounted)	$500
NPV 5% Discount Rate	$323
Payback (Years)	2
1st 3 years Net Profit (avg)	$112
After Tax Results	
IRR	33.7%
Cash Flow (Undiscounted)	$421
NPV 5% Discount Rate	$266
Payback (Years)	2.2

Table 19-3 Project Details

Key Project Indicator	Value
Gold Ounces Sold (000's)	678
Copper Sold (Million Lbs.)	172
AuEq Ounces Sold (000's)	1,030
1st 3 years Avg AuEq Production (000's)	135
Initial Capital ($ Million)	$222
Sustaining Capital ($ Million)	$15
Avg. Cash Cost of Production ($/oz AuEq)	$786
All in Sustaining Cost ($/oz AuEq)	$800

Income from concentrate sales is based on the metal grades stored within the resource model and associated with material scheduled for the concentrator during the time period. Concentrator recovery factors are applied to the in-situ, contained, metal to yield a total metal contained in concentrate. A smelter payable factor is applied to the metal contained in concentrate to yield a total metal sold on an annual basis. From total income from metal sales, smelter terms, transportation costs and royalty payments are subtracted to yield net project income. Table 19-4 shows a summary of metal production and revenue projections for the project. Table 19-5 shows the cash flow summary for the Project.

The item other cash flows includes a working capital expenditure in year 1 and a credit of that working capital in year 2. Also included in year 11 is a credit for continued aggregate feedstock sales of approximately 23 million tons of feedstock over an 11 year period.

Table 19-4 Metal Projections

$ Values in Millions	Total	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Year 11
Metal in Concentrate													
Gold (000's oz)	706		99.0	106	87.3	71.1	55.7	72.5	58.2	55.3	58.3	42.6	
Copper (Millions lbs)	181		11.1	22.2	20.1	19.7	16.3	17.9	21.8	20.5	21.1	10.5	
Silver (000's oz)	1,541		220	234	167	151	176	127	115	107	129	116	
Metal Sold													
Gold (000's oz)	678		95.0	102	83.8	68.3	53.5	69.6	55.9	53.1	55.9	40.9	
Copper (Millions lbs)	172		10.5	21.0	19.1	18.7	15.5	17.0	20.7	19.5	20.0	9.9	
Silver (000's oz)	771		110	117	84	75	88	63	58	53	64	58	
Refiner Receipts	**$1,693**		**$192**	**$237**	**$201**	**$175**	**$141**	**$172**	**$161**	**$153**	**$159**	**$102**	
Gold	$1,102		$154	$166	$136	$111	$87	$113	$91	$86	$91	$66	
Copper	$559		$34	$68	$62	$61	$50	$55	$67	$63	$65	$32	
Silver	$14		$2.0	$2.1	$1.5	$1.4	$1.6	$1.1	$1.0	$1.0	$1.2	$1.0	
Aggregate Credits	$19		$1	$1	$1	$2	$2	$2	$2	$2	$2	$2	
Deductions	**$124**		**$10**	**$16**	**$14**	**$13**	**$11**	**$12**	**$14**	**$13**	**$13**	**$7**	
Transportation Costs	$49.5		$3.6	$6.1	$5.7	$5.3	$4.4	$4.9	$5.7	$5.4	$5.5	$2.9	
Treatment/Refining	$52.6		$3.3	$6.5	$5.8	$5.7	$4.7	$5.2	$6.3	$5.9	$6.1	$3.0	
Royalty	$21.6		$3.0	$3.3	$2.8	$2.2	$2.0	$2.3	$2.1	$1.7	$1.4	$0.7	
Total Revenue	**$1,569**		**$182**	**$221**	**$186**	**$162**	**$130**	**$159**	**$147**	**$140**	**$146**	**$95**	

Table 19-5 Cash Flow Projections

($ Millions)	Total	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10	Year 11
Total Revenue	**$1,569**	$0	$182	$221	$186	$162	$130	$159	$147	$140	$146	$95	$0
Operating Costs	**$853**	$5	$74	$89	$89	$89	$95	$88	$89	$84	$81	$68	$0
Net Profit Before Tax	**$716**	-$5	$107	$132	$97	$73	$35	$71	$58	$55	$66	$27	$0
Capital Costs	**$237**	$202	$24	$3	$0	$4	$4	$0	$0	$0	$0	$0	$0
Other Cash Flows	**-$21**	$0	$19	-$19	$0	$0	$0	$0	$0	$0	$0	$0	-$21
Before Tax Cash Flow	**$500**	-$206	$65	$147	$97	$69	$31	$71	$58	$55	$66	$27	$21
Cumulative Cash Flow	**$500**	-$206	-$141	$6	$103	$171	$202	$273	$331	$387	$452	$479	$500
After Tax Cash Flow	**$421**	-$206	$60	$130	$84	$60	$26	$63	$51	$49	$59	$25	$21
Cumulative Cash Flow	**$421**	-$206	-$147	-$17	$67	$127	$154	$216	$268	$317	$376	$400	$421

19.4 Sensitivity Analysis

Sensitivity Analysis was performed on the parameters, capital cost, operating cost and metal price on a before tax basis. Figure 19-1 and Figure 19-2 shows the sensitivity of the Project NPV and IRR, respectively, to key changes in project parameters.

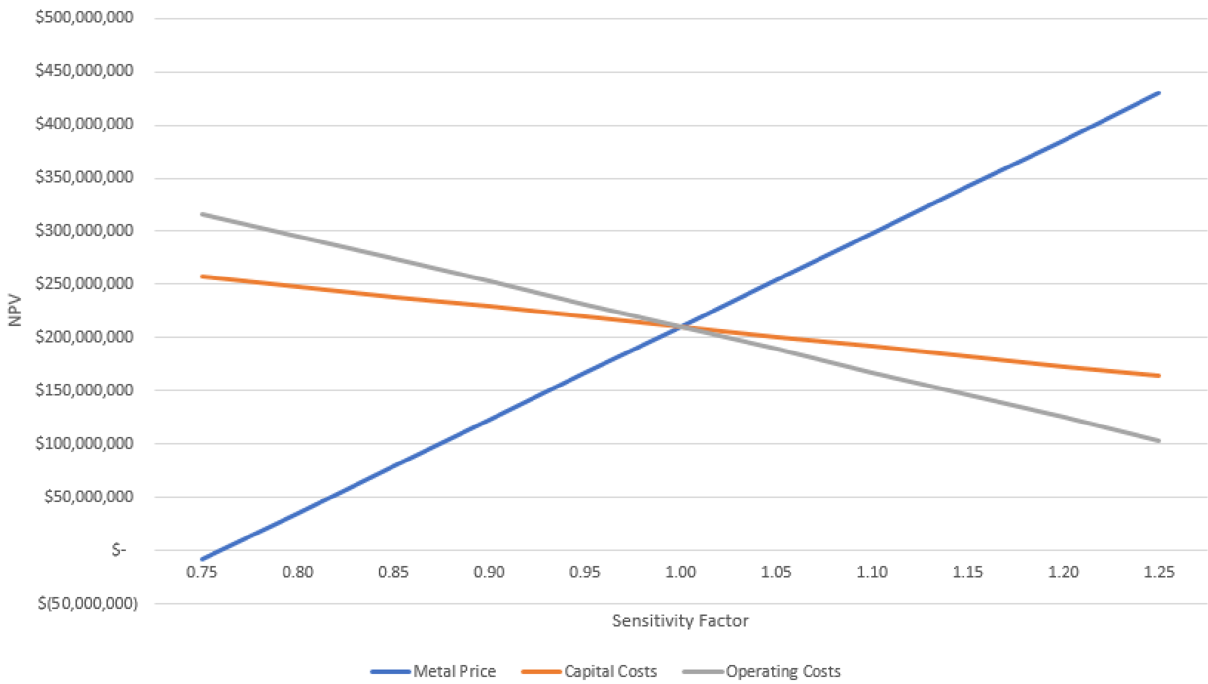


Figure 19-1 NPV Sensitivity

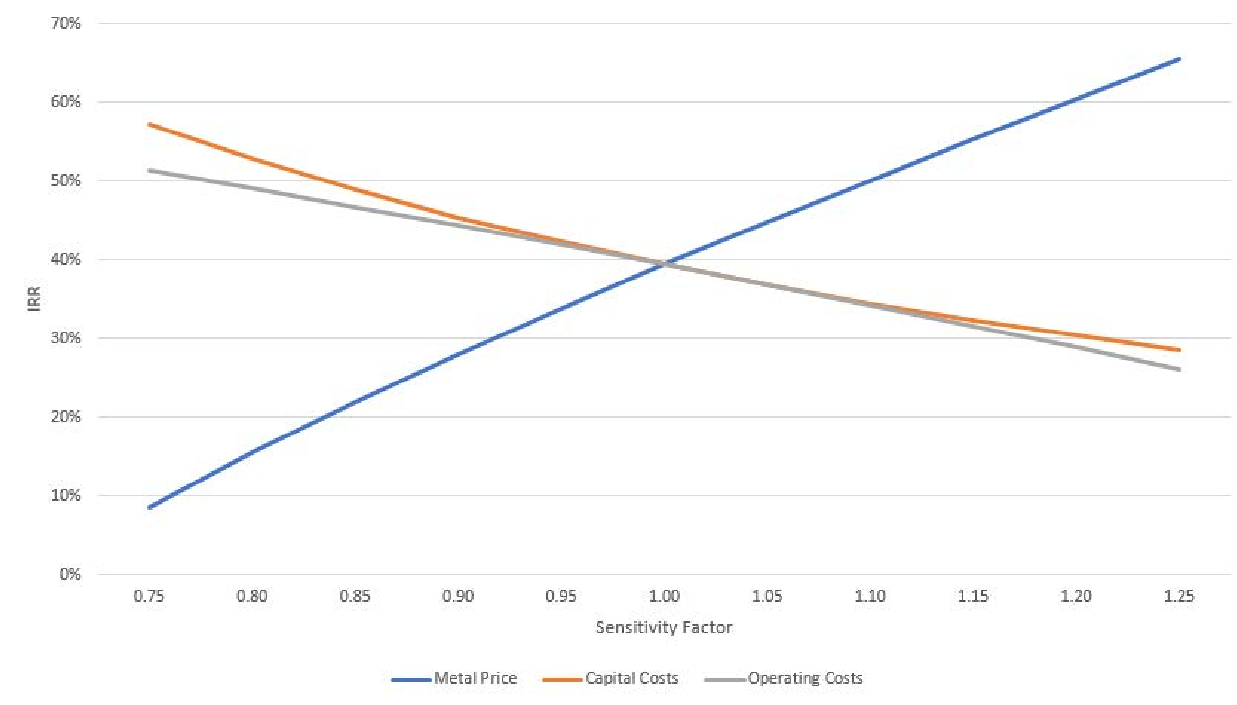


Figure 19-2 IRR Sensitivity

A sensitivity analysis on metals pricing indicates additional potential for this project at higher metals pricing, Table 19-6. Additionally, the sensitivity indicates the robustness of the project with positive economic outcomes at reduced metals pricing.

Table 19-6 Metal Price Sensitivity

Metals Pricing		Pre-Tax			After Tax		
Gold Au/oz.	Copper Cu/lb.	NPV M$'s	IRR %	Payback Years	NPV M$'s	IRR %	Payback Years
$1,825	$3.65	$438	52.4%	1.7	$384	44.6%	1.8
$1,725	$3.45	$396	46.0%	1.8	$325	39.3%	2
$1,625	**$3.25**	**$323**	**39.4%**	**2.0**	**$266**	**33.7%**	**2.2**
$1,525	$3.05	$251	32.6%	2.2	$205	27.9%	2.5
$1,425	$2.85	$179	25.4%	2.6	$144	21.7%	2.9

20 Adjacent Properties

There is no information from adjacent properties material to the CK Gold Project. There are no adjacent properties requiring any disclosure. The area is a historical mining district however the QPs are not aware of any mineral exploration occurring on adjacent properties. Approximately 2 miles to the south of the property is an aggregate quarry that has no material impact to the Project. The proximity and similarities of these historic copper-gold deposits does not, on its own, indicate the CK Gold Project should be similarly mineralized.

21 Other Relevant Data and Information

21.1 Aggregate production

In addition to concentrate sales the PFS also considers the sale of granite waste rock to local construction companies as feed material for aggregate production. The material considered for aggregate feedstock has been sampled from existing exploration holes and is representative of the rock selected for aggregate production. Analysis shows that the material is suitable for aggregate production. Production parameters are shown in Section 21.2.

21.2 Aggregate Market Study

The U.S. Gold CK Gold Property is located in southeast Wyoming approximately 18 miles east of Cheyenne in the southern Laramie Mountains. The area is attractive for the quarrying of granite for use as construction aggregate. In the state of Wyoming there are currently two permitted operating granite quarries and one permitted quarry with plans to be operational by spring of 2022. These three quarries are located within four miles of the Copper King site location. On average, over the past five years, the two operational pits in the area produced a total of approximately 2.9 million tons of granite annually.

The aggregates industry business cycle reacts to levels of activity within commercial and residential construction markets, in public infrastructure projects, as well as other types of construction. Local demand for aggregate is driven by use in infrastructure projects in the Cheyenne metropolitan area. Due to projected low population growth in Wyoming and shortfalls in tax revenue available from the energy sector, demand for aggregate for road and construction projects in southeast Wyoming may be very limited and be met with significant established competition by the currently permitted quarries. The greatest demand for aggregate from the Copper King site would be to the south in Colorado along the Northern Front Range where there are multiple metropolitan districts that are in an active phase of population and economic growth. Significant increases in population and employment have been forecasted to varying degrees within the multi-county 100 mile stretch of Interstate-25 (I-25) that links Cheyenne, Wyoming to these high growth areas in Colorado. The proximity of the Copper King subject site to northern Colorado's Front Range urban corridor provides a geographically favorable conduit for materials that could be produced in a more advantageous tax and regulatory climate for operators.

Interviews with key operators active in the construction industry, specifically concrete and asphalt producers, were conducted to better understand the potential demand from the Project. Demand for hard rock, such as the subject granite, that meets specifications for transportation projects is high in urban areas such as the Front Range. In these areas competing land uses can make it difficult for operators to obtain a land position sufficient for long-term aggregate production. Two construction companies expressed immediate interest in obtaining aggregate materials from the Project. Based on their estimates, it is reasonable to project that the Project could supply 500,000 tons of granite aggregate feedstock the first year mining commences and could ramp up to 1,000,000 tons of feedstock annually after the third mining season.

An estimate of the price that could be obtained for the stockpiled granite feedstock material at the Project site was developed based on information in the public domain as well as information provided via interviews with market participants. Major cost components in processing the stockpiled material into a usable end product were considered. This was necessary in order to determine at what price competing products from other sites can be sold in the market since the subject granite must remain cost competitive with other local supply sources near Cheyenne. The main cost centers consist of the following: 1) crushing, screening, stockpiling; 2) loading and scaling; 3) hauling to take off point. Prices for delivered products in Cheyenne were used as the benchmark for the price analysis. Based on the data analyzed, the delivered price for the subject granite materials to Cheyenne would be anticipated to range from $10 per ton to $15 per ton. Costs to process and haul the stockpiled material from the site to Cheyenne are estimated to range from approximately $7.40 per ton to $13.20 per ton, Table 21-1. Comparing the average price to the average cost indicates the material could sell for $2.20 per ton from the Copper King site.

Table 21-1 Aggregate Cost Buildup

Cost	**Low Case**	**Base Case**	**High Case**
Crush, Screen, Stockpile ($/ton)	$3.00	$5.00	$7.00
Load and Scale ($/ton)	$0.50	$0.75	$1.00
Haulage to market ($)	$3.91	$4.56	$5.21
Total Cost	$7.41	$10.31	$13.21
Delivered Price @ Cheyenne ($/ton)	$10.00	$12.50	$15.00
Indicated Sales Price of Stockpiled Material ($/ton)	**$2.60**	**$2.20**	**$1.80**

22 Interpretation and Conclusions

22.1 Results

The results of the CK Gold Pre-Feasibility Study indicate that the property contains a Mineral Resource, and a significant portion of that Mineral Resource converts to a Mineral Reserve. The project has a positive economic outcome given the data, parameters and estimates outlined in the TRS.

22.2 Significant Risks

Economic Risk

There is no guarantee that metal prices will continue to support adequate revenues to cover the cost of mining and processing. Additionally, the consumer items, manpower, energy, water, capital equipment could all increase to the point that profitable operations would be jeopardized. Typically a company would look to securing off-take agreements and contracts for cost items that will protect the viability of the project in the long-term.

Resource Risk

While the resource has been extensively drilled and tested and the nature of the mineralization consistent and apparently well understood, there is a risk that the contained metal in the resource has been misestimated, that the metallurgical performance is not fully representative of the whole rock mass and the reported values cannot be extracted.

Operations Risk

There are many potential operational risks ranging from the inability to hire, train and retain workers and professional necessary to conduct operations, to poor management and exceptional weather events or climate change that could negatively impact operations. While similar operations are conducted in the vicinity and there is no reason to believe these risk factors cannot be eliminated, they still exist.

Environmental Risk

Several environmental and social risks exist, not least of which is the availability of water aggravated by changes in the climate and demand for water from a growing population. The proximity to a well-used and beloved State Park and recreation area, residents in the vicinity and further afield that might not want to see development, and the concerns over the impacts of the project, are all risk factors. US Gold is meeting all the concerns head on and pointing out that it is very likely that whether the CK Project becomes a mine or not, there are significant challenges to meet the long-term water demand in Cheyenne and a likely need to increase water storage in the area in any event. USAU seeks to be part of the long-term solution to water husbandry and storage.

22.3 Significant Opportunities

Resource Expansion

US Gold has focused on the value proposition surrounding the known resource as a prime motivator to create value for its shareholders. The company realizes that additional mineralization continues at depth, evidenced by exploration holes bottoming out in economic grades, as well as opportunities to expand the existing resource to the southeast. Outreach to the University of Wyoming and reliance on experts is aimed at a better understanding of the origins and genesis of the resource. Pursuing such information and prudent expenditures toward exploration as company valuation increases or revenue streams allow will allow resource expansion to be pursued.

Metallurgical Program

Metallurgical programs to date with both KCA, Reno and Base Metal Laboratories (BML) have both confirmed, and improved upon, the test results of SGS, Canada 2009-2010. Variability tests have demonstrated the consistent nature of the mineralization under the current metallurgical and process techniques adopted. Additional work to optimize recovery, process and plant capital cost continue with every expectation that modest gains can be captured. In particular, additional testing on the transitional or “mixed” material containing varying degrees of oxidized copper minerals can lead to a better understanding of the recovery of mixed material, on the basis of a recovery curve on a copper oxide to total copper ratio. Additionally, preliminary tests show that gold recoveries can be improved to above 90% if flotation tailings are treated with a sodium cyanide solution to extract remnant gold. If nothing more, the high-grade oxide tailings which will be set aside could be treated to recover an appreciable amount of gold that cannot be capture through flotation.

Aggregate Production

Work to date has established that the non-mineralized rock is almost certainly in large part an excellent source of aggregate. Additionally, a market study suggests that the local demand could accommodate an additional source of supply and this has been confirmed anecdotally by a series of inquiries and from potential consumers to USAU. The preliminary valuation and assessment of offtake potential is fairly modest for inclusion in the PFS study, there appears to be a sound rationale that further value can be obtained from what would otherwise be waste material at the project that has already undergone the cost of mining as part of the gold and copper recovery. Beyond the potential to increase the revenue from the rock mined and sold as aggregate or aggregate feedstock, there are benefits to reducing the waste stored at site, such as the reduced footprint of areas to be reclaimed.

To help increase the local area’s long-term water storage capacity, discussions have begun with the Cheyenne Board of Public Utilities about the possibility of converting the post-mining open pit into a water storage reservoir. The hydrogeological and geochemical study results to date indicate that the pit wall permeability will be low enough overall to contain water with no significant leakage, and the pit wall rock will be geochemically stable enough to preserve water quality to applicable standards. Assuming these findings are confirmed by the ongoing environmental studies, US Gold intends to put forth the concept of converting the pit to a water storage reservoir as the preferred closure concept. At the end of mining, water could be transferred from external sources to the new reservoir to meet the local area’s water storage needs. In the event that further studies identify significant obstacles to this preferred pit closure concept, alternative concepts will be evaluated, including potentially a cost-benefit analysis of partially backfilling the pit with mine waste. A post-closure monitoring plan will be implemented to verify that closure objectives are met, including the physical and chemical stability of the closed facilities.

23 Recommendations

23.1 Feasibility Study

Pursue a feasibility study focused on incorporating the data collected in the 2021 field season and continued metallurgical and process design optimization. As part of the prefeasibility study a modification was made to increase plant throughput from 15,000 to 20,000st per day and it is doubtful given the size of the resource and the length of the mine life that further throughput optimization changes will be necessary, but a plant bottlenecking study should be conducted, and adjustments made. There are indications that treatment of tailings to enhance gold recovery could be considered but such additional treatment could come with significant environmental concern and it is recommended that while the opportunity be assessed, the current flowsheet be maintained.

23.2 Project Development

To further assess the viability of the project and to feed into a more accurate and comprehensive capital and operating cost estimate, an EPCM strategy, construction, and operating plan to support project development. The development of a detailed owners team for development, contracting strategy and transitional plan to operations should be identified in the feasibility study.

23.3 Environmental, Permitting and Social Recommendations

Following is a summary of the Prefeasibility Study recommendations associated with Chapter 17, environmental compliance, permitting and community engagement:

23.3.1 Environmental Studies

- Continue the current on-site meteorology and air quality monitoring program.
- Continue the geochemical testing program, including leach testing using the Meteoric Water Mobility Procedure and humidity cell testing, to further refine the potential for acid rock drainage and long-term water quality prediction.
- Continue the current surface water flow and quality monitoring program.
- Continue groundwater monitoring, aquifer testing and groundwater model development to further evaluate the hydrologic effects of the faults traversing the pit and assess the hydraulic connectivity between surface water and shallow and deeper aquifers at the periphery of the Project site.
- During the current summer season, perform the following studies:
    - Soil survey and test pitting
    - Vegetation survey
    - Wildlife survey
    - Class I Cultural Resource Review

23.3.2 Permitting

- Continue collection of information required for the various permit applications, including the above studies.

- Continue consultations with state and local agencies with permitting jurisdiction, informing them of Project the definition and development status, and results of environmental studies.
- Develop and submit permit applications reflecting the Feasibility Phase Project design when the associated information is available.

23.3.3 Agreements and Community Engagement

- Continue engagement with Ferguson Ranch regarding the land use rights agreement and easements for access road, power line and water supply well(s) and pipeline.
- Continue discussions with the City of Cheyenne Board of Public Utilities for a water supply agreement and an agreement to relocate an existing water pipeline and easement for the power line.
- Continue discussions with Black Hills Energy regarding the power supply agreement.
- Continue engagement with other local stakeholders to keep them apprised of the Project definition and development status.
- Continue to seek other sustainable, or beneficial, options for the supply of water to the project

23.3.4 Closure Plan

- Develop a closure plan and closure cost estimate reflecting the Feasibility Phase Project design when available.
- Continue engagement with the City of Cheyenne Board of Public Utilities regarding the potential conversion of the post-mining open pit into a water storage reservoir, providing updated geochemical and hydrogeologic study results when available.

23.3.5 Environmental Management

- Prior to the start of construction of the mine facilities, develop and implement a Project Environmental Management System (EMS) consisting of a series of site-specific plans and procedures governing the environmental management of the specific Project activities causing potential environmental impacts during construction, operations, closure and post-closure. The plans and procedures should identify management measures designed to avoid, mitigate or compensate for such impacts.
- The EMS should address the physical, natural biological and human community environmental components of the Project site and surroundings, including potentially affected local individuals and groups.

24 References

- Trihydro “Infrastructure Report for CK Gold Pre-Feasibility Study” Report Date: July 2021
- “Environmental and Permitting Report for CK Gold Pre-Feasibility Study” Report Date: July 2021.
- “Recommended Prefeasibility-Level Geotechnical Slope Designs for the Copper King Open Pit. Piteau Associates July 13, 2021.
- Mine Development Associates (MDA) “Updated Technical Report and Preliminary Economic Assessment, Copper King Project” December 5, 2017
- Nevin, A. E., 1973 (May 30), Interim Report, Copper King property, Laramie County, Wyoming: Henrietta Mines Ltd. company report: Wyoming State Geological Society mineral files, 16 p.
- Tietz, P., and Prenn, N., 2012 (August 24), Technical report on the Copper King project, Laramie County, Wyoming: Report prepared for Strathmore Minerals Corp. by Mine Development Associates, 133 p.

25 Reliance on Information Provided by the Registrant

Table 25-1 provides a detailed list of information provided by US Gold (Registrant) for matters discussed in this Technical Report Summary (TRS).

Table 25-1 Information provided by US Gold

Category	TRS Section	Reliance
Legal Matters	Section 3 Property Description and Location	Information and documentation regarding mineral titles, surface land agreements, current permitting status, royalties and other agreements provided by US Gold
General Information	Section 4 Accessibility, Climate, Local Resources, Infrastructure and Physiography	Physical information about the Project was provided by US Gold. Information consisted of consultant reports, and correspondence with US Gold.
General Information	Section 5 History	Historical data provided by US Gold, primarily previous Technical Reports
Technical Information	Section 13.2 Geotechnical	"Recommended Prefeasibility-Level Geotechnical Slope Designs for the Copper King Open Pit" Authored by Piteau Associates and provided by US Gold.
Technical Information	Section 13.2 Hydrology	Nierbo Hydrology Report provided by US Gold.
Environmental Matters	Section 17	Pre-permitting work done provided by US Gold
Commitments to local groups and individuals	Section 17	Pre-permitting work done provided by US Gold

Table 25-2 Abbreviations

Abbreviation	Unit or Term
A	ampere
AA	atomic absorption
AuEq	Gold equivalent grade
Ag	silver
Au	gold
BOPU	Cheyenne Board of Public Utilities
°C	degrees Centigrade
CoG	cut-off grade
cm	centimeter
cm^2	square centimeter
cm^3	cubic centimeter
cfm	cubic feet per minute
Cu	copper
CV	Coefficient of Variance
°	degree (degrees)
EMS	Environmental Management System
FA	fire assay
ft	foot (feet)
ft^2	square foot (feet)
ft^3	cubic foot (feet)
Ga	Billions of years
g	gram
gal	gallon
GD	Granodiorite
GDK	Potassic-altered granodiorite
G&A	General and Administrative
g/L	gram per liter
g/cm^3	Gram per cubic centimeter
gpm	gallons per minute
g/t	grams per tonne
ha	hectares
Hp	Horsepower
HTW	horizontal true width
ICP-MS	inductively coupled plasma mass spectrometry
ID2	inverse-distance squared
ID3	inverse-distance cubed
kg	kilograms
km	kilometer
km^2	square kilometer
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kV	kilovolt

Abbreviation	Unit or Term
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	liter
L/sec	liters per second
lb	pound
LoM	Life-of-Mine
m	meter
m^2	square meter
m^3	cubic meter
MD	Mafic Dikes
mg/L	milligrams/liter
mm	millimeter
mm^2	square millimeter
mm^3	cubic millimeter
MMF	Mineralized Material Facility
Moz	million troy ounces
MW	million watts
MYL	Mylonite
opt	troy ounce per short ton
oz/st	Troy ounce per short ton
oz	troy ounce
PEG	Pegmatites
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
QC	Quaternary cover
RC	rotary circulation drilling
RoM	Run-of-Mine
RQD	Rock Quality Description
SD	Standard Deviation
sec	second
SG	specific gravity
st	short ton (2,000 pounds)
stpd	Short ton per day
stph	Short ton per hour
t	tonne (metric ton) (2,204.6 pounds)
t/h	tonnes per hour
t/d	tonnes per day
t/y	tonnes per year
TRS	Technical Report Summary
µm	micron or microns
V	volts
W	Tungsten or watts
WRTCF	Waste Rock and Tailings Co-Placement Facility