



**CANYON GOLD  
& GRAVEL**

Revision #2 – March 21, 2023

**43–101 TECHNICAL REPORT  
ON THE  
UNION BAR GRAVEL AND SAND DEPOSIT  
AND THE  
LUCKY THIRTEEN PLACER GOLD LEASE 1079702  
FRASER RIVER AREA NEAR HOPE, BC  
AND THE  
ROCK PIT FLAGSTONE DEPOSIT  
NEAR QUESNEL, BC**

Prepared for

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March 15, 2023

## Date and Signature Page

The Technical Report title is:

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NEAR QUESNEL, BC

This report was prepared for Canyon Gold & Gravel Inc., West Vancouver,  
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The signed and effective date is March 15, 2023

# Table of Contents

1:	Summary
2:	Introduction
3:	Reliance on Other Experts
4:	Property Description and Location
5:	Accessibility, Climate, Local Resources, Infrastructure and Physiography
6:	History
7:	Geological Setting and Mineralization
8:	Deposit Types
9:	Exploration
10:	Drilling
11:	Sample Preparation, Analyses and Security
12:	Data Verification
13:	Mineral Processing and Metallurgical Testing
14:	Mineral Resource Estimates
15:	Mineral Reserve Estimates
16:	Mining Methods
17:	Recovery Methods
18:	Project Infrastructure
19:	Market Studies and Contracts
20:	Environmental Studies, Permitting and Social or Community Impact
21:	Capital and Operating Costs
22:	Economic Analysis
23:	Adjacent Properties
24:	Other Relevant Data and Information
25:	Interpretation and Conclusions
26:	Recommendations
27:	References
28:	Statement of Qualifications
29:	List of Abbreviations, Acronyms, and Conversion Factors
30:	Limitations and Legal Notices

Appendices – see next page

# Appendices

- APPENDIX 1 Estimate of Feasible Depth of Excavation and Approximate Volume of the Bulk Gravel Deposit at Union Bar
- APPENDIX 2 2022 Aggregate Test Results, Metro Testing & Engineering Ltd.
- APPENDIX 3 2022 Placer Gold Test Results, Sepro Laboratories

## List of Figures

- Figure 1 Google Image of the 55 Ha Union Bar and Hope, BC
- Figure 2 Location Map – Vancouver to Hope
- Figure 3 Union Bar Gravel Site Location
- Figure 4 Notice of Work, Lucky Thirteen Placer Lease 1079782, District Lot 57 property Map
- Figure 5 Union Bar Site Location by Lat/Long and UTM
- Figure 6 Lucky Thirteen, PC 523082 (Lease 1079702) [Topography]
- Figure 7 Notice of Work, 2022 Rock Pit Property Location Map
- Figure 8 Rock Pit Mineral Tenures 1095994, 1097619 & 1091460, Detailed Topo Base Map
- Figure 9 District of Hope, Floodplain and Erosion Areas, Map 5
- Figure 10 Notice of Work, Rock Pit, Mineral Tenure 1091460, Detailed Imagery Map
- Figure 11 Photos of Test Mining of Flagstone at Rock Pit
- Figure 12 Regional Geology (Quesnel)
- Figure 13 Google Image Showing Waypoints
- Figure 14 Location (*sic*) of Drill Holes and Pits 2022
- Figure 15 Gravel Sieve Analysis – Union Bar Deposit
- Figure 16 Sand Sieve Analysis – Union Bar Deposit
- Figure 17 Conceptual Mine Plan – Plan View
- Figure 18 Conceptual Mine Plan – Section Views
- Figure 19 Flow Chart of a Typical Sand and Gravel Processing Operation
- Figure 20 Photo of a Patio in Quesnel Constructed With Rock Pit Flagstone
- Figure 21 Photos Taken at Pit #2 at the Site
- Figure 22 Water Surface Elevation at Union Bar
- Figure A1-1 Water Surface Elevations at Union Bar

## List of Tables

Table 1	Union Bar Site Property Information
Table 2	Climate Normals 1981-2010 Station Data Chilliwack BC
Table 3	Temperature at Quesnel, BC
Table 4	Precipitation at Quesnel, BC
Table 5	Summary of the Test Pit Program 2022 at Union Bar
Table 6	Summary of the ODEX Drill Program 2022 at Union Bar
Table 7	Sepro Fire Gold Assay Results at Union Bar
Table 8	Sepro Floatation Test Report
Table 9	Estimate of Aggregate Volume and Mass at Union Bar
Table 10	Estimate of Mass of Placer Gold at Union Bar per Metric Ton of Bulk Pit Run
Table 11	Annual Assessment Work Required to Maintain a Mineral Tenure

### Tables in Appendix 3

Table A3-1	Sepro Sample Receiving Log Sheet
Table A3-2	Comparison of Sepro and HomeGold Sample Names
Table A3-3	Floatation Test Worksheet (Sepro)
Table A3-4	Floatation Test Report (Sepro)
Table A3-5	Particle Size Analysis (Sepro)
Table A3-6	Fire Assay Report (Sepro)

## Cautionary Note Regarding Forward-Looking Statements

The following information may apply to portions of this Technical Report.

This report may contain or incorporate by reference "forward-looking statements" and "forward-looking information" under applicable Canadian securities legislation and within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward-looking information includes, but is not limited to: cash flow forecasts, projected capital, operating and exploration expenditures, targeted cost reductions, mine life and production rates, grades, infrastructure, capital, operating and sustaining costs, the future price of aggregate, flagstone, gold, potential mineralization and metal or mineral recoveries, estimates of mineral resources and the realization of such mineral resources, information pertaining to potential improvements to financial and operating performance and mine life at Canyon Gold & Gravel Inc. (as defined herein) that may result from expansion projects or other initiatives, maintenance and renewal of permits or mineral tenure, estimates of mine closure obligations and information with respect to Canyon Gold & Gravel's (as defined herein) strategy, plans or future financial or operating performance. Forward-looking statements are characterized by words such as "anticipate", "believe", "budget", "estimate", "expect", "intend", "plan", "project", "target" and other similar words, or statements that certain events or conditions "may" or "will" occur, including the negative connotations of such terms. Forward-looking statements are statements that are not historical facts and are based on the opinions, assumptions and estimates of experts considered to be reasonable at the date the statements are made, and are inherently subject to a variety of risks and uncertainties and other known and unknown factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. These factors include, but are not limited to: the impact of general domestic and foreign business, economic and political conditions, global liquidity and credit availability on the timing of cash flows and the values of assets and liabilities based on projected future conditions, fluctuating metal and commodity prices (such as gold, silver, diesel fuel, natural gas and electricity), currency exchange rates (such as the Canadian dollar versus the United States dollar), changes in interest rates, possible variations in ore grade or recovery rates, the speculative nature of mineral exploration and development, changes in mineral production performance, exploitation and exploration successes, diminishing quantities or grades of mineral reserves, increased costs, delays, suspensions, and technical challenges associated with the construction of capital projects, operating or technical difficulties in connection with mining or development activities, including disruptions in the maintenance or provision of required infrastructure and information technology systems, damage to Canyon Gold & Gravel's reputation due to the actual or perceived occurrence of any number of events, including negative publicity with respect to the handling of environmental matters or dealings with community groups, First Nations groups or others, whether true or not, risk of loss due to acts of war, terrorism, sabotage and civil disturbances, risks associated with infectious diseases, including COVID-19, risks associated with nature and climatic conditions, the impact of inflation, fluctuations

in the currency markets, changes in national and local government legislation, taxation, controls or regulations and/or changes in the administration of laws, policies and practices, expropriation or nationalization of property and political or economic developments; failure to comply with environmental and health and safety laws and regulations, timing of receipt of, or failure to comply with, necessary permits and approvals; changes in project parameters as plans continue to be refined, changes in project development, construction, production and commissioning time frames, contests over title to properties or over access to water, power, and other required infrastructure, increased costs and physical risks including extreme weather events and resource shortages related to climate change; availability and increased costs associated with mining inputs and labor, the possibility of project cost overruns or unanticipated costs and expenses, potential impairment charges, higher prices for fuel, steel, power, labor, and other consumables contributing to higher costs, unexpected changes in mine life, final pricing for concentrate sales unanticipated results of future studies, seasonality and unanticipated weather changes, costs and timing of the development of new deposits, success of exploration activities, unanticipated reclamation expenses, limitations on insurance coverage, timing and possible outcome of pending and outstanding litigation and labor disputes, risks related to the vulnerability of information systems and risks related to global financial conditions. In addition, there are risks and hazards associated with the business of mineral exploration, development and mining, including environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins, flooding, failure of plant, equipment, or processes to operate as anticipated (and the risk of inadequate insurance, or inability to obtain insurance, to cover these risks), as well as those risk factors discussed or referred to herein and in the issuer's Annual Information Form filed with the securities regulatory authorities in all of the provinces and territories of Canada and available under the issuer's profiles at [www.sedar.com](http://www.sedar.com), and the issuer's Annual Reports on Form 40-F filed with the United States Securities and Exchange Commission at [www.edgar.com](http://www.edgar.com). Although Canyon Gold & Gravel has attempted to identify important factors that could cause actual actions, events, or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events, or results not to be anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Canyon Gold & Gravel undertakes no obligation to update forward-looking statements if circumstances or management's estimates, assumptions, or opinions should change, except as required by applicable law. The reader is cautioned not to place undue reliance on forward-looking statements. The forward-looking information contained herein is presented for the purpose of assisting readers in understanding Canyon Gold & Gravel Inc.'s expected financial and operational performance and results as at and for the periods ended on the dates presented herein and objectives and may not be appropriate for other purposes.



## Cautionary Note to United States Investors Concerning Estimates of Mineral Reserves and Mineral Resources

The mineral reserve and mineral resource estimates contained in this report have been prepared in accordance with the Canadian securities administrators' (the "CSA") National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"). These standards are similar to those used by the United States Securities and Exchange Commission's (the "SEC") Industry Guide No. 7, as interpreted by Staff at the SEC ("Guide 7"). However, the definitions in NI 43-101 differ in certain respects from those under Guide 7. Accordingly, mineral reserve and mineral resource information contained in this report may not be comparable to similar information disclosed by United States companies. Under Guide 7, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. For United States reporting purposes, the SEC has adopted amendments to its disclosure rules (the "SEC Modernization Rules") to modernize the mining property disclosure requirements for issuers whose securities are registered with the SEC under the United States Securities Exchange Act of 1934, as amended (the "Exchange Act"), which became effective February 25, 2019. The SEC Modernization Rules more closely align the SEC's disclosure requirements and policies for mining properties with current industry and global regulatory practices and standards, including NI 43-101, and replace the historical property disclosure requirements for mining registrants that were included in Guide 7. Issuers must begin to comply with the SEC Modernization Rules in their first fiscal year beginning on or after January 1, 2021, though Canadian issuers that report in the United States using the Multijurisdictional Disclosure System ("MJDS") may still use NI 43-101 rather than the SEC Modernization Rules when using the SEC's MJDS registration statement and annual report forms.

As a result of the adoption of the SEC Modernization Rules, the SEC now recognizes estimates of "measured mineral resources", "indicated mineral resources" and "inferred mineral resources." In addition, the SEC has amended the definitions of "proven mineral reserves" and "probable mineral reserves" in the SEC Modernization Rules, with definitions that are substantially similar to those used in NI 43-101. United States investors are cautioned that while the SEC now recognizes "measured mineral resources", "indicated mineral resources" and "inferred mineral resources", investors should not assume that any part or all of the mineral deposits in these categories will ever be converted into a higher category of mineral resources or into mineral reserves. These terms have a great amount of uncertainty as to their economic and legal feasibility. Under Canadian regulations, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies, except in limited circumstances. Investors are cautioned not to assume that any "measured mineral resources", "indicated mineral resources", or "inferred mineral resources" that the Company reports in this report are or will be economically or legally mineable. Further, "inferred mineral resources" have a great amount of uncertainty as to their existence and as to their economic and legal feasibility. It cannot be assumed that any part or all of an inferred mineral resource will ever be upgraded to a higher category.

The mineral reserve and mineral resource data set out in this report are estimates, and no assurance can be given that the anticipated tonnages and grades will be achieved or that the indicated level of recovery will be realized.

## Note Regarding the Scope of this Technical Report

The scope of this Technical Report includes three mineral resources. Two of these, an industrial mineral resource of aggregate and a mineral resource of placer gold are located on the same site (Union Bar near Hope, BC) so this property includes claims that are contiguous so that underlying deposits would likely be developed using common infrastructure. This situation satisfies the criteria of NI 43-101 Companion Policy §1.1(6) and thus this Technical Report describes both mineral resources at this site.

This Technical Report also describes a mineral resource for flagstone (ornamental rock) located near Quesnel, BC. This property is distant from the one at Hope, BC. The Quesnel flagstone project is in the early stage of development. It is also described in this Technical Report because a portion of the funds raised by Canyon Gold & Gravel Inc. in an equity market issue will be allocated towards the development of the flagstone property. However the amount of current information on the flagstone project is not considered sufficient to support a separate Technical Report at this time.

Thus this Technical Report includes all the projects currently being pursued by Canyon Gold and Gravel Inc.

To the extent feasible each mineral resource is discussed separately in this Technical Report for each of the prescribed topic categories required by Form 43-101F1.

## 1.0 Summary

Canyon Gold & Gravel Inc., a private British Columbia corporation, plans to have its shares listed for trading on the Canadian Securities Exchange. This Technical Report has been prepared to provide documentation required to support that application for listing.

### 1.1 Property Descriptions and Ownership

The properties are (1) the Union Bar deposit near Hope, BC that will be developed for production of aggregate and placer gold, and (2) the Rock Pit Flagstone deposit near Quesnel, BC that will be developed for production of flagstone for ornamental and architectural uses.

### 1.2 Union Bar – Aggregate Property

Union Bar is an alluvial gravel bar situated on the west side of the Fraser River about 3 Km north of the Town of Hope, BC and about 120 Km east of Vancouver. Hope is located at the place where the Fraser River leaves the Cascade Mountains and flows into the lowland of the Fraser Valley. It is a major transportation junction where the Trans-Canada highway trifurcates into 3 major highways leading to the Interior of BC and Alberta. The Vancouver/Fraser Valley metropolitan region offers a large market for aggregate, and the maintenance of the Interior highways is another potential market opportunity. Aggregate may also be required for the Trans-Mountain pipeline, which is currently under construction.

Canyon Gold & Gravel Inc. owns District Lot 57 in fee simple tenure. DL 57 includes most of Union Bar except an area at its northern end, which the author understands is Crown Land. CGG states that it has access to the aggregate resource on Union Bar by virtue of its fee simple tenure.

Both the Canadian Pacific Railway and the Canadian National Railway main lines pass near the Town of Hope. Although the Canadian Pacific main line is adjacent to Union Bar, the project will use the highway system for logistics.

The Union Bar deposit can be accessed from the Trans-Canada highway (Highway 1), which lies about 850 meters to the west of Union Bar. However, the current access road to Union Bar is narrow, steep and has an unimproved railroad crossing. A new heavy-duty access road with a bridged railroad crossing is required for commercial access to the site. Canyon Gold & Gravel has started construction of the new access road.

The volume and mass of aggregate at Union Bar have been approximately estimated as 3.85 million cubic meters, and 10.01 million metric tons, respectively, using a density factor of 2.6 MT per cubic meter. These estimates were derived by measuring the plan area of the Union Bar that is owned by CGG (about 46.68 Ha) multiplied by the depth to the average annual minimum water surface level of the Fraser River at the site (about

14.1 meters below ground surface (bgs)) assuming that the composition of the gravel in Union Bar is uniform.

CGG drilled seven test holes on the Union Bar in 2022 to depths ranging from 12.2 to 24.4 meters bgs (40 to 80 feet bgs), and confirmed that the gravel deposit extended beyond the proposed excavation depth of 14.1 meters bgs.

Also, CCG collected 16 samples of aggregate in 2022. A single composite sample of the 28 mm minus material was tested for size gradation at Metro Testing & Engineering Ltd., a commercial testing facility. 52% of the mass of the composite sample did not pass a 28 mm sieve, and would require crushing. 48% of the gravel mass did pass a 28 mm sieve and could be sold after washing and further sieving. Only five percent was finer than 5 mm in diameter, indicating that most of Union Bar is gravel, with sand being a minor component.

Metro also tested subsamples from the single composite sample for both CSA concrete standards and BC Ministry of Transportation and Infrastructure requirements for highway projects. The Union Bar aggregate sample passed all tests. The assigned petrographic number (PN) would preclude use of the aggregate for concrete in some freeze/thaw applications. No results of an alkali-aggregate reaction test were reported by Metro.

The aggregate test results were based upon a single composite sample, which is insufficient to characterize the deposit with confidence. Additional sampling and testing are required.

CGG will require several permits from the provincial and local governments to operate an aggregate (and placer gold) mine at Union Bar. CGG has applied for these permits but none has been received at the time of writing of this Technical Report.

The author recommends further sampling and testing of the aggregate resource to improve its delineation and properties. He also recommends effort towards obtaining required permits as soon as possible, performing a survey of the property for mine planning purposes, measuring river surface and groundwater levels, removing a lien from the DL 57 land tenure, and investigating market opportunities.

### 1.3 Union Bar – Lucky Thirteen Placer Gold Property

The alluvial deposits of the Fraser River have been explored and mined for placer gold since the Fraser River Gold Rush of 1858 to the mid-1860s. Union Bar has been prospected and mined on a small-scale sporadically since that time, but no sustained mining operation has occurred on it.

The “Lucky Thirteen” placer claim, which extends over the plan area of Union Bar owned by CGG, is now a placer lease (Mineral Title # 1079872) owned by CGG until 2033. The placer lease is larger than the aggregate deposit and is contiguous with the entire aggregate deposit.

In 2020, a CGG consultant collected gravel and sand samples from 16 test pits located over most of the plan area of the part of Union Bar owned by CGG at a depth of 1.5 to 1.8 meters below ground surface (essentially the top of the gravel unit and below the surficial silt and soil unit). Samples from the test pits were transported to Sepro Laboratories (accredited) to be assayed for gold content and tested for efficacy of recovery by floatation. The sample collection and transportation were informal, and sample security was not strict; however, the samples seem to have been in the custody of a professional geoscientist at all times.

Sepro performed flame assay tests of the sixteen samples (diameters ranged from 850  $\mu\text{m}$  to 38  $\mu\text{m}$ ) and reported a mean head concentration of Au of 17.68 ppm (corresponding to grams per metric ton), with a range of 48.93 ppm. Gold was detected in every sample, indicating that it is nonuniformly present throughout the gravel bar deposit at the depth range sampled.

Sepro made a composite sample of material from all sixteen test pits and performed a bench-scale floatation test on it to determine if floatation might be a practical processing method at the site. Sepro found that only particles finer than 300  $\mu\text{m}$  (0.3 mm) would respond to the method, so the fraction of the single sample exceeding 300  $\mu\text{m}$  was sieved out and the remainder was tested. Sepro found that the sample responded positively to the floatation process. The calculated head concentration was 18.0 grams per metric ton, and 92.7% of the overall Au was recovered into 5% of the input concentrate mass with a concentrate grade of 3319.7 grams of gold per metric ton of sample mass. A higher recovery was obtained with additional passes through the floatation process, but at much lower efficiency of Au extraction.

It is noted that the floatation process experiment was performed on a single composite sample at a bench scale.

On the basis of the foregoing results, CGG proposes to mine for placer gold by processing the fine fraction resulting from the aggregate processing (which is a waste stream for the aggregate operation) for particles of placer gold by a floatation process. The upstream extraction and processing costs that would be borne by the aggregate operation should reduce the operating costs of the placer gold extraction. The two projects are synergistic.

CGG proposes to engage Sepro and other specialists as necessary, to develop a larger scale floatation processing system at the Union Bar site

Placer gold extraction efficiency can be improved by better defining the deposit by performing more tests to provide better definition of particle concentration with depth and with sample size.

A preliminary estimate of the mass of the *in situ* placer gold resource at Union Bar is calculated as 0.184 g/MT times 10 million MT of pit run aggregate = 1.84 MT (or 1.84 million grams or about 59,150 troy oz.) This estimate is based upon a single composite sample and should not be relied upon.

The author recommends further sampling and testing, particularly with depth to improve the delineation of the resource. A prototype field-scale floatation system will also have to be developed. A system to track the processing, storage, and sale of gold must be set up.

The 2022 CGG sampling and testing program indicated that placer gold is present at the Union Bar site, but at a fairly low concentration on average. The main risk with the gold portion of the Union Bar project is whether it can be recovered profitably. CGG's plan is to reduce processing costs by using a waste stream of fines from the aggregate production and obtaining placer gold separation from it by an automated floatation process. CGG's approach does not rely on finding a local zone with a higher concentration of placer gold.

#### 1.4 Resource Classification

The author classifies both the aggregate and placer gold resources at Union Bar as "inferred mineral resources" per NI 43-101 guidelines and CIM definitions (2014; see Section 27, References).

NI 43-101 precludes disclosure of financial and economic analyses for projects classified as "inferred mineral resources". Estimates of resource volumes, mass, and grades should be considered to be approximate and should not be relied upon.

#### 1.5 The Rock Pit Flagstone Project

The Rock Pit Flagstone project is located about 37 Km southwest of Quesnel, in the central Interior region of BC. It consists of three adjacent mineral tenures in a remote area on Crown Land. It can be accessed by public and forest service roads, but the access road to the site had deteriorated. It was being upgraded by CGG in 2022 at the time of the author's Current Personal Inspection of the Rock Pit property.

The property hosts a near-surface deposit of vertically-cleaved porphyritic trachy-latite that can be fractured into large (up to about 1 square meter) flat sheets. The sheets of rock can be used for patio stone, walkways and so forth, or sawed for architectural applications. These are niche markets.

CGG has acquired mineral titles to the site, consisting of three mineral claims. Currently, these mineral titles expire in 2033.

CGG improved the condition of the site access road in 2022. CGG also reported that it performed test mining in 2022 that involved extracting plates of latite from the bedrock, loading them into pallets, placing the pallets on a flatbed truck, transporting them to the Cranbrook, BC area, and selling them there. The author did not participate in or observe the reported test mining.

CGG proposes to advance the development of the Rock Pit site by a geologic survey after snowmelt in 2023 to delineate the extent of the resource, and to further investigate the market for the product. The author supports this development plan.

The author classifies the Rock Pit Flagstone deposit as an “inferred industrial mineral resource” until its extent is delineated and its market value is better known.

## 2.0 Introduction

### 2.1 Description of the Issuer<sup>1</sup>

This Technical Report was prepared for Canyon Gold & Gravel Inc. (CGG). The company was incorporated in British Columbia on January 15, 2001 as a private company for the purpose of developing the aggregate and placer gold resources of the Union Bar. The Union Bar is a lateral gravel bar on the western side of the Fraser River about 3 Km upstream (north) of Hope, BC.

CGG may be described as a small-cap enterprise with two founding shareholders:

#### ***Peter Osha – Chairman & President***

*Peter has owned, managed and operated all aspects of construction operations including: mining, placer gold, gravel, road building and timber harvesting. With over 30 years' experience in these fields, Peter will run and manage all phases of the company's day to day site operations.*

#### ***Brian L. Hauff, BA Hon. Econ., LLB. – Managing Director & CEO***

*Brian has over 30 years' experience in public and private markets, real estate investment and development, as well as finance. His responsibilities are management oversight, audit and legal compliance for the public listing and financing.*<sup>2</sup>

CGG is headquartered in West Vancouver, BC, and owns the Union Bar project site near Hope, BC in fee simple tenure, and also has Mineral Placer Lease 1079182 for the same site. CGG is also developing a flagstone deposit about 37 Km southeast of Quesnel in the BC interior. To date, CGG has been financed by transfers of equity owned by the founding shareholders and from two private equity stock offerings, one of which has sold out and the other is currently being marketed.

### 2.2 Terms of Reference

CGG has engaged S. Graham Engineering and Geology Inc. (SGE) (EGBC Permit to Practice No. 1001479) of Delta, BC to prepare a Technical Report that conforms to the requirements of NI 43-101. The trigger for the Technical Report is the intention of CGG to make a public offering of securities in CGG in Canada.

The scope of this Technical Report includes 3 mineral resources: (1) the aggregate deposit at Union Bar, (2) the placer gold deposit at Union Bar, and (3) the flagstone deposit near Quesnel, BC.

CGG also proposes to fill the excavation created by aggregate mining at Union Bar with clean soil from construction projects in the Lower Mainland. This is not considered to be

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<sup>1</sup> Corporate information was supplied by CGG and BC Registry Services.

<sup>2</sup> Mr. Hauff is listed as a Director, but not an Officer, of CGG on the BC Company Summary.



a mining project, and it is not included in this Technical Report except insofar as it is intended to be a component of the site remediation process.

## 2.3 Sources of Information and Data

### 2.3.1 Union Bar near Hope, BC

The author has not participated in site exploration or development work at Union Bar. The site information has been obtained from published public geological reports, several historical reports, and previous engineering reports. These are referred to in the text of this Technical Report and in the list of references (Section 27).

The author notes that most of the historical reports on mining activity at the site were not prepared to professional standards and are not relied upon, except where explicitly noted in this report.

Peter Osha (owner of Triple "O" Contracting, Box 125, Cranbrook BC, V1C 4H7), currently the principal stockholder in CGG, worked on the Union Bar site as contractor to then developer Siga Resources Inc. of Carson City, NV (now defunct) in 2011-2012; and has been working on site development and permitting for CGG since 2021. Mr. Osha has provided his project files to the author, and the author has generally relied on the data in these files, particularly where an independent firm or lab has been used to analyze those sample data. While Mr. Osha is not independent of CGG, the author considers him to be knowledgeable about the site and experienced in both aggregate production and placer gold mining.

The author obtained some factual information relating to site location and dimensions that was presented in a previous Technical Report on the Union Bar property by J. T. Shearer, P.Geo. (2022, see Section 27), but this information was checked using mapping services on the internet. The author's interpretations and conclusions are based on a review of the original factual information and a site inspection. Otherwise, the author has not relied on the Shearer report (2022).<sup>3</sup>

The author is generally familiar with the site area as he resides in Metro Vancouver. The author visited the site on July 14, 2022 with Messrs. Osha, Hauff and John Ostler, M.Sc., P.Geo. (Mr. Ostler stated that he is a shareholder in CGG, and thus it is not appropriate for him to be the qualified person for this Technical Report.)

### 2.3.2 Rock Pit Flagstone Project near Quesnel, BC

For this project, the author relied upon published information on the regional geology and a site visit on September 14, 2022. The author prepared a report for CGG (see reference Graham (2022) in Section 27 of this report) that summarized the available information and provided recommendations.

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<sup>3</sup> Further information on reliance is presented in §3 of this report.

### 2.3.3 Citations

The general procedure in this report is to refer to citations and other information sources in the text, and list them in footnotes and/or in the References section of this report (Section 27).

## 2.4 Site Inspections

### 2.4.1 Union Bar near Hope, BC

The author visited the Union Bar site on July 14, 2022 with Messers. Peter Osha, Brian Hauff and John Ostler, M.Sc., P.Geo. of CGG. The author drove to Hope and met with the CGG personnel. We then proceeded to the site by an SUV. The cutoff to the site access road is about 5.3 Km north of Hope along Highway 1. We drove down to Union Bar on the existing access road, and inspected the cleared area on the southern part of the Union Bar on foot. At the time, a new access road was being constructed by excavators and graders. We inspected the existing 2011 placer production pits that are now ponds, and a single dry excavation pit near the center of the bar. All the excavations had exposed gravel at depth that was overlain by a unit of alluvial soil. The site was treed with second growth forest where it had not been cleared.

We remained on the site for about 2 ½ hours, then returned to Hope for a debrief discussion, after which the author drove back to Delta, BC.

The site visit confirmed that the gravel bar was composed primarily of gravel with some sand, as expected. The gravel was generally rounded, as is typical in alluvial deposits, and well-graded. The rocks had heterogeneous petrology (that is, the gravel was comprised of different kinds of rocks), but they were generally of igneous or metamorphic origin. This type of rock is typically fairly hard. The depth of the surficial soil unit varied from minimal at the river boundary to about 12 feet (4 meters; the depth was estimated in feet) in the excavation near the center of the site.

It was noted that the existing access road from Highway 1 to Union Bar is steep and winding. The Canadian Pacific RR crossing is unimproved. This is a main CPR line. The access road is not suitable or adequate for the proposed aggregate mine. According to the CGG hosts, CGG is in the process of constructing a new access road that includes a bridge over the RR tracks. The author was shown a drawing of the alignment for the new road, and it was observed to be under construction at the time of the site visit.

At the time of the site visit the weather was good. It did not adversely affect the site visit or site access.

The author considers that his site visit of Union Bar on July 14, 2022 constituted a Current Personal Inspection of the Union Bar aggregate and Lucky Thirteen placer gold properties as defined in National Instrument 43-101.

#### 2.4.2 Rock Pit Flagstone Project near Quesnel, BC

The author visited the Rock Pit Flagstone site on September 14, 2022. The author flew from Vancouver to Quesnel with Mr. Hauff of CGG on the morning of Sept. 14. They were met at the Quesnel airport by Mr. Osha and Anna Osha, and proceeded to the site (about 37 Km away) by the proposed vehicle access route. The party met with an excavator operator who was working on improvement of the access road near the entrance to the site, then proceeded on the existing rough access road to a large outcrop (about 20 m by 30 m) that had been created by a previous developer with explosives. The party (including the author) spent about 2 hours at the outcrop and its immediate vicinity. Samples of the bedrock were collected by the author, and measurements and photos were taken.

The site was forested and there was minimal bedrock exposure. Most of the site was not accessible by a 4-wheel drive pickup. The road was passable only to the first of two known large outcrops.

The party then returned to Quesnel for the evening stopping en route to observe a large patio at a farm market that had been constructed at few years ago of flagstone from the site. (See a photo as Figure 21xx in §6.2.3 of this report).

A debrief meeting lasting about 1 ½ hours was held at breakfast the following day in Quesnel before the party disbursed. The author and Mr. Hauff returned to Vancouver by air

The author concluded that the rock at the outcrop that he had inspected appeared suitable for the proposed purpose, as it had significant vertical cleavage. He noted that pieces of rock that the excavator had ripped near the entrance to the site appeared to be similar in appearance to those at the outcrop, and were tabular in shape. However he could not see the bedrock structure there. The author noted that the rock at the outcrop appeared to be a fine-grained extrusive volcanic rock, but the mineral crystals were too small to make a determination of the petrology with a hand lens. The author took samples back to Delta, and submitted a typical one to Vancouver Petrographics Limited (VP) of Langley, BC) for a microscopic determination<sup>4</sup>. The rock was described by VP as a porphyritic trachy-latite, which is consistent with the field assessment.

The weather at the site was good. It did not adversely affect the site visit or site access.

The author considers that his site visit of the Rock Pit property on Union Bar on September 14, 2022 constituted a Current Personal Inspection of the Rock Pit Flagstone property as defined in National Instrument 43-101.

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<sup>4</sup> John Payne, Ph.D., P.Geol., *Report 220433 for Steve Graham*, prepared by Vancouver Petrographics Ltd., Langley BC for S. Graham Engineering and Geology Inc., October 2022. 8 pp.

## 3.0 Reliance on Other Experts

The author has relied on descriptions of regional geology for both the Union Bar and Rock Pit Flagstone sites from published government reports and academic journals. These references are listed in Section 27 of this report and noted with an asterisk (\*). They are reviewed primarily in §7.0 – Geologic Setting and Mineralization,

### 3.1 Union Bar near Hope BC

The author has relied on information provided by the Issuer and a subsidiary entity regarding title and subsurface rights at Union Bar. This information was provided by Mr. Hauff, who is a retired lawyer and Director of CGG, and corroborated by from Mr. Mark Messmer, Chief Gold Commissioner and Executive Director, Mineral Titles Branch, BC Ministry of Energy, Mines and Low Carbon Innovation. This information is presented in §4 – Property Description and Location, §4.1.3.

The author has relied on information provided by the Issuer relating to a field exploration program performed on the site in in April/May 2022, including sample locations, borehole locations and logs, and test pit locations and logs. The field exploration program was conducted by Triple O Contracting (Peter Osha) and HomeGold Resources Ltd. (J. Shearer, M.Sc., P.Geo.) on behalf of CGG. The author did not participate in this Exploration program, nor does he have the resources to repeat it. The author did observe some test pit locations on a site visit, but no samples were retained. This information is presented in §9 (Exploration) and §10 (Drilling) of this report, and the drilling results regarding the depth of the aggregate deposit, have been used in the author's calculation of the Mineral Resource Estimates (§14).

The author has relied on information provided by the following testing laboratories that appear in the project files provided to the author by Canyon Gold & Gravel Inc.:

Metro Testing and Engineering Ltd., *Summary Report, Aggregate Testing Program (2022), C-G Hope Pit, B.C.*, prepared for Mr. Peter Osha, Canyon Gold & Gravel, June 03, 2022. Project No. VE40608 (Rev.00). [See Appendix 2].

Sepro Laboratories. Data transmissions and emails. [See Appendix 3].

Information from reports by these laboratories is presented in §11 (Sample Preparation, Analyses and Security) and §13 (Mineral Processing and Metallurgical Testing), §14 (Mineral Resource Estimates), §16 (Mining Methods), and §17 (Recovery Methods).

## Consultants

The author has relied on consulting reports and the persons who prepared them that are considered by the author to be nonqualified other persons per the definition in NI 43-101. The author disclaims responsibility for this reliance per §§ 3a of Form 43-101F1. These topics are discussed in §20 (Environmental Studies, Permitting, and Social and Community Impact). The report references are included in §27 (References) of this report.

These reports relate to topics of ecological environmental assessment, agricultural quality, and archeology, as described below.

## Archeology

The professional society for archeologists in BC is the BC Association of Professional Archaeologists. According to the BCAPA web site both Antiquus and Pathways are approved BCAPA consulting firms.

The author takes note of the report:

Pathways Archeological Consulting Ltd., *"Preliminary Field Reconnaissance, Non-Permit Summary Report, Draft V1"*, prepared by Pathways Archeological Consulting Ltd. (Dan Heinrichs B.A.)<sup>5</sup> BC for Canyon Gold & Gravel Inc., West Vancouver, BC, 7/12/2022, 6/29/2022, 9 pp. + 2 Appendices

The Pathways report was prepared by Mr. Heinrichs, B.A., who is an Associate Member of the BCAPA. The Pathways report is clearly marked as a draft, so the author has taken note of it but does not rely upon it.

The author relies on the report:

Antiquus Archeological Consultants Ltd., *Results of an Archaeological Overview, Assessment conducted for Proposed Placer Mining and Reclamation Impact Zones at the Lucky Thirteen Mine Near Hope, B.C.: A Non-Permit Report*, prepared by Antiquus Archeological Consultants Ltd., Maple Ridge, B.C., August 14, 2017.

The Antiquus report was prepared by Mr. Geoff Homel, B.A., who is a senior employee of Antiquus (according to its website), and was reviewed by Mr. Mike Rousseau M.A., who is a Professional Member of the BCAPA.

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<sup>5</sup> No address given in the report, but its web site states that it is located in Kimberley, BC. Kimberley is not close to the project site.

### Environmental Assessment

The author relies on the report:

Nova Pacific Environmental, “Environmental Assessment for the Lucky Thirteen Project”, prepared by Nova Pacific Environmental of Vancouver BC for Canyon Gold and Gravel, West Vancouver, BC, May 5, 2002, 39 pp.

This report was prepared by Rob Akester, B.Sc., R.P.Bio.

### Agricultural Capability

The author relies on the report:

Nova Pacific Environmental, “Agricultural Capability and Suitability Assessment for Union Bar”, prepared by Nova Pacific Environmental of Vancouver BC for Canyon Gold and Gravel, West Vancouver, BC, June 29, 2022, 25 pp.

This report was prepared by Rob Akester, B.Sc., R.P.Bio. The author notes that Mr. Akester is not a member of the BC Institute of Agrologists (P.Ag.). This report was reviewed by Michael Richard, B.Sc. and Zachary Fleming, P.Ag.Sc., P.Ag.

### Public Data Sources

The author has relied on some information from the following public sources:

Water level data from the Water Survey of Canada. These data are presented in Appendix 1 and are used in §14 (Mineral Resource Estimates).

Climate data from Environment Canada. Temperature and precipitation data for the Chilliwack station are presented §5.1.4.

BC Registry Services – Land Title Office, regarding CGG’s title to DL 57 at Union Bar. These data are used in §4 (Property Description and Location)

BC Registry Services – Corporate Registry Service, regarding status of Canyon Gold & Gravel Inc. and American Hill Resources Ltd. This information is used in §4.1.3 to describe CGG’s ownership of the mineral tenure for aggregate due to its fee simple ownership of DL 57 (the Union Bar site).

BC Ministry of Energy, Mines and Low Carbon Innovation - Mineral Title Office, regarding status of Mineral Titles at the Union Bar and Rock Pit Flagstone sites. This information is presented in §4 (Property Description and Location).

### 3.2 Rock Pit Flagstone Project near Quesnel, BC

Peter Osha, a CGG shareholder and the site contractor, provided information on the history of local use of the Rock Pit Flagstone site, which is used in §6 (History), and proposed method of mining and transporting the flagstone, which is used in §16 (Mining Methods). This information was corroborated, in part, during a site inspection and by photos provided by Mr. Osha (see Figure 11 in §6.2.3).

The author has relied on some information from the following public sources:

Climate data from Environment Canada. Temperature and precipitation data for the Quesnel station are presented in §5.1.4.

BC Ministry of Energy, Mines and Low Carbon Innovation - Mineral Title Office, regarding status of Mineral Titles at the Union Bar and Rock Pit Flagstone sites. This information is presented in §4 (Property Description and Location).

## 4.0 Property Description and Location

### 4.1 Union Bar near Hope, BC

#### 4.1.1 Location and Area

The site is located on the west side of the Fraser River about 3 Km north of the center of the town of Hope BC. Hope is located about 120 Km east of Vancouver on Highway 1 (the Trans-Canada Highway). See location maps as Figures 1, 2 and 3 on the following pages.

The project site itself is the Union Bar, which is also shown circled in Figures 2 and 3. The lengths of the longest axes of the Union Bar are about 1.28 Km long, and 0.74 Km wide. Union Bar has an area of about 55.7 Hectares (138 acres) [from measurement by the author on Google Earth Pro].

CGG proposes to mine the property for both aggregates and placer gold. The geographically-available extents for these two activities differ.

The area that can be used for aggregate extraction is District Lot 57, which is a fee simple property owned by CGG. The extent of DL 57 is shown in black in Figure 4.

A summary of the legal information on the property at the site that the author has received is placed in Table 1 below:

Table 1<sup>6</sup>

Site Property Information

Type	Name	Area (Ha)	Owner	Good to Date
MT - PL 1079782	Lucky Thirteen	168.16	CGG	11/27/2023 Fee Required
Private Land	Lot DL 57 PID 014-776-880	59 Ha	CGG	Fee Simple Taxes

4.1.2 Site Location by Lat/Long and UTM<sup>7</sup>

The coordinates of a central point on the Union Bar site, as shown in Figure 5, are:

Lat	49°	24'	25.596"	N
Long	121°	25'	38.086"	W
UTM	10U	E	6140092	N 5473903

4.1.3 Type of Mineral Tenure

There are two projects on the site: (1) an aggregate mine, and (2) a placer gold mine. There is a separate mineral tenure for each.

§4.1.3 continues after §4.1.4, below.

<sup>6</sup>Information supplied by CGG and Ministry of Mines title documents.

<sup>7</sup>The source of this information is Google Earth Pro



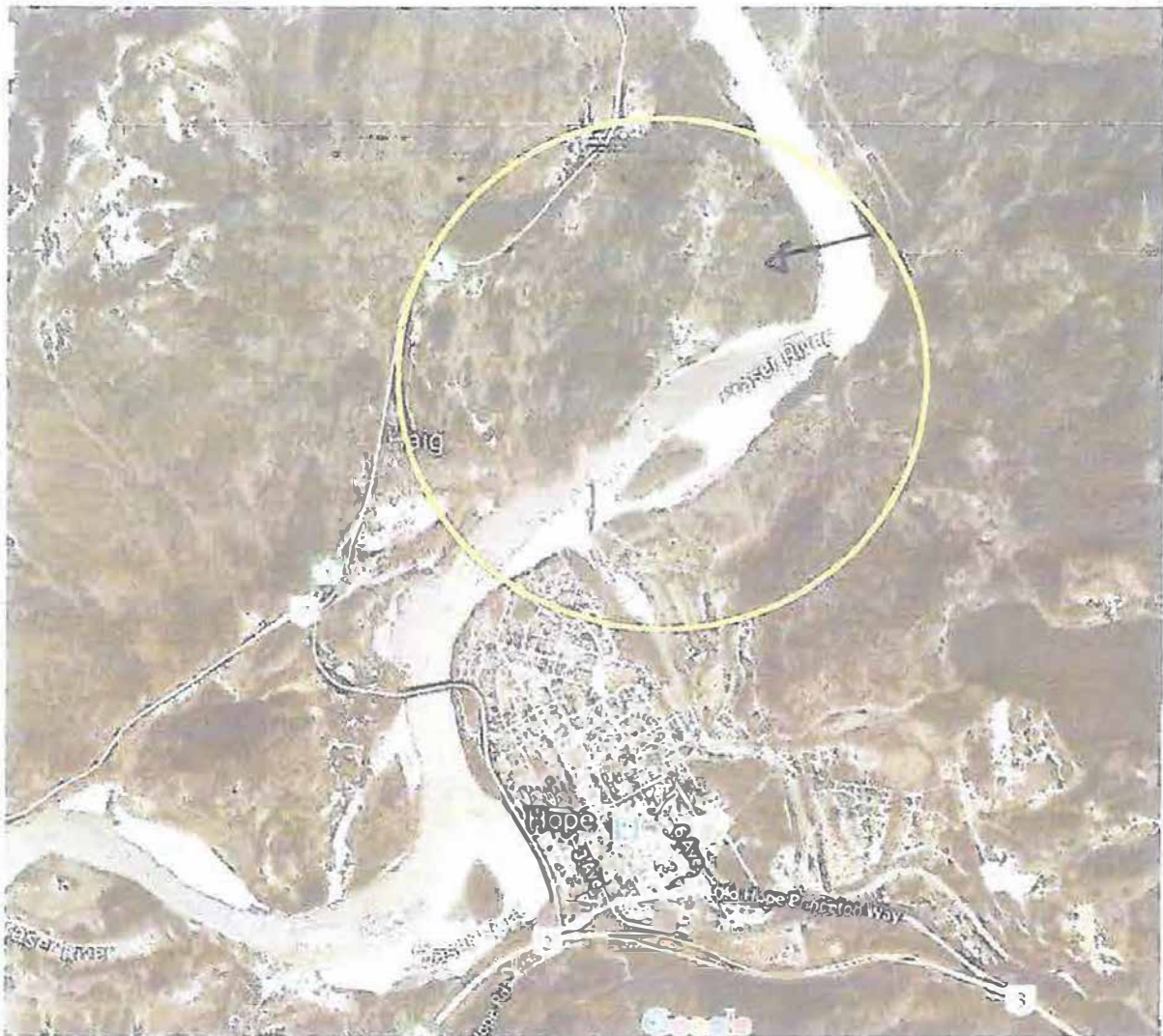
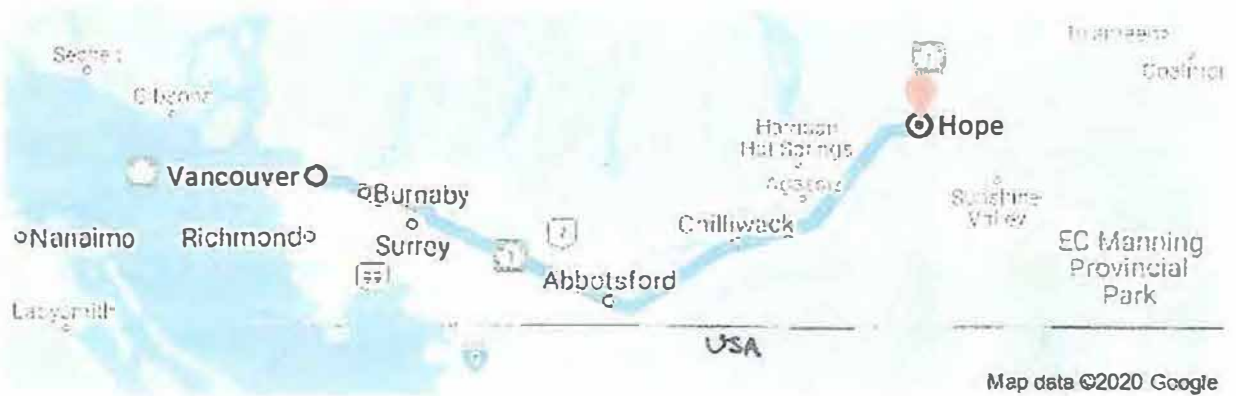


Figure 1 Google Image of the 168ha gravel bar and Hope, BC

55

Figure 2 Location Map - Vancouver to Hope



### Figure 3 S Location

Union Bar (Circled) is about 3 Km north of the center of the town of Hope BC

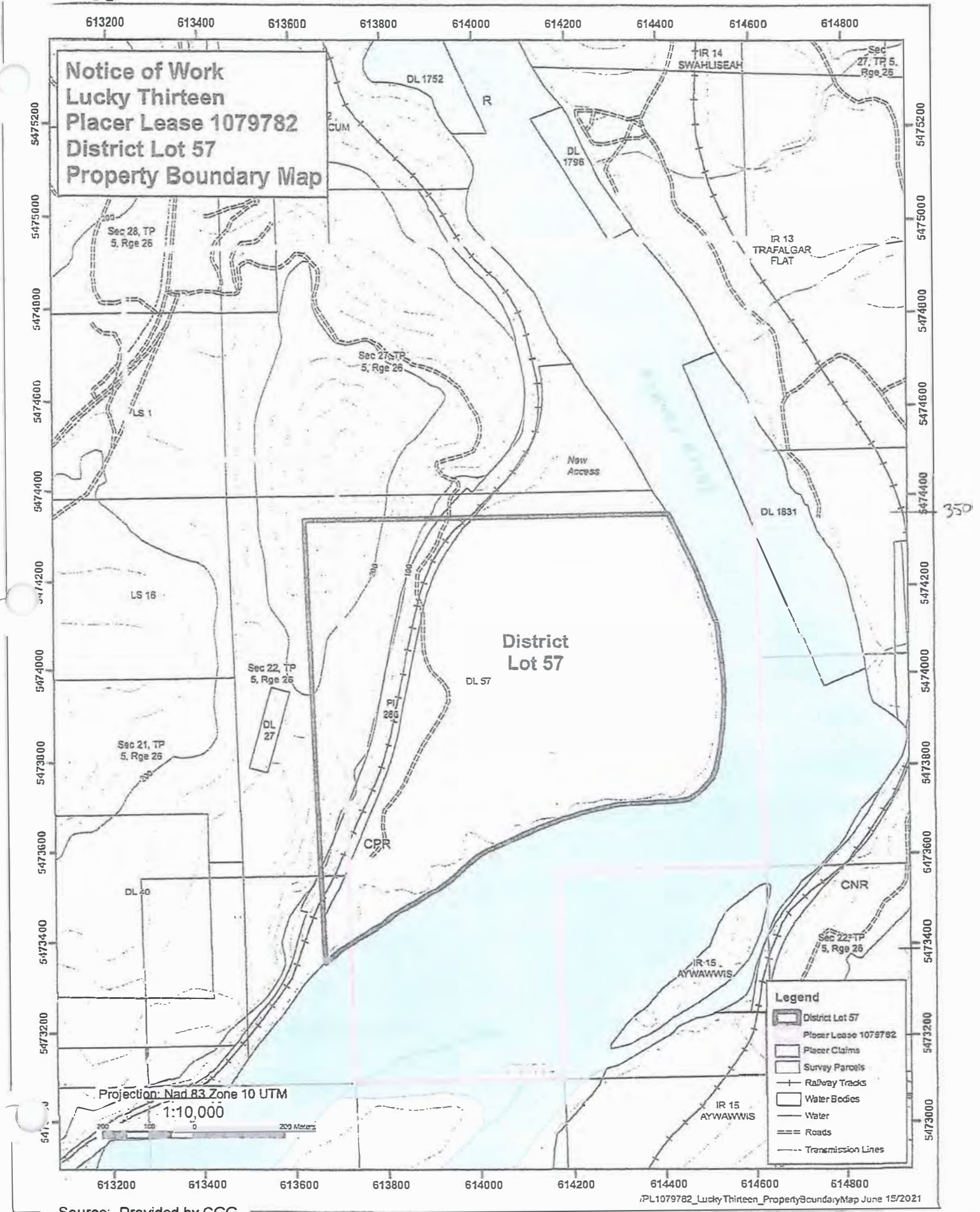
Legend  
↑ Hope  
○ Union Bar



November 2, 2022

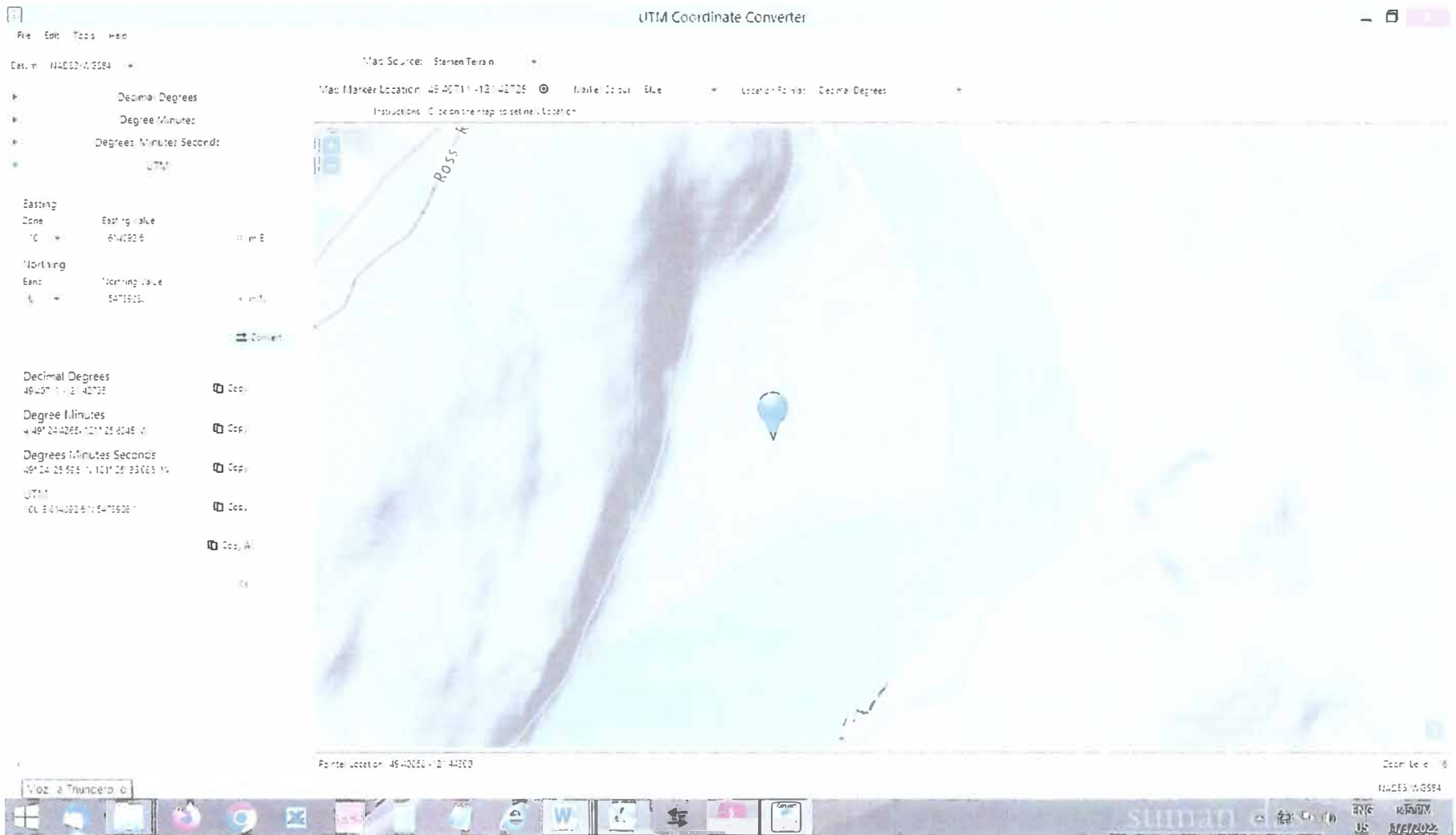
Technical Report Union Bar Project

Figure 4



Source: Provided by CGG

Figure 5 Site Location by Lat/Long and UTM



Technical Report on  
Union Bar

November 8, 2022

Source : Internet  
UTM Program

#### 4.1.4 Ownership

Land tenure derives from ownership for this site. CGG owns DL 57 in fee simple tenure. The PID for this property is 014-776-880.

CGG has a valid Mineral Title 1079782, a placer lease that is in good standing to 11/27/2023. This lease can be extended by renewal. This information was obtained from the Ministry's Mineral Title Online Viewer<sup>8</sup> on 11/16/2022.

According to the Ministry web site, the placer lease was sold to CGG by Peter Osha (100%) on 6/21/2021. Previously Mr. Osha had upgraded the mineral title from a placer claim (523082) to a placer lease (1079782).

#### 4.1.3 Continued

##### Aggregate

For aggregate, CGG owns District Lease 57 in fee simple. The fee simple land tenure should provide CGG the right to mine the aggregate. However, there is a lien on the land title that states: "All minerals precious and base (save gold and silver ore) which may be found in or under DL 57 YDYD<sup>9</sup> transferred to KP33781". (The reference to KP33781 is a typographic error, as this document is unrelated to the DL 57 property. The proper reference is likely to document KR33781 which refers to American Hill Resources Ltd.)

The author also retrieved the corporate summary for American Hill Resources Ltd. from the BC Registry. The company, incorporated in February 2001, is still active. Its Director is Brian Hauff. Mr. Hauff is also a Director of Canyon Gold & Gravel Inc.

According to the BC Company Summary, American Hill Aggregates Ltd. changed its name to Canyon Gold & Gravel Inc. on January 18, 2021. According to the Land Title Search, the title to DL 57 was transferred to CGG on Jan. 29, 2021. On April 18, 2001 CGG transferred undersurface mineral rights, except gold and silver, to American Hill Resources Ltd. The issue regarding the mineral ownership of aggregates is whether aggregates are considered to be surface rights or subsurface rights. An e-mail dated May 17, 2021 from Mr. Mark Messmer, Chief Gold Commissioner and Executive Director, Mineral Titles Branch, BC Ministry of Energy, Mines and Low Carbon Innovation, states that "*the surface rights include the right to sell sand, gravel, aggregate and any mineral substances used for a construction purpose on the surface area that you own*".<sup>10</sup>

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<sup>8</sup> <https://www.mtonline.gov.bc.ca/mtov/home.do>

<sup>9</sup> YDYD – Yale Division Yale District

<sup>10</sup> The terms "surface" and "undersurface" are not defined in either the BC Mines Act or the BC Mineral Tenures Act.

In his email of Feb. 8, 2023 Mr. Hauff stated that "*Canyon Gold & Gravel land title, was cleared of all liens, lawsuits and mortgages by Fasken Law, our now director Robert Millar at the time effected the name change from American Hill Resources to Canyon Gold & Gravel Inc.*" However according to the land office title obtained by the author on February 09, 2023 there is still a lien on the property that transfers undersurface mineral rights except gold and silver to American Hill Resources Ltd., but mortgages and pending litigation regarding subsurface rights have been canceled.

The author relies on the Issuer and subsidiary entity regarding the subsurface rights at Union Bar.

As shown in Table 1, there is no annual fee required to maintain the surface right to mine aggregate on DL 57. Annual property tax is payable; the author does not know the amount of property tax assessed in 2022.

#### Placer Gold at Union Bar

For placer gold, CGG holds mineral tenure placer lease 1079782 for mining of placer gold. The extent of Placer Lease 1079872 is shown on Figures 4 and 6 at different scales. The claim is located in the New Westminster Mining Division of BC, NTS Sheet 092H/06. It covers an approximate area of 168.09 hectares (415.36 acres).

The BC Mineral Titles Office Event Number 5839039 records the Placer Title Bill of Sale Completion for the transfer of ML 1079782 from Mr. Osha to CGG on June 21, 2021.

The BC Mineral Titles Office Event Number 5957736 records the annual payment for the Placer Lease from 11/27/2022 to 11/27/2023 as \$3363.20

Both DL 57 and Placer Lease 1079782 include land on Union Bar and on the steep hillside to the immediate west of it. The hillside is not suitable for either aggregate or placer gold mining. DL 57 does not include the northernmost part of Union Bar, while Placer Lease 1079872 does not include a small area at the southernmost tip of Union Bar; however the two areas do overlap over most of Union Bar, so CGG has the right to extract both aggregate and placer gold in this overlap area.

#### 4.1.4 Ownership

Section 4.1.4. was placed as an indent to §4.1.3

#### 4.1.5 Royalties, Back-In Rights, Payments, Agreements, Encumbrances

The author is not aware of any royalties, back-in rights, payments, agreements, or encumbrances on the Union Bar property.

The author relies on the e-mail of Mr. Brian Hauff (Feb. 8, 2023; a copy is placed in Appendix 11) stating that there are no liens, lawsuits, mortgages or encumbrances on the property. Mr. Hauff also states that CGG has no debt.

#### 4.1.6 Environmental Liabilities

The BC Reviewable Projects Regulation (B.C. Reg. 243/2019, last amended March 26, 2020 by B.C. Reg. 67/2020) sets the threshold for environmental assessment for new aggregate projects at (1)  $\geq 500,000$  metric tons/year of excavated sand or gravel, or both, during at least one year of its operation, or (2) over a period of  $< 4$  years of operation,  $\geq 1,000,000$  metric tons of excavated sand or gravel, or both. For placer mineral mine projects the threshold is production capacity of  $\geq 250,000$  metric tons/year of pay dirt<sup>11</sup>. Thus the site is not subject to BC environmental assessment if the authorized extraction of aggregates is 240,000 metric tons per year. If CGG subsequently applies to increase production above 250,000 MT/year then it may have to go through the environmental assessment process at that time.

The author is not aware of any environmental liabilities associated with the Union Bar site. Union Bar is not accessible to the public by road, and would be difficult to access by foot, so there is minimal opportunity for deliberate or unintended contamination.

Please see §20 for additional review of environmental and archeological studies by independent specialist consultants.

#### 4.1.7 Legal Access

Access to the Union Bar site from the Trans-Canada Highway is currently provided by a gated private road across the Hope Landfill site and down a steep hill on the DL 57 footprint. CGG informs the author that it is currently working on an agreement with the District of Hope for the design for section of the new access road that crosses the landfill, and with Canadian Pacific Railway for a permit for the bridge to cross the CPR right-of-way through DL 57.

Other comments on access are presented in §5.2.1 (per § 5b of Form 43-101F1)

#### 4.1.8 Permits

To the author's knowledge CGG has not performed a formal permit assessment for the project, but Mr. Osha's files indicate that CGG has been actively seeking the required permits for the proposed Union Bar deposit.

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<sup>11</sup> "Pay dirt" is not defined in the Reviewable Projects Regulation.

A list of permits that are or may be required, to the author's knowledge, is presented below.

- A Mines Act permit is required from the Ministry of Mines<sup>12</sup> for both aggregate and placer gold mining. Documents in the project file provided to the author by Mr. Osha indicate that CGG has been working on an application for a Mines Act permit from the Ministry of Mines; however there is no documentation that one has been yet been received.
- A permit for the landfill operation from the Ministry of Mines (assuming that the landfill does not accept contaminated soil or solid waste). This could be included in a Mines Act permit.
- Aggregate extraction from lands within the Agricultural Land Reserve (ALR) in excess of 500 m<sup>3</sup> requires authorization from the Agricultural Land Commission (ALC). A Reclamation Plan should be submitted to the Commission. The scope of the Reclamation Plan is comprehensive.
- An operating permit from the District of Hope. Permits from Regional Districts are usually issued after a Provincial Mine Permit has been granted. The applications are usually processed concurrently.
- Local permits from the District of Hope regarding business operations, including any use of land in the Hope landfill property for access to Union Bar.
- Approval from CP Rail for a crossing. This required before the new access road can be completed.
- Consent of local First Nations for Provincial permits. (This may not be a legal requirement, but the Province is reluctant to issue permits without Aboriginal consent).
- A permit from the Sto:lo First Nation and the BC Government for further archeology investigations if these are required by them

Documents in the project file provided to the author by Mr. Osha indicate that CGG has been working on an application for a mine permit from the Ministry of Mines; however, there is no documentation that one has been yet been received. The author is not aware of the status of the other required permits and approvals. The author understands that no permit has been received yet.

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<sup>12</sup> The current official name is the Ministry of Energy, Mines and Low Carbon Innovation.



#### 4.1.9 Other Significant Factors and Risks

The author is not aware of other significant factors and risks that may affect access, title, or the right or ability to perform work on the property that have not been identified in §4.1 .

#### 4.2 Rock Pit Flagstone Project near Quesnel, BC

##### 4.2.1 Property Area and Tenure Type

As shown in Figure 6, the CGG property consists of three adjacent mineral tenures – 1091460, 1095994 and 1097619. The known exposures of proposed flagstone occur in the center block (1091460). The three adjacent tenure blocks are expected by CGG to contain the entire extent of suitable cleaved rock for flagstone<sup>13</sup>.

According to the Mineral Titles Office data, the areas of the three mineral claims are:

1091460	"Rock Pit"	39.10 Ha.
1095994	"Rock Pit 2"	136.85 Ha.
1097619	"Rock Pit 3"	58.66 Ha.
	Total	114.61 Ha. (283.21 acres)

##### 4.2.2 Location

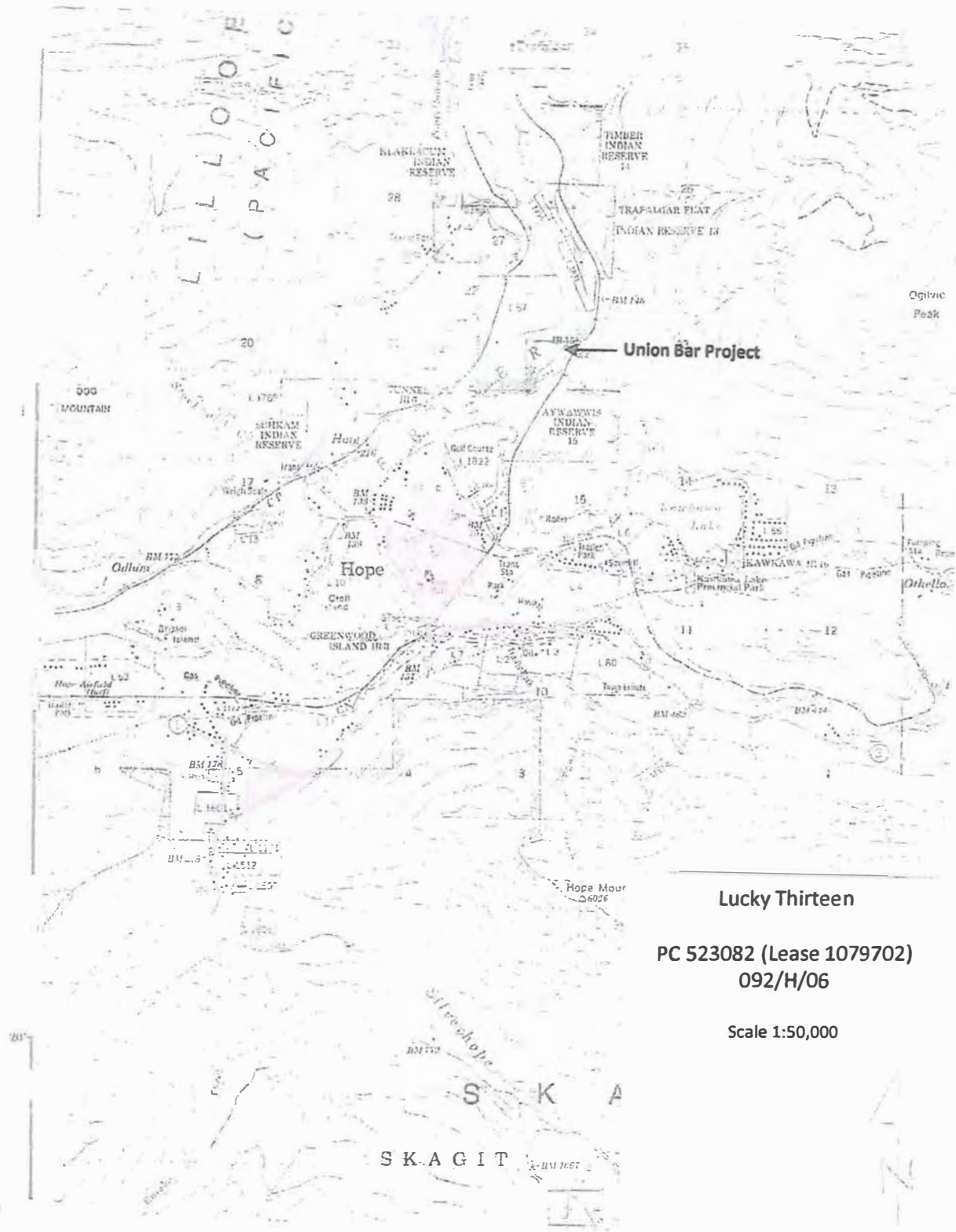
The site is located about 37 Km southwest of Quesnel, as shown in Figure 7.

The approximate geographic coordinates of the center of the property (shown by a x on Figure 7) are listed below:

Decimal Degrees: 52.79192 N 122.68650 W  
Degree Minutes: 52° 47.5153' N 122° 41.1901' W  
Degree Minutes Seconds: 52° 47' 30.918" N 122° 41' 11.404" W

UTM: 10U E 521140 N 5849170  
Datum: NAD83/WGS84

<sup>13</sup> Pers. comm., Peter Osha, 9/15/2022



Topography and claim boundaries

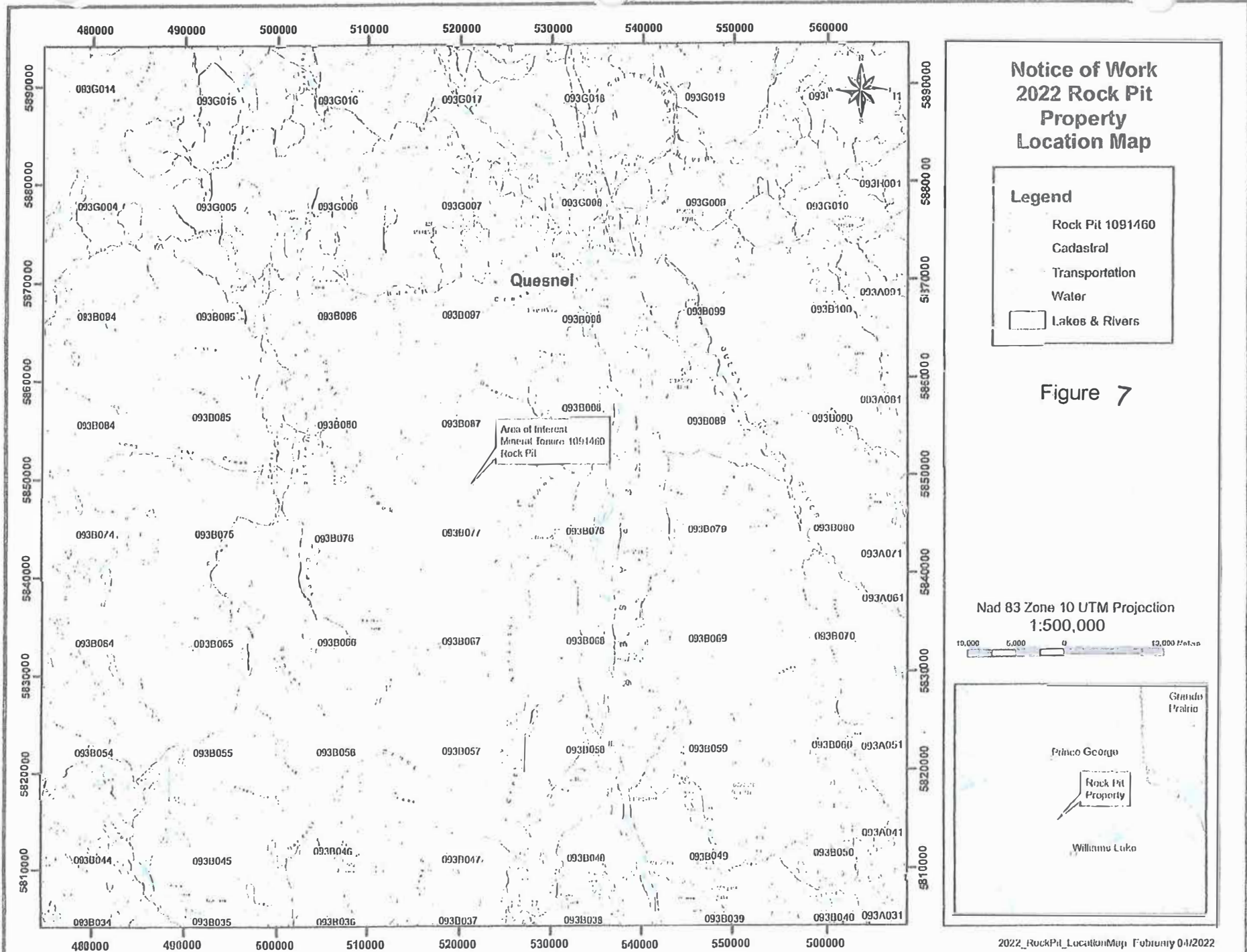
Source: Provided by  
CGG

Technical Report on Union Bar

November 1, 2022

Figure 6

33  
A7

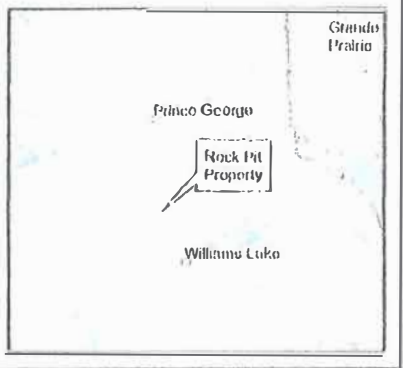


**Notice of Work  
2022 Rock Pit  
Property  
Location Map**

- Legend**
- Rock Pit 1091460
  - Cadastral
  - Transportation
  - Water
  - Lakes & Rivers

**Figure 7**

Nad 83 Zone 10 UTM Projection  
1:500,000



2022\_RockPit\_LocationMap February 04/2022

### 4.2.3 Ownership

The author understands that the site is located on Crown Land (public land). A mineral title is required from the BC Ministry of Mines to access and operate a mine on the land.

The mineral tenures were confirmed by the author on the BC Ministry of Mines Mineral Tenures Office web site<sup>14</sup>. All three have the status of Mineral Claims. The claims are valid for one year and expire in 2033 as follows:

1091460	“Rock Pit”	expires Jan 27, 2033
1095994	“Rock Pit 2”	expires June 3, 2033
1097619	“Rock Pit 3”	expires Sept 16, 2033

The extents of the three mineral claims, as shown on the Ministry web site, correspond with those shown in Figure 8.

All three mineral claims are owned by CGG as of June 21, 2021. All are reported to be in good standing. The rules regarding maintenance of good standing of mineral claims (investment in property development or fees) applies to these claims.

The Ministry of Mines issues a Mines Act permit to Peter Osha on August 24, 2022 to Peter Osha for a period of five years (expiring on August 23, 2027) to perform activities described in a Notice of Work (NOW). These activities included improving the site access road, and performing two bulk samples of flagstone.

Currently in British Columbia, a mineral claim holder must do and record a minimum amount of assessment work or pay cash in lieu of work for each Hectare within a claim to maintain that claim in good standing is listed in Table 11 below:

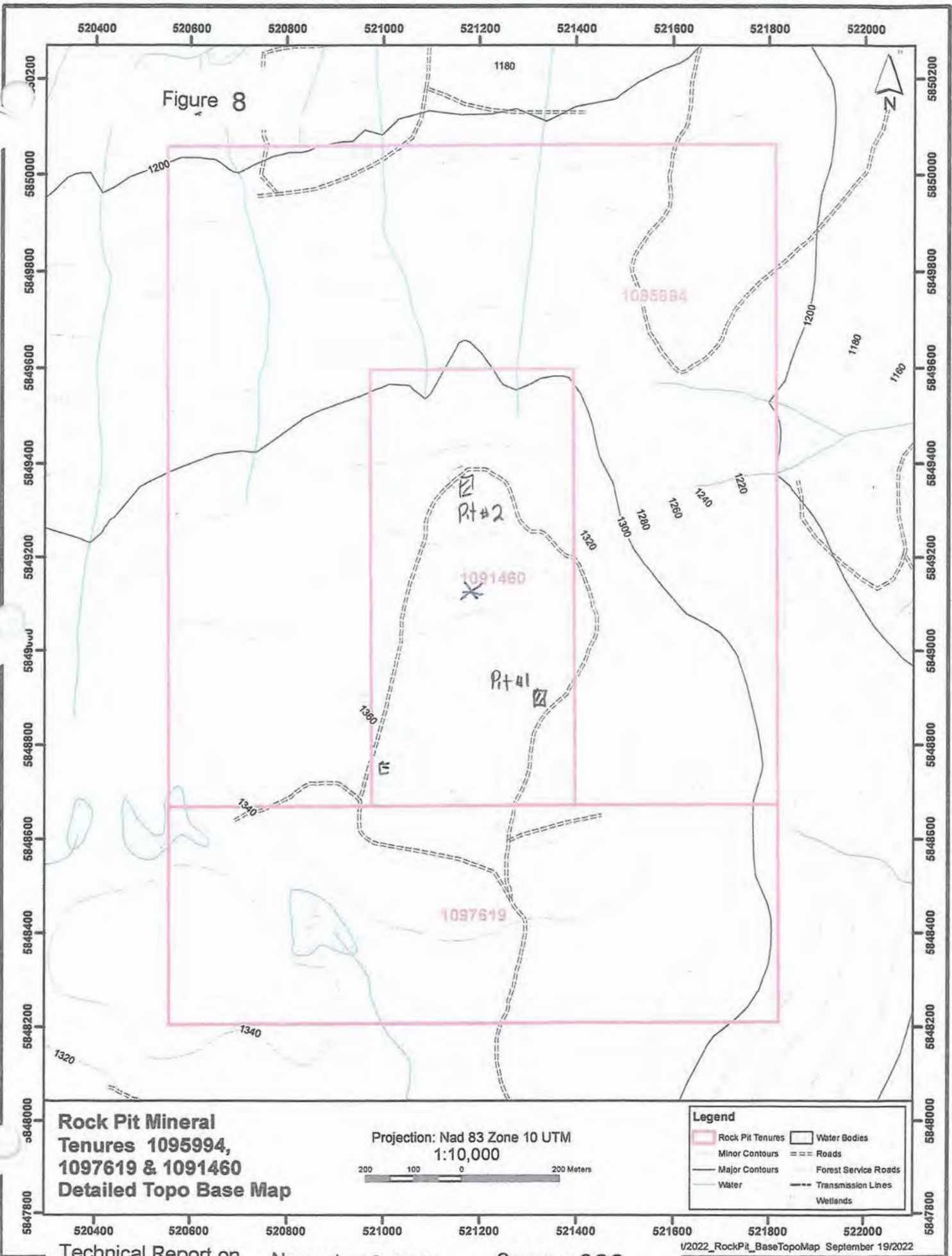
Table 11

Annual Assessment Work Required to Maintain a Mineral Tenure

Anniversary Year after Record Date of Tenure	\$ Amount of Assessment Work/ha Required to Extend the Expiry Date of a Tenure for 1 Year
Years 1 and 2	\$5.00/ha
Years 3 and 4	\$10.00/ha
Years 5 and 6	\$15.00/ha
Subsequent Years	\$20.00/ha

So extending the dates of the claims comprising the Rock Pit Flagstone property for one year after 2033 would cost \$20 times 114.61 Ha = \$2292.20 per year.

<sup>14</sup> <https://www.mtonline.gov.bc.ca/mtov/home.do>



76 33

#### 4.2.4 Royalty

The author is not aware of any royalty that would be payable for flagstone.

#### 4.2.5 Legal Access

Access to mineral tenures is guaranteed in BC by §11 of the Mineral Tenure Act, RSBC 1996, Chapter 292 for site exploration, and §2 of the Mining Right of Way Act, RSBC 1996, Chapter 294. Per Mr. Hauff's e-mail to the author of Feb. 5, 2023, CGG avails of these laws for access to the Rock Pit Flagstone site.

The site can be accessed by existing public and forest service roads. A former private access road that was built by a previous developer into and within the site is being refurbished. See §5.2.2 for a further discussion of site access.

#### 4.2.6 Environmental Liabilities

To the author's knowledge, there have been no environmental site assessments or archeological studies performed on the subject site. The scale of the project is not large enough to trigger an environmental impact study in BC.

The site is located in an area that is primarily used for forestry. It is remote and no evidence of previous commercial activities except forestry and flagstone investigations were observed on the property at the time of the site visit.

The site is on an upland hilltop area. As such there is a low probability that there was Aboriginal habitation on the site; however it may have been used for occasional hunting and gathering. CGG proposed an Archaeological Chance Find Procedure in its Notice of Work, and this was accepted by the Ministry of Mines and included in its Mine Permit.

In summary there are no known existing environmental liabilities on this site,

#### 4.2.7 Permits and Mineral Tenures

The Rock Pit site is comprised of three adjacent mineral tenures, as shown in Figure 8. Information regarding these tenures was obtained from the BC Mineral Titles Online web site<sup>15</sup>:

- 1091460
- 1095994
- 1097619
- The Mineral Claim Acquisition Confirmation for mineral claim 1097619 (9/16/2022)

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<sup>15</sup> <https://www.mtonline.gov.bc.ca/mtov/home.do>

- A Mines Act Permit (Mineral) for the Notice of Work (3/12/2022 and 8/24/2022), dated 8/24/2022 and expiring 8/23/2027. [Mine 2000185].
- A Notice of Work Application and Approval to take 2 bulk samples (800 metric tons) from the site, dated 8/24/2022. This NOW Approval expires on August 23, 2027.

According to the information obtained from the Mineral Titles office, all three of the Mineral Claims listed above were sold by Mr. Peter Osha to CGG on February 04, 2023. Mr. Osha is the President of Canyon Gold & Gravel Inc.

#### 4.2.8 Other Significant Factors and Risks

- On the basis of the site visit the author concludes that a flagstone mineral resource exists at the site. The extent of the deposit has not been delineated in plan or depth.
- Further exploration is required to determine the size of the mineral resource at the Quesnel site, and the scale of extraction that is appropriate to it.
- The site location is remote, but accessible by road. The labor force may have to commute from Quesnel or a seasonal work camp may need to be built.
- The market for the flagstone can be described as a boutique one and its characteristics will need to be investigated further. Revenues will have to exceed the costs of production and transport.

## 5.0 Accessibility, Local Resources, Infrastructure, and Physiography

### 5.1 Union Bar near Hope, BC

#### 5.1.1 Topography, Elevation and Vegetation

The Union Bar is located just upstream of the place where the Fraser River leaves a steep canyon and flows onto the Fraser Valley. As such Union Bar itself is fairly flat, but there is a steep hillside to the immediate west of it.

The regional topography is shown in Figure 6, which shows Placer Lease 107982 superposed on topographic map NTS MAP 92H/06<sup>16</sup>.

The local topography near the site is shown in Figure 4. The elevation across Union Bar ranges from 35-60 meters above mean sea level (amsl) with the Fraser River high water level set at 36 meters. To the west the elevations rise to 280 – 300 meters over a horizontal distance of only about 300 m.

Union Bar is an alluvial accretion landform. The Fraser River is not controlled by a dam, so the water level fluctuates. The surface of the Union Bar is higher to the west. As shown in Figure 9, most of the site is above the flood level of the Fraser River, but the eastern side is subject to inundation<sup>17</sup>.

The mountains in the Hope area are forested up to about 2000 m amsl elevation. There is active forestry in the area.

The Union Bar itself is covered with second growth trees with thick underbrush. There has been no recent logging on the site. There is no agricultural activity on the site.

#### 5.1.2 Means of Access to the Property

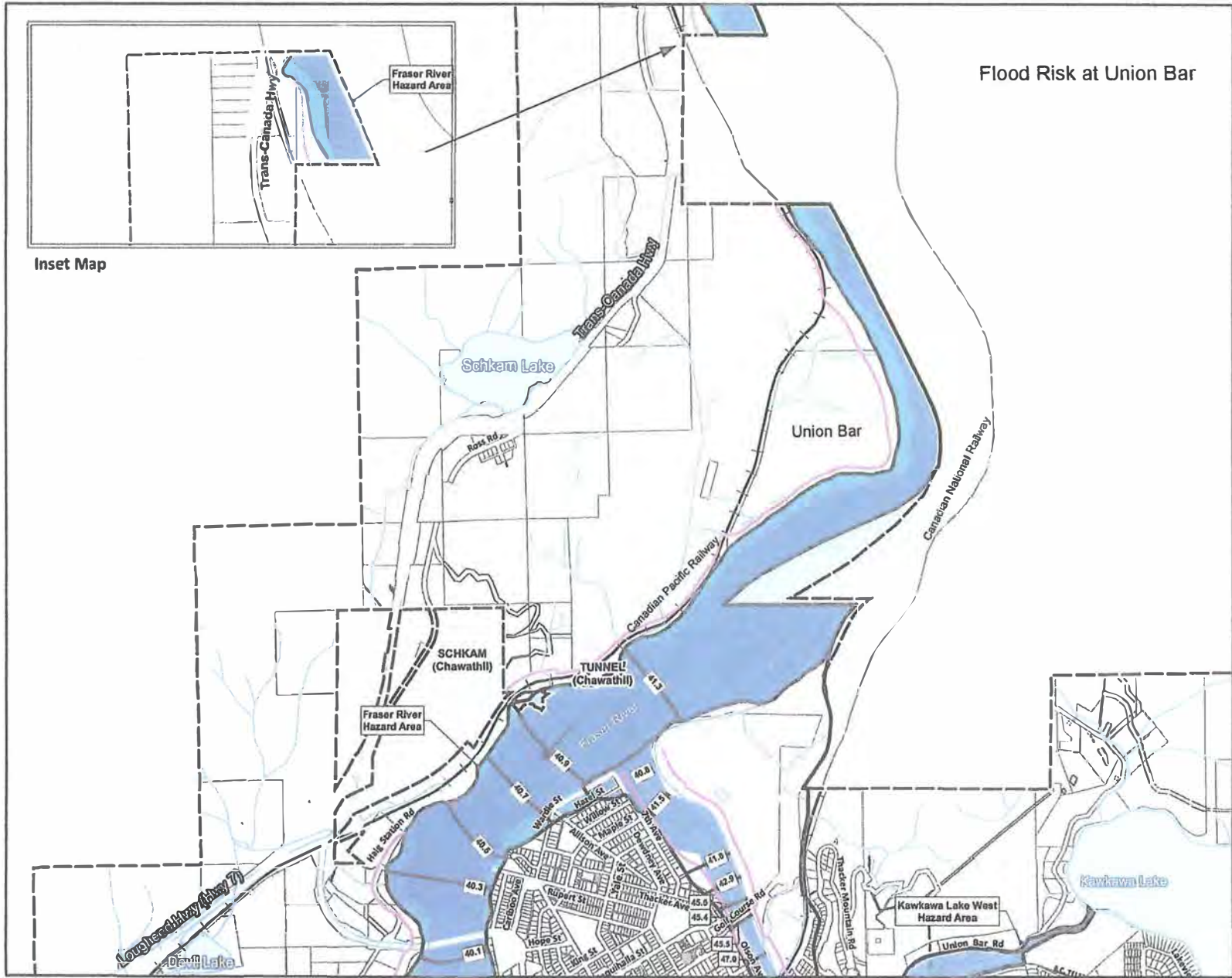
Hope is strategically located at the place where the Cascade mountain range to the east abuts the low-lying Fraser Valley. The 3 major highways leading to the Interior of British Columbia from Vancouver intersect at Hope, so that it is a major transportation center.

The Union Bar site has good access to the Provincial highway system and the Fraser Valley and Metro Vancouver markets (see Figure 2).

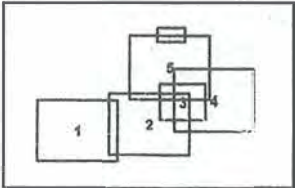
<sup>16</sup> See also BC Map # 92H.043

<sup>17</sup> The source of this information is the District of Hope web site.





**District of Hope  
Floodplain and  
Erosion Areas  
Map 5**



- Streams
- Lakes/Rivers
- District of Hope
- Parcel Boundaries
- Flood and Erosion Hazard Areas
- Floodway
- Floodplain (Moderate-High Flood Hazard)
- Low Flood Hazard
- Avulsion Hazard
- Erosion Hazard
- Flood Construction Level
  - FCL, Inlets
  - Flood Construction Level (FCL)
- Fraser/Coquihalla/Silverhope Flood Setback Line

Hillshade imagery and Freshwater Atlas information is from [openmaps.gov.bc.ca](http://openmaps.gov.bc.ca) and [geobc.gov.bc.ca/base-mapping/atlas/fwa/](http://geobc.gov.bc.ca/base-mapping/atlas/fwa/)

Additional fish stream information is from the Community Mapping Network and Fraser Valley Regional District (2012): [cmnb.ca/atlas\\_gallery/fraser-valley-regional-district-habitat](http://cmnb.ca/atlas_gallery/fraser-valley-regional-district-habitat)

Disclaimer: The data provided has been compiled from various sources and may not be complete or accurate. The District of Hope is not responsible for any errors, omissions, or deficiencies in the data.

**DISTRICT OF  
HOPE**

0 125 250 500 Meters  
Scale = 1:17,500  
MDS107M 22

65

Currently CGG has the right of passage to the site from Highway 1 to Union Bar through the District of Hope's landfill property by virtue of an agreement with the Town of Hope to use its landfill access road<sup>18</sup>.

However the access road from Highway 1 to Union Bar is narrow, rough and steep. Further, it crosses a CPR main line in an unimproved crossing that requires CPR clearance each time that there is vehicle crossing. The current access road will not be adequate for the aggregate project, although it may suffice for removing gold.

The author was informed by CGG that it is building a new access road with a flatter grade (< 6%) and a new bridge over the CPR track. The author was shown the plan for the road during the Current Personal Inspection of Union Bar, and observed it being built. CGG (B. Hauff, pers. comm., 11/07/2022) has informed the author that a part of the new access road has been constructed, but the permit to build the bridge over the Canadian Pacific Railroad track had still not been received, so the access road cannot be completed until the permit is received. B. Hauff (pers. comm., Feb. 10, 2022) informed the author that engineering design is underway for the part of the new access road that crosses the Hope landfill due to geotechnical issues with vehicle loading on the landfill.

The author has not seen the access road since the Current Personal Inspection visit in July 2022.

The aggregate mine will not be able to be fully operational until the new heavy duty road is built.

Access to mineral tenures is guaranteed in BC by §11 of the Mineral Tenure Act, RSBC 1996, Chapter 292 for site exploration, and §2 of the Mining Right of Way Act, RSBC 1996, Chapter 294. Per Mr. Hauff's email of Feb. 5, 2023, CGG avails of these laws for access to the Union Bar site.

### 5.1.3 The Proximity of the Project to a Population Center, and the Nature of Transport

The site is about 3 Km north of Hope BC, which is the nearest town. Please see §4.1.1 and Figures 1, 2 and 3.

The site can be accessed by motor vehicle from Highway 1 (the Trans-Canada Highway) via the existing access road. A new heavy-duty access road is being built.

A CPR rail line is adjacent to the site, but transport by rail is impractical for local distribution.

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<sup>18</sup> Brian Hauff (pers. comm.) The author has not seen the agreement.

The site lies on the western bank of the Fraser River. However the head of navigation of the river is 3 Km downstream. Transport by barge is not being considered at this time..

#### 5.1.4 Climate and Length of the Operating Season

The site is located at the eastern end of the Lower Mainland of British Columbia. The Lower Mainland has a mild climate (for Canada) with most precipitation occurring in the winter months. There is no official weather station at Hope; the nearest station with similar geographic conditions is at Chilliwack, which lies about 50 Km to the west in the Fraser Valley. A summary of the climatic data at Chilliwack is presented below in Table 2. The mean annual temperature there is 10.8° C (51°) with a range in average monthly temperatures of 3.3° C (38°) in Dec and January to 18.8° C (66°) in July. Hope would be slightly cooler and wetter, on the average, than Chilliwack.

The climate at Hope would not preclude year-round operation of an aggregate mine at Union Bar; but operation and access would be more challenging in mid-winter. However, as described in Appendix 1, winter is the time of year with the lowest water surface level in the Fraser River and thus the maximum depth for aggregate extraction. Accordingly the author understands that CGG is developing a mine plan that allows maximum production on an annual basis. The author anticipates that this plan will be revised on the basis of operational experience after the mine starts up. Aggregate can be stockpiled without deterioration during periods in the wet season when aggregate excavation is not suspended due to weather.

#### 5.1.5 Sufficiency of Surface Rights for Mining Operations

As described in §4.1.3 and §4.1.4, CGG has the right to extract aggregate by virtue of having fee simple ownership of DL 57. CGG has the right to mine for placer gold by virtue of its placer gold lease.

#### 5.1.6 Availability and Sources of Power

BC Hydro supplies electric power to all of BC, including the Hope area. The power requirement for the project is available as the main BC Hydro power line from Bridge River passes near to Union Bar. However, there was no electrical service to the Union Bar site observed at the site visit so a service line will have to be installed, or power will have to be provided by electric generators. The author has no information on the status of an agreement between CGG and BC Hydro to install service.

Table 2

Climate Normals 1981-2010 Station  
Data

STATION\_NAME  
CHILLIWACK BC  
CLIMATE\_ID  
1101530

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	%
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**Temperature**

Daily Average (°C)	3.3	4.9	7.3	10.5	13.7	16.4	18.8	18.7	15.7	10.8	6.2	3.3	10.8	
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**Precipitation**

Rainfall (mm)	206.9	114.7	143.7	115.2	93.1	91.7	48.1	56.7	75.2	178.4	272.7	185.8	1582.2	95%
Snowfall (cm)	26.6	11.2	11	1.1	0	0	0	0	0	0.1	11.2	24.3	85.3	5%
Precipitation (mm)	233.5	125.8	154.7	116.3	93.1	91.7	48.1	56.7	75.2	178.5	283.8	210.1	1667.5	100%
Average Snow Depth (cm)	2	1	1	0	0	0	0	0	0	0	1	1	1	

LATITUDE  
49°10'19.770" N

LONGITUDE  
121°55'28.770" W

ELEVATION  
11.0 m

### 5.1.7 Water

The project is situated on a lateral gravel bar on the Fraser River. There are two large ponds at the southern end of Union Bar, the depths of which vary with the river level. According to CGG, there is abundant groundwater at the site. The Issuer has informed the author that a Water Rights License has been applied for to obtain water for direct extraction of surface water from the Fraser River, however a surface water supply will not likely be required.

### 5.1.8 Tailings and Waste Disposal

CGG plans to extract the economically valuable gravel sizes from the bulk aggregate, and return the remainder to the excavated area on an ongoing basis for remediation. Thus there should be no requirement for tailings storage.

Turbid wastewater from the excavation process will be placed into the existing storage ponds to be clarified by settling. The process water will then be returned to the Fraser River by groundwater flow or by outflow from the settling ponds. The quality of the discharge water will have to be monitored. The Fraser River has a high natural turbidity.

The placer gold operation will use fines from the aggregate operation as the feedstock, and will extract the intrinsic gold primarily by gravity separation. There will be no heap leach extraction.

Any other wastes can be taken to the District of Hope transfer station, or to a commercial landfill in the Fraser Valley. CGG does not intend to dispose of industrial waste on the site.

There is no municipal sewer service on the site. CGG intends to use portable sanitary waste services for its onsite staff. If a seasonal work camp is set up on the site, then a holding tank may be required for wastewater. The site is not suitable for septic disposal.

### 5.1.9 Mining Personnel

The author is not aware of any specific plan that CGG has for employment of personnel. The author understands (John Ostler, pers. comm., Dec. 28, 2022) that CGG has been working with local First Nations to provide employment and business opportunities on the Union Bar project, but the author has no confirmation of an agreement.

The Vancouver region has a large population but it is one of the more expensive housing markets in the world. Hope itself is a small town (6686 people in the 2021

census) with a limited work force and housing. The area near Hope and to the east tends to have a semi-rural population accustomed to working in the resource and construction sectors.

The Government of Canada has programs to allow for temporary employment of foreign workers for seasonal unskilled jobs. Due to limited and expensive housing in the Hope area, an onsite work camp may have to be installed to accommodate a seasonal work force.

## 5.2 Rock Pit Flagstone Project near Quesnel BC

### 5.2.1 Topography, Elevation and Vegetation

As shown on Figure 8 the site is about 1390 meters (4560 feet) amsl, well above the elevation of Quesnel (474 m), which lies in the Fraser River valley.

The site is located on an upland dome that forms the local drainage divide. The topography in the vicinity of the site is shown in Figure 8. The elevation at the center of the site is 1360 to 1380 meters above sea level (amsl), descending to about 1200 meters on the eastern boundary and 1340 meters on the southwestern boundary of the claims. The corresponding land slopes from the 1360 m contour are about 12% to the north, 15% to east, 7% to the south and 5% to the west. The topography is relatively flat at the center of the site.

There are no permanent streams crossing the site. Note on Figure 8 that the headwaters of local drainage channels radiate away from the site.

During the site visit the vegetation appeared to be second growth mixed coniferous and deciduous forest. The trees were not large.

### 5.2.2 Means of Access to the Property

There is no current public access to the site.

The site can be accessed by existing public and forest service roads. A former private access road that was built by a previous developer into and within the site is being refurbished.

The current access route to the site boundary from Quesnel is shown in Figures 8 and 10. According to the Notice of Work (8/24/2022) the directions to the Rock Pit site from Quesnel are:

From GR Baker Hospital head South on Caribou Highway # 97 south for 1.2 km, turn right (West) onto Anderson Drive heading for 3.9 km. Continue South on Marsh Road for 2.9 Km, continue south on Ernst Road for 11.2 km. Turn right (West) on Narcosli Creek FSR 4.6 Km, turn right(North) on old logging road for 1.9 km. Arrive at site.

Finally, a very rough road to the outcrop installed by a previous developer, shown in Figure 9, is followed for about 4 Km. It took about 40 minutes to reach a paved road from the outcrop at Pit 2, as shown on Figure 9.

The current private site access road and onsite road required an off-road AWD vehicle to navigate at the time of the site visit and were not suitable for regular transport of the somewhat brittle flagstone rock; however these roads were being refurbished at the time of the site visit. The author was informed by Brian Hauff of CGG (pers. comm., 11/7/2022) that the private access road shown in Figure 9 has been fully reconstructed since the site visit in September 2022, but the author has not examined the current condition of the site access road.

Flagstone will be transported to a contractor's site on the paved road (about 35 Km away) and stored there until picked up by commercial transport truck for haulage to customers in the Edmonton, Calgary, the Okanagan region, and/or the Vancouver metro areas. The gradient from the mine site to the storage area is generally downhill so there will be a saving in fuel cost and wear on the transmissions of the trucks that transport the pallets of quarried rock.

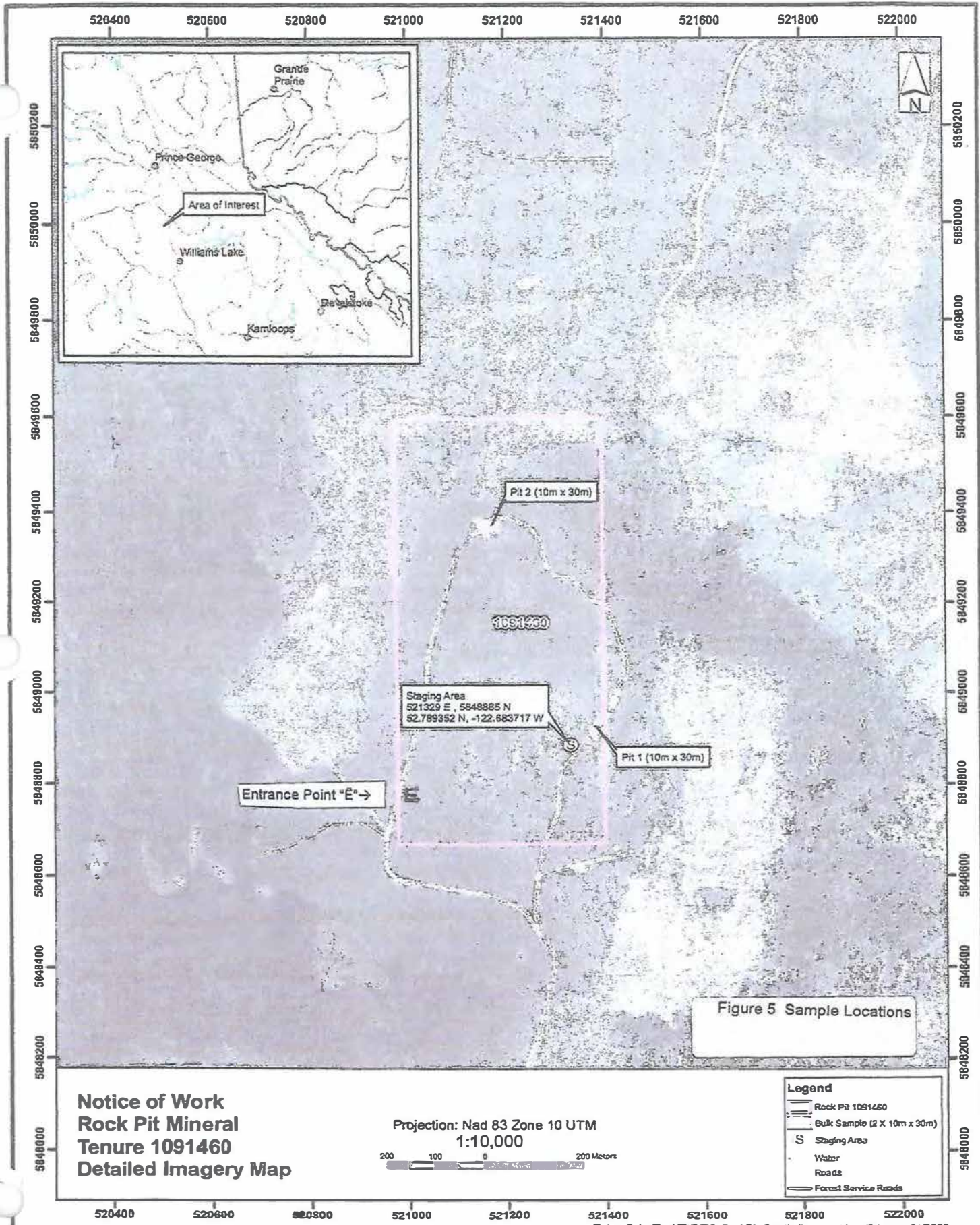
Winter is severe in this region. It is proposed by CGG that the mine and road network will not operate in winter.

### 5.2.3 The Proximity of the Project to a Population Center, and the Nature of Transport

The site is in a remote area about 37 Km southeast of Quesnel, BC. Quesnel had a population of 23,146 in the 2016 census, and thus has most essential facilities. There are no nearby towns of comparable size.

The site can be accessed by the local road network, a Forest Service Road, and a private road on the site. The quality of the roads from Quesnel to the site varies from paved to rough as one proceeds towards the project site.

The site can only be reached by the road system.





#### 5.2.4 Climate and Length of the Operating Season

The nearest weather station is at Quesnel BC. A summary of the temperature and precipitation statistics at Quesnel are presented in Tables 3 and 4, below.

Note from Table 3 that Quesnel has a mild summer and a cold winter. The daily average minimum temperature is below 0° C for six months per year. The lowest measured temperature was -46.7° C (-52° F). Because the project site is 916 meters higher than Quesnel, and more exposed, the winter temperatures at the project site are likely considerably lower.

The precipitation data in Table 4 show that Quesnel has a somewhat continental climate, with most precipitation occurring during the summer. 30% of the annual precipitation occurs as snowfall. The Forest Service Road portion of the access roads is likely not ploughed in winter. Winter driving conditions could be severe.

The altitude and remoteness of the site location would severely adversely affect winter operations at the project site. CGG proposes to stockpile the flagstone project at a lower offsite property along a paved highway near Quesnel. The stockpiled product could be transported to retail markets from this location during winter under typical driving conditions in the BC Interior.

In light of the foregoing the operating season at the site may be from May to September.

#### 5.2.5 Sufficiency of Surface Rights for Mining Operations

CGG has informed the author that the site is located on Crown Land<sup>19</sup>. As such, a Provincial Mines Act Permit is required to operate a mine on the property.

Mines Act Permit MX-100000261 was issued to Peter Osha from 8/24/2022 to 8/23/2027 for Mineral Tenure 1091460. As shown on Figure 8, the known area with suitable rock lies on Mineral Tenure 1091460. The approved work is for two bulk samples; not for a continuing mining operation.

As noted in §4.2.3 there are three Mineral Tenures that apply to the entire Rock Pit site. All three are in good standing, according to the BC Mineral Titles online web site. The three titles have been transferred to CGG by Peter Osha.

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<sup>19</sup> In Canada, public land is referred to as Crown Land. It is owned by the government.

Table 3

Temperature at  
Quesnel BC

1981 to 2010 Canadian Climate Normals Station Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Daily Average (°C)	-6.9	-3.6	1.3	6.4	11.1	14.7	16.8	16.4	11.5	5.5	-1.4	-5.9	5.5
Standard Deviation	4.3	3.8	2.4	1.1	1.6	1.3	1	1	1.5	1.2	3.5	3.9	2.9
Daily Maximum (°C)	-2.9	1.3	7.3	13.5	18.4	21.7	24.1	24.1	18.5	10.8	2.1	-2.3	11.4
Daily Minimum (°C)	-10.8	-8.3	-4.7	-0.8	3.7	7.6	9.5	8.6	4.5	0.2	-5	-9.6	-0.4
Extreme Minimum (°C)	-46.7	-42.2	-38.9	-20	-10	-3.3	0.6	-2.6	-8.9	-28.4	-37.8	-41.1	

Table 4

Precipitation at Quesnel BC

1981 to 2010 Canadian Climate Normals Station Data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	%
Rainfall (mm)	10.4	6.7	12.7	21.2	41.4	66.4	65.6	46.2	50.2	46.3	22.3	4.9	394.3	74%
Snowfall (cm)	44	19	13.4	3.6	1.2	0	0	0	0	6.7	31.5	42.8	162.1	30%
Precipitation (mm)	47.8	22.7	24.9	24.5	42.6	66.4	65.6	46.2	50.2	52.6	51.3	41.6	536.2	100%
Avg Snow Depth (cm)	25	21	9	1	0	0	0	0	0	0	4	14	6	

#### 5.2.6 Availability and Sources of Power

The author did not observe any electric service to the site. However the proposed mining operation does not require much electric power. Electric power required at the site will have to be provided by a generator. The generator (and other mining equipment) would require diesel fuel storage on the site.

#### 5.2.7 Water

As shown on Figure 8 the site is located on a volcanic rock dome that is the headwater area for several streams. There are no substantial streams in the project area, although some wetlands are mapped to the southeastern part of the project area.

The author is not aware of any hydrogeologic (groundwater) investigations at the site. However, the general topography and geology of the site would not indicate the presence of a favorable groundwater resource.

If a suitable water supply is not found, then water will have to be trucked to the site. This might be adequate for a smaller operation.

#### 5.2.8 Tailings and Waste Disposal

The mining of ornamental flagstone should not generate tailings or other significant waste (including acid-generating waste). The BC Ministry of Mines has approved the reclamation plan described in the Notice of Work.

Minor amounts of other industrial waste can be trucked off the site to a regional landfill for disposal.

Given the site geology and climate, septic disposal of human waste is likely not feasible. The personnel on the site will likely have to be served by portable toilets or a holding tank.

#### 5.2.9 Mining Personnel

The author is not aware of any specific plan that CGG has for employment of personnel.

Quesnel is a remote medium-size town (pop. 23,146 in 2016) with a labor force of about 4500 people and an unemployment rate of about 11.3%.<sup>20</sup> Quesnel has two pulp mills, a medium-density fiberboard plant, a plywood mill, four large and highly mechanized sawmills, and a host of supporting enterprises. As such the labor force is unionized and stable. Recruiting labor for a seasonal mining operation could be challenging.

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<sup>20</sup> Data are from <https://townfolio.co/bc/quesnel/summary>

CGG is considering setting up a seasonal work camp at the site to accommodate a seasonal work force<sup>21</sup>. The Government of Canada has programs to allow for temporary employment of foreign workers for seasonal unskilled jobs.

## 6.0 History

### 6.1. Union Bar near Hope BC

#### 6.1.1 Placer Gold

There is a long record of activities that entailed exploring for, and small-scale mining of, placer gold at Union Bar. The earliest production from Union Bar dates to 1857-1858 during the Fraser River gold rush when mining was done by hand using shovels and rocker boxes.

Since 1857 numerous placer claims and leases have been held by small operators. None of these operations are relevant to the aggregate and gold operation being developed by CGG; thus they are not listed in this report.

In general, most of the historical reports of placer gold mining efforts at Union Bar cannot be relied on, or even used, because they described unstructured investigations and results using inconsistent units. Most of the historical reports were prepared by persons who were not registered professionals. These historical reports indicate that gold exploration and mining at this site has occurred from time to time since 1857. None of the mining ventures is reported to have been in sustained production.

As most of the historical reports are of marginal utility to the proposed project by CGG they are not appended to this report. However the author understands that CGG will place copies of those historical reports that it has in a section of its web site (canyongg.com) for those who are interested in reading them.

Several of the more relevant or useful reports are discussed as follow:

According to Byerlay (1988), several shafts were sunk into the gravel of Union Bar during the 1860s and a "Pay" channel, 488 m (1601 feet) long, 152 m (499 feet) wide and 4.9 m (16 feet) deep was delineated. This is referred to by Byerlay<sup>22</sup> as the "old channel". Mining appears to have continued through the 1870s (Teague, 1878) and on into the 20th century, but records of the recoveries and volume of material extracted are lacking.

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<sup>21</sup> Pers. Comm. Brian Hauff and Peter Osha, September 15, 2022.

<sup>22</sup> Mr. Byerlay's title is "Mining Consultant". He did not claim any professional registration.

According to Steiner (1966)<sup>23</sup>, a drag line operation was set up in 1965 at the southern, or downstream, end of Union Bar. Steiner referred to a washing plant in operation there at the time of his examination and sampling of the property. Subsequently it was shut down and no further work was conducted at the site.<sup>24</sup>

Arndt (1989)<sup>25</sup> made a site visit report on a placer gold operation on Union Bar called Hope Placer Mines. The operation had just started up and was working on an exploration permit. Arndt reported that 25 cubic yards per hour (19 m<sup>3</sup>/hour) were being processed with reported (and unverified) grades of 0.06 to 0.10 oz/yd<sup>3</sup>. If the mass used for these grades were troy oz., then this range corresponds to 2.44 to 4.07 g/m<sup>3</sup>. (The author cautions that these grades were reported to Arndt by Hope Placer Mines, and were not confirmed by Arndt. They should not be relied upon). Arndt also reported that “[R]ecord-keeping and plans and maps are almost non-existent. Those include cost data, mining plans and property maps”. Not surprisingly, this project appears to have suspended operation shortly thereafter.

Some potentially interesting data were reported by J. Rae, P.Geol.<sup>26</sup> (2009). Rae stated (p.8) that:

In 1988, Byerlay reports on significant work done on the bar. Several miles of road were constructed, a level crossing of the CPR tracks put in 8 acres of the downstream (SE corner<sup>27</sup>) of the bar, was cleared and stripped and a 25 yd<sup>3</sup>/hr alluvial gold recovery plant put in. Tailings ponds and drainage ditches were constructed as well as a large open pit to a depth of 25 feet. A further 10 feet was apparently dug below the pit floor to test the gravel to 35 foot depth. Numerous pits were sunk and a bulk testing program to recover gold and platinum was completed. They report a resource of 675,000 (*short*) tons (400,000 yd<sup>3</sup>).

Wetzdoerfer<sup>28</sup> summarized from the Byerlay reports that,

*“2. Three separate samples taken from pits on the cleared area at a depth of 8 to 12 feet from the surface yielded 30 lbs of black sand and \$41 of recovered gold per cu. Yd. (1988).*

*“3 Seventy-four (74) cu. Yds of gravel was run from the 20 foot level of the open pit yielding 1300 lbs of wet weight concentrate This was run in an amalgam drum with mercury. The writer Mr. M. Byerlay) recovered 4.56 oz. of gold.*

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<sup>23</sup> Robert Steiner states in his report that he is a P.Geol. in Alberta. The APEGA membership portal does not confirm this. Mr. Steiner may have retired or died.

<sup>24</sup> Mr. Steiner also made calculations as to the value of the gold recovered in a test pit at the site. The calculations are incorrect as the proper units were not used.

<sup>25</sup> According to his report, Richard Arndt was registered as P.Eng and P.Geol. in Alberta. According to APEGA he is not currently a member.

<sup>26</sup> John Rae has been a member of the Ontario Association of Geosciences since June 11, 2003. He is not registered in British Columbia.

<sup>27</sup> *Sic.* John Ostler, P.Geol. noted to the author that this should be “SW corner”.

<sup>28</sup> There is no reference as to whom this person was.

*A sample of amalgam tailings was assayed with the result of 3.2 oz of gold per ton of concentrate been caught but not recovered by amalgamation"*

Using an average 1998 gold price of \$439 per ounce, the above grade for the samples in no. 2 would be 2.9 grams per  $\text{yd}^3$  and the bulk sample in no.3 would represent  $1.9 \text{ g}/\text{yd}^3$ .<sup>29</sup>

In 1990, AFT Inc. reportedly ran the operation and processed 10,506.2 (*short?*) tons ( $6,225 \text{ yd}^3$ ) of concentrate, at an average mill feed of 0.52 opt (?) extracting approximately 300 oz of gold with tailings that apparently averaged 0.009 oz. per ton in a 25 day, continuous operation This would represent a recovered grade of  $1.5 \text{ g}/\text{yd}^3$ <sup>30</sup> Apparently financial limitations and financial problems occurred and they did not do any further development and let the claims forfeit.

In 1991, Peter Osha became the owner of the placer claims and is currently the holder of the placer rights<sup>31</sup>. Formerly the earthmoving equipment contractor during the Dolan/Bylerley<sup>32</sup> (*sic*) bulk sampling phase, he has conducted test work of the sand and gravel from an aggregate resource perspective as well as sampling to test the gold and platinum potential of the gravels. He has contracted out a survey of the sand and gravel resources to Machibroda Engineering (1998)<sup>33</sup> and has prepared numerous in-house budget scenarios over the last 10 years.

It was reported by J. Shearer, P.Geo. (2022)<sup>34</sup> that "In 1990 the property was acquired by P. Osha, who processed up to  $5351.88 \text{ m}^3$  (7000 cubic yards)<sup>35</sup> of material in 1991". Further, "[T]est mining was completed by P. Osha in 1990 (Morrow, 1992<sup>36</sup>) and again in 2011 (Osha, 2014<sup>37</sup>). This previous activity by Mr. Osha was not conducted on behalf of the issuer (CGG) and, as such, it is of historical value. Shearer concluded that "the results are not well documented and incomplete."

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<sup>29</sup> This quotation reflects the problem of using mixed units in these reports. The calculation regarding sample no. 2 cannot be verified in the absence of the number of cubic yards. The calculation for sample no. 3 is  $4.56 \text{ troy? oz}/74 \text{ cu yd.} = 0.0616 \text{ oz}/\text{yd.}^3 = 1.92 \text{ g}/\text{yd.}^3 = 2.51 \text{ g}/\text{m}^3$  as there are  $1.307951 \text{ yd.}^3$  per  $\text{m}^3$ .

<sup>30</sup>  $1.499 \text{ g}/\text{yd}^3$  corresponds to  $1.96 \text{ g}/\text{m}^3$

<sup>31</sup> "currently" at the time of writing by Mr. Rae (2009). Mr. Osha has subsequently sold the placer lease to CGG.

<sup>32</sup> Mr. Dolan was the site manager for Hope Placer Mines. Mr. Byerlay was the onsite consultant.

<sup>33</sup> Should be 1996. See the reference in §27.

<sup>34</sup> J.T. Shearer, M.Sc., P.Geo. is a professional geoscientist currently registered in BC, according to EGBC.

<sup>35</sup>  $5351.88 \text{ m}^3$  corresponds to  $7000.0 \text{ yd}^3$ . Mr. Osha was likely working in cubic yards.

<sup>36</sup> The author has not located this reference, and it does not appear in the list of references in Shearer's report.

<sup>37</sup> Shearer may be referring to a 2013 update report by P. Osha. This citation is placed in §27 of this report.

Osha's (2013) conclusion is succinct:

## 7) CONCLUSION

While the preliminary results overall suggest poor results, there does appear to be a zone of higher [*placer gold*] values trending north/south right against the base of the hill on the west side of the area of interest. I plan on doing further work on the trend as it was barely touched during the initial sampling

Placer Claim 523082 was staked on November 30, 2005 (Title Number 523082, Lucky Thirteen, valid from 12/1/2005 to 12/1/2020, 100% to Peter Osha).

According to Shearer (2022) the next significant investigation of the gravel and placer gold deposits occurred in 2011 – 2012. The program was financed by Siga Resources Inc. (Morrow, 2012; Siga Resources was located in Carson City NV), with the site work performed by Triple O Contracting (Mr. Osha). Siga Resources does not appear to be currently in business, on the basis of a Google Search<sup>38</sup>. According to an internet news release by Siga dated March 12, 2012, "Siga's 2011, \$400,000 bulk fine testing program, which mined and tested over 8,000 cubic yards of raw gravels (*sic*)...". However, according to Shearer, the 2011 program of bulk sampling/test mining was suspended and never completely finished. Only about one half of the individual proposed samples were completed and the concentrate produced from those samples was not processed but put into storage. The samples are no longer available.

The author considers Siga Resources' information to be promotional in nature and he places no reliance upon it. It is reviewed in this report as a historical item only, and because an internet search will present it.

While it is not entirely clear to the author, he postulates that the goal of the Siga site work was to find and mine placer gold on the basis of Mr. Osha's placer claim 523082. The surface rights to the aggregate were held by American Hill Aggregates Ltd., which owned DL 57. The "undersurface" rights to "all minerals precious and base (save gold and silver ore)" had been transferred to American Hill Resources Ltd. in 2001.

According to the BC Company Summary, American Hill Aggregates Ltd. changed its name to Canyon Gold & Gravel Inc. on January 18, 2021. According the Title Search, the title to DL 57 was transferred to CGG on Jan. 29, 2021. On April 18, 2001 American Hill Aggregates Ltd. transferred undersurface mineral rights, except gold and silver, to American Hill Resources Ltd. The issue regarding the mineral ownership of aggregates is whether aggregates are considered to be surface rights or subsurface rights, as they are typically mined on the surface<sup>39</sup>. An e-mail dated

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<sup>38</sup> There is a Siga Resources Limited in Calgary AB listed on SEDAR, but it does appear to be the same as the one in Carson City NV.

<sup>39</sup> As stated in §3.1, the author has relied on information provided by the Issuer and a subsidiary entity regarding title and subsurface rights at Union Bar. This topic is also discussed in §4 – Property Description and Location, §4.1.3.

May 17, 2021 from Mr. Mark Messmer of the Ministry of Mines stated that “the surface rights include the right to sell sand, gravel, aggregate and any mineral substances used for a construction purpose on the surface area that you own”.

The Mineral Title 1079782 for placer gold was sold by Peter Osha to CGG on June 21, 2021. The lease is currently paid to 11/27/2023, and expires on 11/27/2025).

In summary, historic gold production from Union Bar was minor.

CGG commenced a site construction program and an aggregate exploration program in 2021. This work is considered to be current and not historic. As such it is reviewed later in this report.

### 6.1.2 Aggregate Exploration and Development

The prior ownership of the aggregate resource at Union Bar was described in §6.1.1, above, in conjunction with the placer gold resource.

Historic information on aggregate exploration and development at Union Bar is more limited than that for placer gold. As Union Bar is a lateral fluvial deposit it obviously contains sand and gravel. The gold miners perceived it as a host for possible placer gold, but not as a possible resource in and of itself. The local market and the intrinsic characteristics of the aggregate will determine when it becomes economically viable.

Steiner (1966) reported that the composition of Union Bar gravel was:

... an assemblage of stratified gravels, sands, and silts made up of the rock types through which the Fraser and Coquihalla [*Rivers*] flowed. The rocks are mainly granites, slates and other metamorphosed sediments, jade, jasper and garnet. The estimated percentages are common rocks 60%; jasper, 25%; jade, 10%; garnet and other heavy materials, 5%. The jade originated in the serpentine; the jasper in volcanics; and the garnet et al (*sic*) in the metamorphosed sediments or granitic gneisses.

Steiner suggested that Union Bar could also be a source of ornamental minerals, but that separating them from the bulk aggregate would be tedious. That has never been pursued to the author’s knowledge.

Rae (2009) noted that “[M]y observations of the gravels are that they are made up of a mixture of gravels, slates, jade and jasper”

Steiner also noted that “[T]he bar should be operated as a common gravel pit”. However he did not mean that this activity be pursued solely as an aggregate mine, but rather for preprocessing the alluvial deposit for gold extraction.



No significant information was available as to investigation of aggregate in the 2011-2012 Siga Resources program. Siga Resources Inc (*sic*), (2012?, p. 4) reported that:

A part of the test program also involved characterizing and testing the gravels produced as a result of the placer mining and washing, as they are a valuable part of the total revenue. Valley Testing in Abbotsford (*sic*) BC performed gravel qualification tests LA abrasion and screen analysis.

The only results reported by Siga were that (1) 50% of the volume was in the size range 1½” to 3/16” (38 mm to 5 mm), and (2) the gravel was about 10% heavier than “most average gravels”.

The author knows of no historic aggregate production at Union Bar.

### 6.1.3 Historic Resources

The Machibroda Engineering<sup>40</sup> report (1996), which was signed and sealed by Neil Froc, P.Eng<sup>41</sup> provided an approximate estimate of the volume of the sand and gravel present and available in the part of Union Bar lying within DL 57.

Froc estimated that the mass of the available aggregate resource of the DL 57 portion of Union Bar deposit to be 19.12 million metric tons (20.97 short tons). The client was Triple “O” Contracting (Peter Osha). While intended to provide only approximate estimates, the author considers Froc’s methodology to be sound except that the assumption that aggregate could be excavated to a depth of EL 20 meters amsl was not correct unless underwater excavation is contemplated. Froc’s report is reviewed in more detail in §14.2 and Appendix 1 of this report.

Froc’s use of the term *in situ* geological gravel and sand “reserves” in his report is no longer correct as it does not conform to CIM terminology<sup>42</sup>. Froc’s report was written prior to the implementation of NI 43-101 in 2016. According to the CIM definitions, the gravel and sand deposits should be referred to as “resources”

Aggregate investigation and testing performed in the 2021-2022 CGG program is considered to be current and not historic. It is reviewed later in §§13 and 14 of this report.

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<sup>40</sup> P. Machibroda Engineering Ltd. no longer exists in BC. Its current office is in Regina SK according to a Google search.

<sup>41</sup> The primary author of the Machibroda report, Neil Froc, P.Eng. is still a registered professional engineer in BC and still resides in BC, according to EGBC.

<sup>42</sup> CIM Definition Standards for Mineral Resources & Mineral Reserves, May 19, 2014.

## 6.2 Rock Pit Flagstone Project near Quesnel, BC

### 6.2.3 Flagstone

The author is unaware of any specific historic exploration or development information regarding flagstone on the Rock Pit Flagstone site.

Peter Osha (pers. comm. July 2022) noted during the site visit that the access road and two exploration pits (Pit 1 and Pit 2, see Figure 10) were constructed by a previous operator who broke up the flagstone by blasting and had to abandon the site.

Mr. Osha was aware of occasional production from the Rock Pit for local projects, but not of any sustained or commercial production. As an example Mr. Osha showed the author a patio near Quesnel that he said had been constructed from flagstone from this quarry some years ago. A photo taken by the author is placed

on the next page as Figure 20<sup>43</sup>.

Mr. Osha reported by e-mail he removed one bulk sample of about 2 MT was removed from Pit #2 (shown on Figure 10) in October 2022 (see Figure 11 on the following pages) in accordance with the Mines Act Permit. This sample was taken from the area described in Mineral Title 1091460. This activity occurred before Mr. Osha transferred the mineral title to CGG in February, 2023, so it is considered to be historic.

Mr. Osha was not aware of any historical mineral resource or mineral reserve estimates for flagstone on this site.

The remainder of this page is blank in order to accommodate Figure 20.

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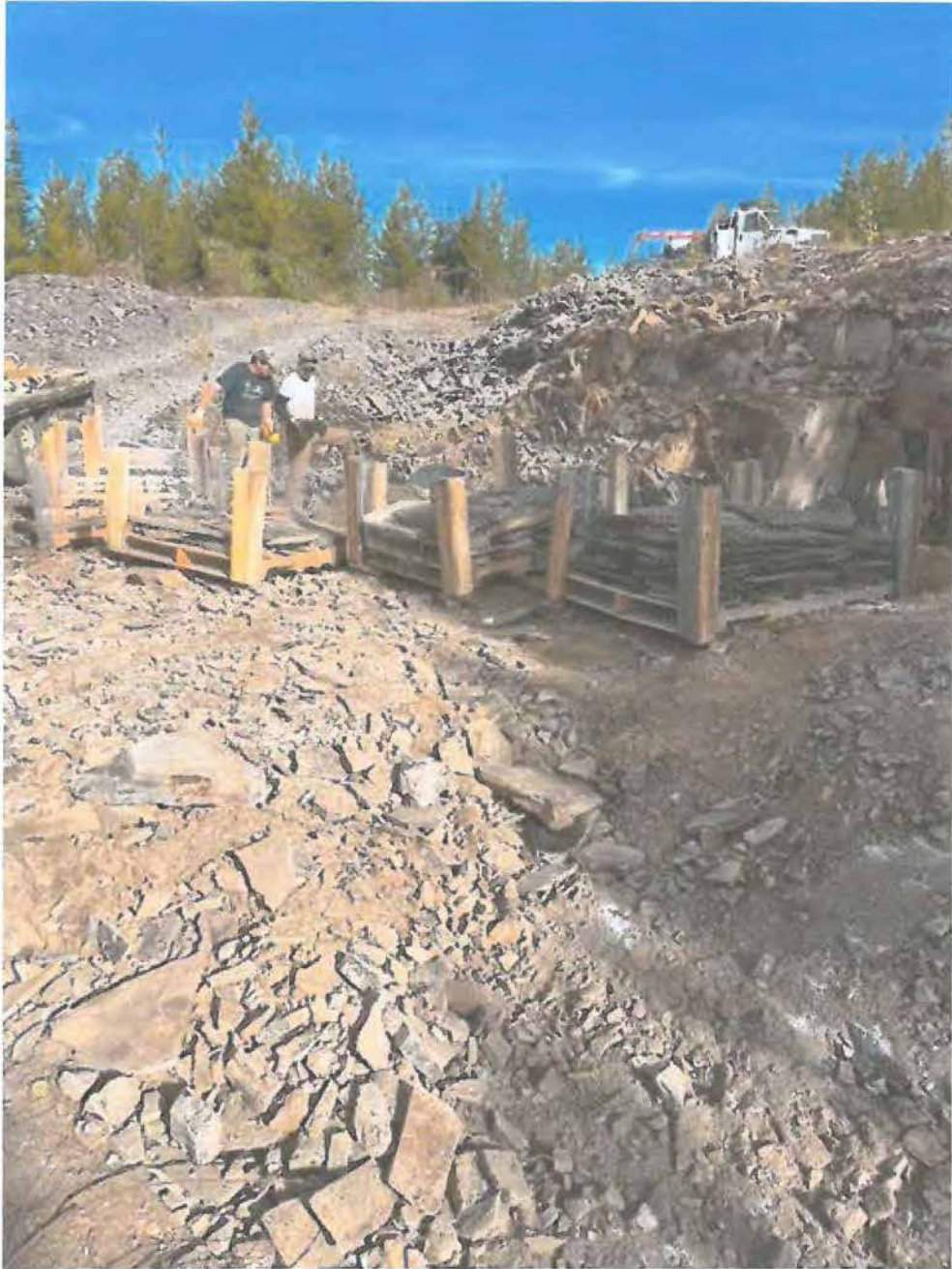
<sup>43</sup> This figure number is out of order. It was inserted in this place during the editing process.

Figure 20 Photo of a Patio in Quesnel Constructed With Rock Pit Flagstone



Figure 11

Photo 1 of Test Mining of Flagstone



Source: Peter Osha, CGG, email of 10/18/2022

Figure 11 - Continued

Photo 2 of Test Mining of Flagstone



Source: Peter Osha, CGG, email of 10/18/2022

## 7.0 Geological Setting and Mineralization

### 7.1 Union Bar near Hope BC

#### 7.1.1 Regional Geology

The following description of the regional geology was excerpted from Shearer (2022) who prepared a summary for CGG.

The regional geological setting encompasses the Hope-Boston Bar area, which lies within the Cascade Mountain physiographic unit, at the southern end of the Coast plutonic complex close to its boundary with the Intermontaine Belt. Hope is also situated at the junction between the Coast Mountains to the west and Cascade Mountains to the east. The region is comprised of complex geological, structurally deformed and metamorphosed rock units that have subsequently been intruded by granitic rocks of various ages.

East of Hope and west of the Hozameen fault, trending in northwesterly direction, is the Hozameen Group represented by a thick, highly deformed oceanic assemblage of chert, greenstone, argillite, serpentinite and minor limestone. Near Hope and along the east side of the Fraser River, the Hozameen Group is in fault contact with para- and orthogneisses of the Custer-Skagit gneiss and granitic rocks that range from 35 to 103 million years in age.

East of the Hozameen fault is a thick (9,000-12,000 meters) unit of a marine deposited clastic sequence that represents the Metho-Pasayten trough. Marine siltstones, argillites and wackes of the Lower to Upper Jurassic Ladner Group are the oldest sedimentary rocks in the trough. They unconformably overlie the volcanic greenstone, Early Triassic Spider Peak Formation. The upper unit of the Ladner Group forms part of a facies change and laterally passes into marine argillites, tuffs and wackes of the Upper Jurassic Dewdney Creek Group. These rocks are overlain in turn by a thick sequence of coarse clastic, shallow-water marine sediments of the Lower Cretaceous Jackass Mountain Group. The youngest rocks in the trough include Early Cretaceous, coarse clastic, non-marine sediments of the Pasayten Group, as well as some Middle Eocene sediments.

A major fault system striking north-south forms the Hope-Fraser River fault system. The main fault – the Hope fault – cuts just west of Hope and parallels the west side of the Fraser River and is traceable to north of Spuzzum, where it is offset by younger cross-cutting faults. A section of the fault can be observed just west of the Trans-Canada Highway 2-3 Kilometers north of Hope. A second fault a probable subsidiary of the main fault, referred as the Yale fault, parallels the east side of the river.

These faults have sheared and deformed the Custer-Skagit gneiss. The gneissic rocks found along the east and west side of the river are moderately to intensely foliated para-gneisses and orthogneisses. They are generally medium to coarse-grained, equigranular to porphyroblastic, leucocratic to melanocratic rocks, which have undergone intense ductile and brittle deformation. In some areas also adjacent to the faults, ductile movements have transformed the original feldspar-porphyrific rocks into augen gneisses.

The confluence of the Fraser, Coquihalla and Silverhope-Skagit drainage systems, indicate that some of the gold at Union Bar may have come from the south and east. The Coquihalla River cuts through both the Ladner slates and their bordering serpentines about 50km upstream from its mouth. These slates, and more particularly the serpentines, were the host rocks for the considerable lode gold mined at the Jessica, Aurum and Carolin Mines Idaho Deposit ..... The placer gold originating in those rocks was carried downstream as far as Hope. Cairnes (1924) reports that the lower part of the Coquihalla River occupied a channel located about 3.7 Km (2.3 miles) north of the present one from Othello to Hope. There the river swung northward, from a generally westerly course, and entered the Fraser River directly south of and about 600m (1968 feet) distant from the south edge of Union Bar. A terminal moraine is the cause of the present day Kawkawa Lake.

#### 7.1.2 Introductory Comment Regarding Relevance

While the regional geology will be reviewed in this section *pro forma*, it is not directly relevant to either the aggregate or gold placer projects at Union Bar. Both are alluvial deposits consisting of material transported from upstream on the Fraser River. These alluvial deposits thus reflect a mixture of eroded material from a wide area with differing lithologies.

Rocks with resistant lithologies would tend to comprise a greater fraction of the rocks in the gravel bar, particularly since there is no tributary contributing bedload draining onto Union Bar. In general harder rocks make stronger concrete and more resistant road fill. See §7.1.3, below, for a summary of relevant local geology.

#### 7.1.3 Historic Regional Placer Gold Locations<sup>44</sup>

An internet review of the historic 1858 Fraser River gold rush revealed that the richest deposits in the area were at small lateral gravel bars created by tributaries that apparently drained auriferous watersheds. The best was at the confluence of the Fraser River with Hill's Bar Creek (now called Qualark Creek), located about 14 Km upstream of Union Bar.

Emory Bar, located about 1.6 Km downstream of Hill's Bar, also has a history of gold

<sup>44</sup> Sources are Shearer (1990-1993), as cited in Shearer (2022), Google Earth, and internet searches of the 1858 Gold Rush.

recovery dating back to 1858 when gold was first discovered along the Fraser River. After the nearby Hills Bar, Emory Bar was the second highest producing gravel bar on the Fraser River. No historic records of claims or gold extraction from Emory Bar are available, but its history is acknowledged in a current Provincial Park on the site. A summary of its history from <https://bcgoldadventures.com/emory-creek/> is as follows:

Emory Creek was a good place to start a study of the environmental history of the Fraser River gold rush. Mining began there in 1858 and continued intermittently well into the twentieth century. After nearby Hill's Bar, Emory Bar was the second highest producing bar on the Fraser River.

Channel Bar is located 6 Km upstream from Union Bar. Placer concentrate was produced there in 1971 by Channel Bar Mines Limited. Gold (187 grams), silver (62 grams), lead (1 kilogram) and zinc (1 kilogram) were recovered from the concentrates.

The foregoing information indicates that the sediments in the Fraser River above Union Bar have historically been found to contain placer gold. As the Fraser River will transport sediment downstream it is reasonable to assume that some placer gold will have been deposited in Union Bar. Generally, however, the farther a deposit is downstream from the source the finer and less concentrated the placer particles become. Thus, the placer gold at Union Bar can be expected to be in fine particles and at lower concentrations than were found closer to the source areas upstream. However, the author cautions that unverified historical information should not be relied on.

## 7.2 Rock Pit Flagstone Project near Quesnel, BC

### 7.2.1 Regional Geology

The site is located on the Interior Plateau of British Columbia. The Interior Plateau lies between the Cariboo and Monashee Mountains on the east, and the Hazelton Mountains, Coast Mountains and Cascade Range on the west. The continuation of the Interior plateau into Washington State is known there as the Columbia Plateau (Wikipedia (2022) and Holland (1964)).

Good summary descriptions of the regional geology are presented by Bordet and Hart [undated], Logan and Schiarizza [2010] and Schiarizza [2014]<sup>45</sup>. According to Bordet and Hart, the site lies in a zone of Eocene<sup>46</sup> volcanic rock. Logan and Schiarizza located the site in a unit identified as Eocene age volcanic rocks -- OLv – Ootsa Lake Group. Rocks of that group were described as “felsic and intermediate volcanic flows, tuffs and breccias, subordinate mafic rocks, minor conglomerate and wacke”. As shown in Figure 12, Schiarizza placed the site<sup>47</sup> at the margin of a unit mapped as “Eocene –

<sup>45</sup> References are listed in Section 27 of this report.

<sup>46</sup> The Eocene epoch is part of the Tertiary Period in the Cenozoic Era, and lasted from about 54.8 to 33.7 million years ago (from Wikipedia).

<sup>47</sup> Shown on Figure 12 by a X symbol in the upper left quadrant.



Figure 12

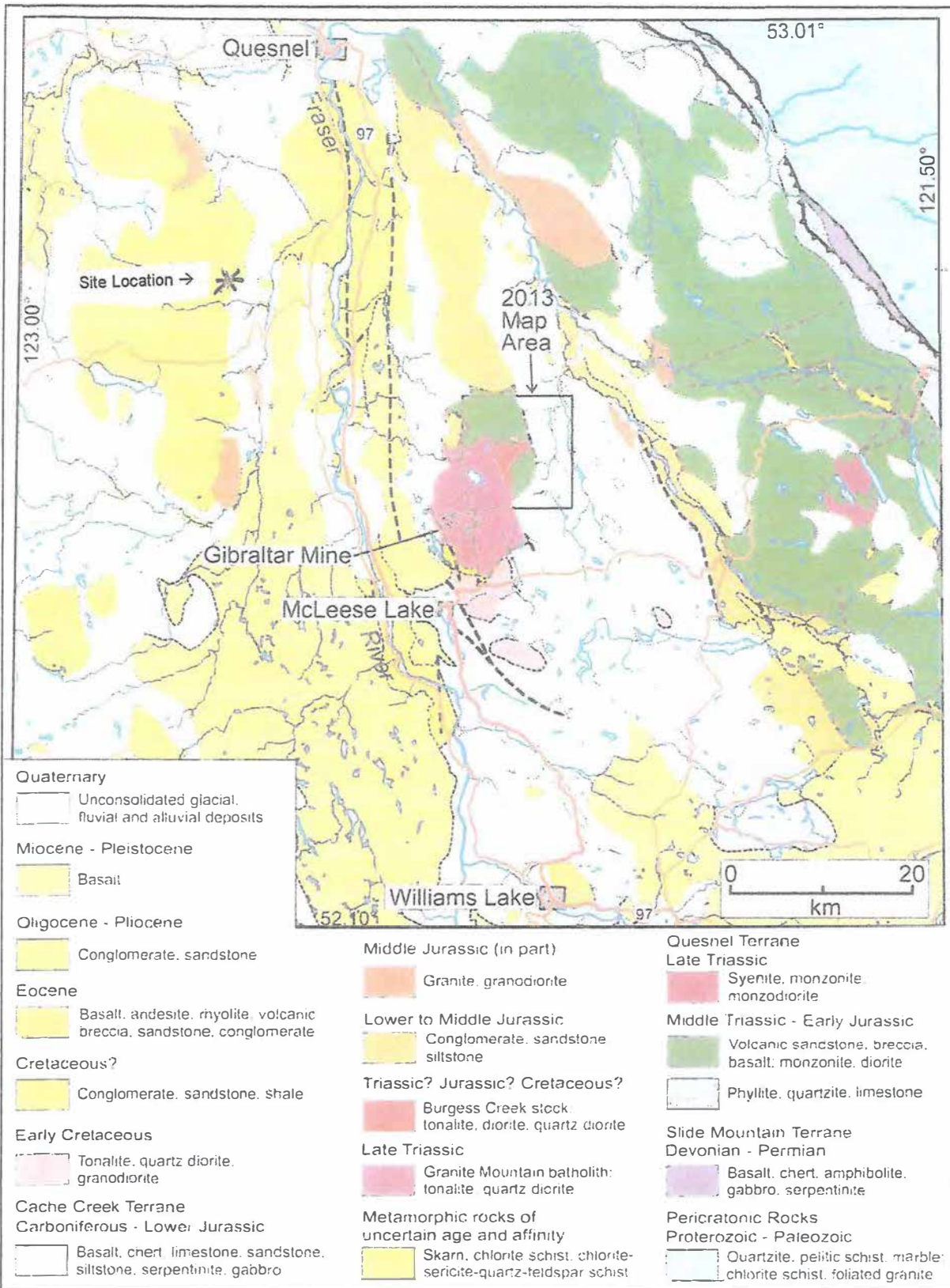


Fig. 2. Geological map of the area between Williams Lake and Quesnel, showing the location and setting of the Granite Mountain batholith.

64  
59

basalt, andesite, rhyolite, volcanic breccia, sandstone, conglomerate". However the site area was not mapped in detail by Schiarizza.

### 7.2.2 Local Geology

The relevance of the foregoing information to the flagstone project is that the rock under the site is volcanic in origin, and could be either intrusive rock (such as granite, diorite, gabbro, and peridotite) or extrusive rock (such as andesite, basalt, dacite, obsidian, pumice, rhyolite, scoria, and tuff). In general intrusive rocks are coarse-grained and extrusive rocks are fine-grained. The appearance of the rock is thus different. Intrusive rocks tend to be massive, while extrusive rocks tend to have structure since they were deposited in layers of flows. Both intrusive and extrusive rocks can range in shading from light (granite, rhyolite) to grey (diorite, dacite) to dark (gabbro, basalt).

### 7.2.3 Mineralization

The bedrock at the site is covered by a thin soil that supports small trees. At the time of the site visit there was only one exposed outcrop at the site that was accessible from the road. This was the "Pit 2", the location of which is shown on Figure 10. According to Peter Osha (pers. comm.) there is a similar outcrop at "Pit 1", also shown on Figure 10. However, the site access road to Pit 1 was not drivable. Some bedrock pieces were also dislodged by the excavator doing road work in the general location of "E" marked on Figures 8 and 10, and one was examined. However the only large outcrop on the site that was examined in detail was Pit 2<sup>48</sup>.

According to Peter Osha, Pit 2 was created by the previous tenure holder by blasting the bedrock so as to expose an area about 10 m by 30 m, and about 3 m high. The exposure is shown in Photo 1 of Figure 21 on the next page. It consisted of numerous small blocks of bedrock (up to about 0.3048 meter (1 foot) square – see Photo 2 in Figure 21) and some residual bedrock outcrops (see Photos 3 and 4). The fairly small size of the blasted rock pieces is likely due to the explosives that were used; however it is not known if larger pieces could be obtained by other mining methods. Peter Osha noted that he expected larger pieces could be obtained by machine excavation, based on the reported experience of the previous tenure holder. John Ostler, M.Sc., P. Geo. (2022) reported that samples from the Rock Pit being stored at the Union Bar site near Hope BC "commonly attain dimensions up to 100 cm in length, 80 cm in width, and 7 cm in thickness"<sup>49</sup>. This corresponds to about 3 feet by 2.5 feet in area, and 2 ¾ inches thick. No pieces of this size were observed at the Rock Pit site by the author, and the author has not seen the samples stored at the Union Bar site that John Ostler examined, nor was he aware of their existence at the time of the site survey. However the stone slabs that were mined by Mr. Osha in October 2022 were about the size described by Mr. Ostler (see Figure 11 in §6.2.3).

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<sup>48</sup> See Graham (2022) in the list of references, §27.

<sup>49</sup> Both Peter Osha and John Ostler are shareholders in CGG Inc.

Figure 21 Photos Taken at Pit #2 at the Site (continued)

Photo 3



Photo 4



Figure 21

Photos Taken at Pit #2 at the Site

Photo 1



Photo 2



## 8.0 Deposit Types

### 8.1. Union Bar near Hope, BC

#### 8.1.1 Placer Gold

The placer gold at Union Bar is embedded in a matrix of alluvial sand, gravel and silt deposits.

Fluvial placers mineral deposits accumulate mainly along erosional unconformities overlying bedrock or resistant sediments such as basal tills or glaciolacustrine clays. Basal gravels over bedrock typically contain higher placer concentrations. Overlying bedded gravel sequences generally contain less placer minerals and reflect bar sedimentation during aggradational phases. Frequently, the generation of a more economically attractive placer deposit involves multiple cycles of erosion and deposition. (See, for instance, Wells (1969)).

Union Bar is made up of alluvial gravel of secondary glacial origin. It was concentrated by glacial meltwaters, and then reconcentrated by the fluvial action of the Fraser River. The gravels are comprised of granites, slates, and other metamorphosed sediments.

Union Bar consists of an assemblage of stratified gravel, sand and silt. Due to the reworking of placer deposits, they have been described in historical reports as variable and laterally discontinuous with placer gold “pay” streaks typically thin (<2m), lens shaped and tapering in the direction of paleoflow; usually interbedded with barren sequences.

#### 8.1.2 Aggregate

The aggregate resource is found in an alluvial lateral gravel bar. The Union Bar consists of a large accumulation of gravel with small amounts of sand and a minor amount of silt. A review of the aggregate testing program conducted for CGG in 2022 is presented in §9.1 of this report.

The depth of the gravel bar deposit is not known. Froc (1996) assumed that it extended to bedrock. CGG drilled 7 boreholes into Union Bar in 2022 (see Table 6 in §10.1) and found the gravel extended as deep as 24.4 m (80 feet) bgs. Bedrock was not encountered. The drill program is described in §9.1.2 and §10.1 of this report.

Rocks in alluvial deposits are typically rounded by abrasion during sediment transport, and are relatively hard for the same reason.

## 8.2 Rock Pit Flagstone Project near Quesnel BC

See §7.2.1 for a summary of the regional geology of the Rock Pit Flagstone area.

As described previously in §2.4.2 the author submitted a sample that he had collected at the site to Vancouver Petrographics Limited of Langley, BC for a microscopic determination<sup>50</sup>. The rock was described by Vancouver Petrographics Limited as a porphyritic trachy-latite, which is consistent with the field assessment.

The rock is described as a fine-grained, siliceous, porphyritic trachy-latite, which is brittle and cleaves into flagstones and slabs. A single brittle cleavage has produced cleaving of the rock into slabs of acceptable size and shape to be used for ornamental paving and facing stone.

The extent and depth beneath the surface of open fracturing (cleaving) of the rock determine the amount of flagstone that can be mined from a shallow open pit.

## 9.0 Exploration

### 9.1. Union Bar near Hope, BC

#### 9.1.1 2022 Exploration Program

An exploration program for both the aggregate and placer gold resources was conducted on behalf of CGG at the Union Bar site in the summer of 2022 by J. Shearer, M.Sc., P.Geol. (HomeGold Resources Ltd.) and Peter Osha (Triple "O" Contracting Ltd.) The program consisted of test pitting and drilling. The purpose of the test pitting program was to collect samples of aggregate for lab testing. The purpose of the drill program was to determine the depth to bedrock, and to gather information on the depth to the water table.

Mr. Shearer, P.Geol. presented summaries of lab testing of both aggregate and placer gold in his 2022 report, however he included neither the sample details nor the testing lab reports in his report. The author obtained the original reports from Mr. Osha's files, and they are placed in Appendices 2 (aggregate testing) and 3 (gold testing) of this report. Those original reports form part of this Technical Report and are relied upon as factual information.

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<sup>50</sup> John Payne, Ph.D., P.Geol., *Report 220433 for Steve Graham*, prepared by Vancouver Petrographics Ltd., Langley BC for S. Graham Engineering and Geology Inc., October 2022. 8 pp.

Shearer (2002) described the scope and results of the exploration program as follow<sup>51</sup>:

An exploration program was conducted by Triple O Contracting Ltd<sup>52</sup>, and Homegold Resources Ltd.<sup>53</sup> ([EGBC] Permit to Practice # 1000611) on behalf of Canyon Gold and Gravel Inc. in April/May 2022. The author [Shearer] was the [EGBC] registrant of record who directly supervised the geoscientific aspect of that program (*sic*)

The 2022 program consisted of test pitting, concentration of the 5/16-inch<sup>54</sup> fraction, fire assays, flotation testing, gravel test work on samples from the test pits and seven Odex Reverse Circulation drill holes to a depth of 48 m ...<sup>55</sup>

Relatively recent placer gold exploration has resulted in the development of several exploration pits across the site. The Company, Canyon Gold and Gravel Inc. completed 7 Odex (Overburden Drilling Excentric) reverse circulation holes to a depth of 24.38 m (80 feet) and 16 shallow test pits. Fire assays and flotation tests on the concentrated 5/16 [inch] fraction show that placer gold can be recovered by simple means/gravity separation/flotation.

A poorly documented deposit of gold-bearing gravels exists on Union Bar. Preliminary sampling of limited gravel exposures returned low grade values. The results indicate that with more sampling at depth, using better, mechanized equipment to access the in-situ [*sic*] gravel, the potential exists to uncover economic grades<sup>56</sup>.

The tests by Metro Testing results indicate that in general, the aggregates comply with CSA and BC MoTI requirements for aggregates to be used in concrete production.

### 9.1.2 Sample Locations

Mr. Shearer (2022) did not describe how the sample locations were located. However, A drawing showing waypoints is included in this report as Figure 13. The coordinates of the waypoints were not specified, but UTM locations for those with drill logs were listed on the drill logs. The author surmises that the waypoints in Figure 13 were collected with a GPS system. The 2022 sample locations are shown in Figure 14. Mr. Shearer did not explicitly state how the sample locations were surveyed. The waypoints on Figure 13 do not seem to correspond directly with the sample locations shown on Figure 14.

Both Figures 13 and 14 have been copied directly from Mr. Shearer's report. For purposes of analyzing the exploration program, the author must assume that the information shown on Figure 14 is correct.

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<sup>51</sup> This paragraph is excerpted from Mr. Shearer's report and is Mr. Shearer's conclusion.

<sup>52</sup> Triple O Contracting Ltd. is owned by Peter Osha. To the author's knowledge Mr. Osha is also the largest shareholder in CGG and President of CGG.

<sup>53</sup> Homegold Resources Ltd. is a consulting firm owned by J.T. Shearer, P. Geo. In his draft report (Shearer (2022)) Mr. Shearer declares himself to be a qualified person per the criteria of NI 43-101. To the author's knowledge Mr. Shearer is not a shareholder of CGG, is otherwise independent of CGG, and is a member of EGBC in good standing.

<sup>54</sup> 1,5875 mm

<sup>55</sup> 48 m = 157 ft. There is no record of drilling to this depth in Mr. Shearer's report. See Table 5 in §10.1.

<sup>56</sup> The author does not concur with this conclusion. In the author's opinion there is insufficient technical data and economic analysis to reasonably predict that the placer gold resource can be profitably mined.

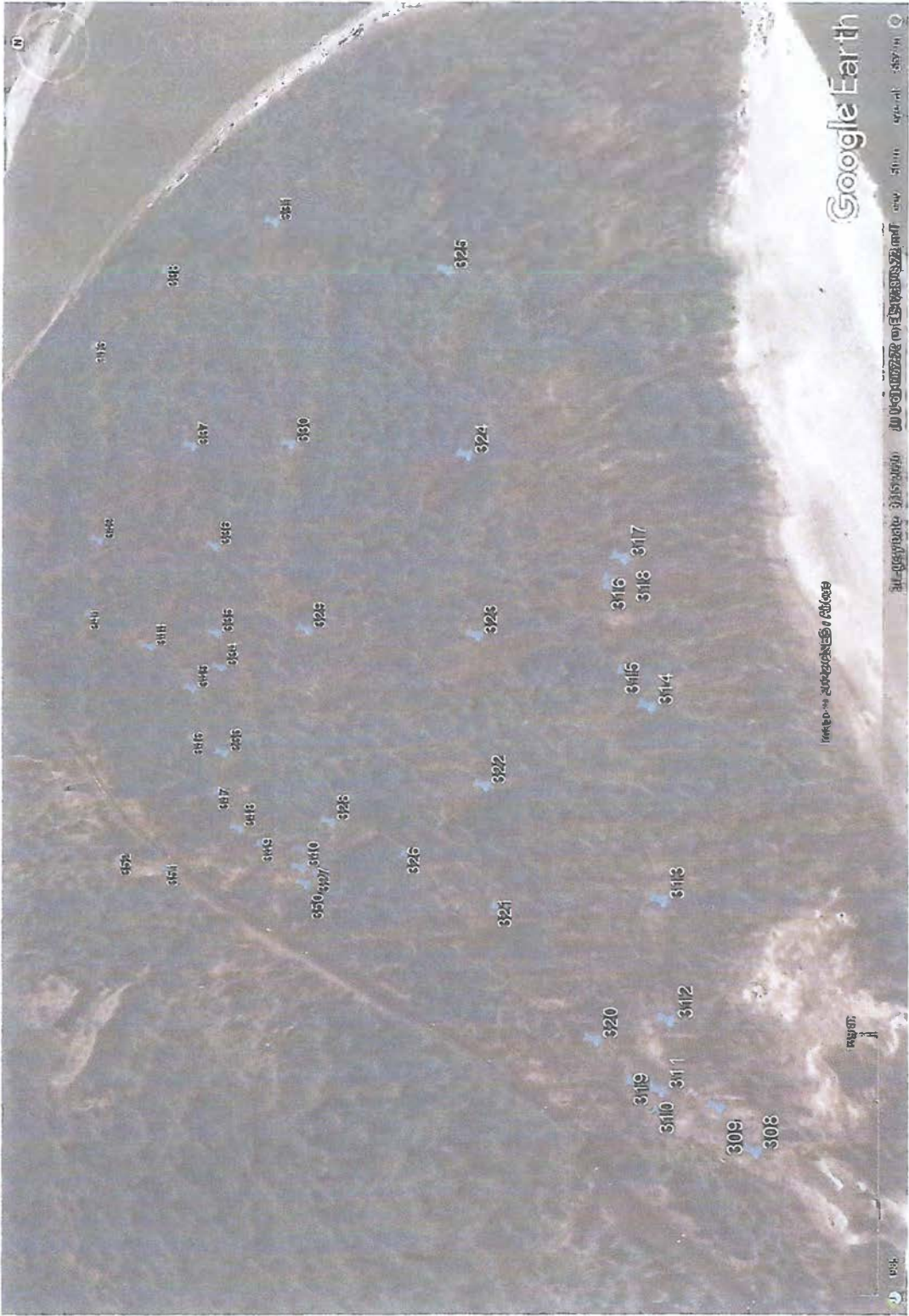


Figure 13 Google Image Showing Waypoints

Technical Report on  
Union Bar

Sources: Shearer  
and CGG

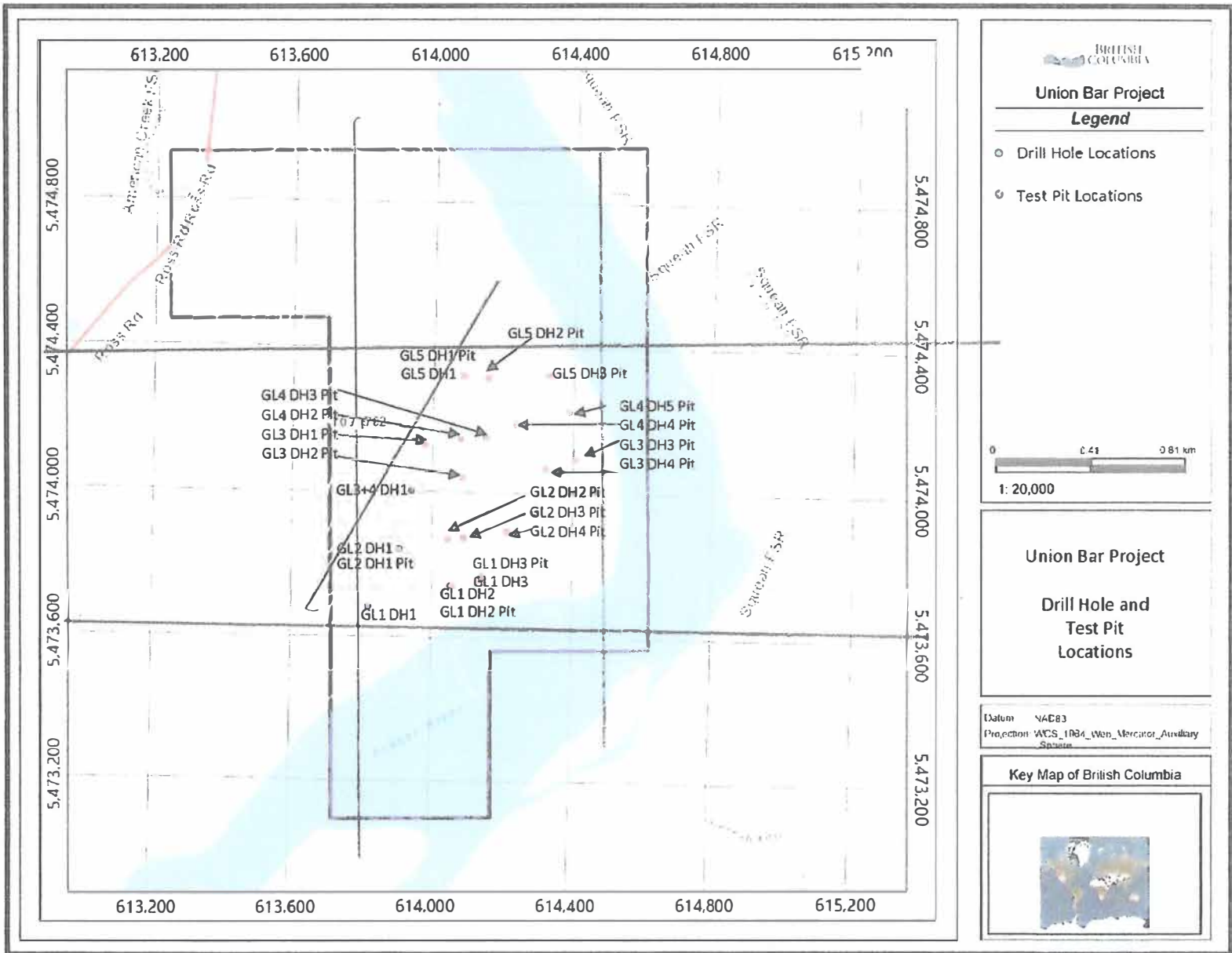
November 19, 2022

Figure 13

68  
71



Figure 14 Location of Drill Holes and Pits 2022



The color code in Figure 14 does not appear to be correct. If the sample labeling is followed, assuming a label ending in "pit" means a test pit, then there are 17 test pits and 6 drill holes shown on Figure 14. This does not correspond with the numbers in the text quoted above (7 drill holes and 16 shallow test pits).

### 9.1.3 Sampling Methods and Procedures

A summary of the test pit program from Shearer (2022) is placed in Table 5 below<sup>57</sup>.

Shearer did not describe the test pit sampling in detail. He stated that the test pits were all shallow and obtained with an excavator. It appears from the test pit logs that they were collected at a typical depth of 1.5 to 2 m (5 to 6 feet) bgs, which was typically just below the surficial soil unit. The typical sample size was about 700 to 1000 Kg. The samples appear to have been sieved in the field to remove stones larger than 1.5 inches (38 mm) in diameter.

There is no record that samples were collected from the drill holes. The holes were advanced to depths of 40 feet (12.2 m) to 80 feet (24.4 m) bgs to confirm that the proposed depth of excavation would not be limited by bedrock. Depth to the water table was estimated from the wetness of the material removed by the drill, but it was not measured directly. The drill program is described further in §10 of this report in order to correspond with the NI 43-101 report format.

The distribution of the sample locations, as shown in Figure 14, provides good spatial coverage of the part of DL 57 that includes Union Bar, as shown in Figure 4. The range in sample locations spans the distance from 5,473,600 N to 5,474,350 N (800 meters), which corresponds with the extent of DL 57. The lateral (east/west) distribution of sample locations spans the bar. A hand measurement of a polygon containing the samples shown on Figure 14 has an area of 45 Ha. The area of DL 57 is 59 Ha. (Table 1).

The author could not find any mathematical rationale in Mr. Shearer's report for the number of samples collected. Typically about 30 samples are required for the sample mean to approximate a normal distribution at the 95% confidence interval. The test pit samples were collected in a narrow depth range, typically 1.5 to 1.8 m (5 to 6 feet) bgs. This biases the sample results with respect to depth.

The number of aggregate samples collected (15<sup>58</sup>) over a large proportion of the area proposed to be mined is considered sufficient to characterize the general characteristics of the aggregate at the depth sampled, but it is too few to use for a large sample statistical analysis

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<sup>57</sup> This summary was prepared by S. Graham, P. Geo from the test pit logs in Appendix 5 that were prepared by J. Shearer, M.Sc., P. Geo.

<sup>58</sup> A sample was not collected at test pit GL2 DH2. See Table 5.

Table 5

Summary of the Test Pit Program 2022 at Union Bar

DH ID	Surficial Sand & Silt	Gravel From	Gravel To	Total Mass	Oversize	<1.5"/Total
	To	From	To			
	ft.	ft.	ft.	Kg	Kg	

1	GL1 DH2	3.5	5	6	733	377	49%
2	GL1 DH3	3.5	5	6	1549	924	40%
3	GL2 DH2	15	16	17	nd	nd	nd
4	GL2 DH3	8	9	10	989	312	68%
5	GL2 DH4	5	6	7	821	450	45%
6	GL3 DH21	11	12	13	995	633	36%
7	GL3 DH3	2	3	4	983	314	68%
8	GL3 DH4	6	7	8	817	575	30%
9	GL4 DH1	6	7	8	930	524	44%
10	GL4 DH2	8	9	10	918	410	55%
11	GL4 DH3	10	11	12	1011	727	28%
12	GL4 DH4	4	5	6	929	431	54%
13	GL4 DH5	10	11	12	857	386	55%
14	GL5 DH1	10	11	12	582	298	49%
15	GL5 DH2	12	12	14	513	210	59%
16	GL5 DH3	nd	9	10	817	506	38%

Average	8	9	10	<b>896</b>	472	<b>48%</b>
Max	15	16	17	1549	924	68%
Min	2	3	4	513	210	28%

Notes: The original data are in feet  
1 foot = 0.3048 meters

For the upper unit, "From" is the ground level = 0'  
For the lower unit "To" is the bottom of the test pit

#### 9.1.4 Significant Results and Interpretation

Useful information obtained from the test pit program includes:

- The overburden (surficial sand and silt) unit has an average thickness of 8 feet (2.4 meters), ranging from 2 feet (0.61 m) to 15 feet (4.6 m).
- The underlying gravel unit is encountered at a depth of 9 feet (2.7 m) on average. It ranges from 3 feet (0.91 m) to 16 feet (4.9 m).

An important observation is that, in the test pit data (Table 5), the average percentage of gravel mass that has a diameter of 1.5 inches (38 mm) or less is 48%, ranging from 28% to 68%. Gravel with a diameter of 1.5 inches (38 mm) or less is considered by CGG to be commercially saleable after washing. Thus about half of the bulk gravel and sand deposit can be sold after washing and screening, but without crushing, per CGG.

Metro Testing & Engineering Inc. sieved a composite sample of aggregate material delivered by CGG in April 2022. As described in §13.1 (Figure 15) Metro found about 98% of this composite sample was 38 mm or less. The difference in the reported results about the aggregate size distribution (that is, the test pit result that 48% of the sample was 38 mm or less, but about 98% of the single composite sample tested by Metro was 38 mm or less) was due to Shearer discarding the oversize material before transmitting the 38 mm minus fraction to Metro for size distribution testing by sieving.

Mr. Osha of CGG informed the author (pers. comm.) that if a significant proportion of the mined aggregate is found to be oversize (that is, greater than 38 mm (1.5 inches)) then the oversize material would be sold as ornamental stone to the extent possible and the remainder would be crushed. Mr. Osha noted that, based on his experience in the 2011 Siga exploration program, rocks larger than 9 inches (230 mm) are rare on the site. This is an anecdotal observation. The focus of the 2011 Siga exploration program was to find placer gold rather than to describe the aggregate matrix

#### 9.2. Rock Pit Flagstone Site near Quesnel, BC

##### 9.2.2 2022 Exploration Program

The scope of the exploration program at the Rock Pit Flagstone site was quite limited because of access. The author visited the site on September 14, 2022, along with CGG representatives Peter Osha, Anna Osha and Brian Hauff. At the time CGG was clearing and upgrading the site access road (as shown in Figure 10) to facilitate geological exploration.

There are two large bedrock exposures on the site, shown as Pit #1 and Pit #2 on Figure 10. The two outcrops had been created with an excavator and explosives by a previous prospector. Only Pit #2 was accessible by vehicle at the time of the site visit. The author inspected the outcrop and took several pieces of representative slabs as samples. The author prepared a report on the site visit for CGG (Graham (2022)).

The author confirmed that the rock on the outcrop had substantial cleavage in a north-south strike with near vertical dip. The cleavage extended to at least 3 m bgs. The rock was suspected to be a fine-grained extrusive on the basis of a hand lens inspection. For confirmation a sample was submitted to Vancouver Petrographics Ltd. for a thin-section petrographic determination. The results are described in §8.2. Photos of the site taken by the author are presented as Figure 21 in §7.2.3

CGG has informed the author that the upgrade of the site access road is now complete. A geological survey, to better delineate the extent of the cleaved rock, is recommended for next summer.

The significant results of the limited 2022 exploration effort at the Rock Pit Flagstone site are (1) confirmation that the dimension stone or flagstone resource exists, at least at one place (Pit #2), (2) a petrographic identification of the flagstone as a trachy-latite, and (3) improvement of site access so that it is feasible for further exploration and small-scale mining.

## 10.0 Drilling

### 10.1 Drill Program at Union Bar near Hope, BC

The drill program was performed by J. Shearer, M.Sc., P.Geo. of HomeGold Resources Ltd. for CGG in April 2022. The drilling contractor was Vanmars Drilling Ltd. of Abbotsford, BC.

The locations of the drill holes are shown in Figure 14 (in §9.2.2). A summary of the drill program from Shearer (2022) is placed in Table 6<sup>59</sup>.

The purposes of the drill program were to (1) determine the depth of the gravel deposit, and (2) find the depth to the water table. The purpose was not to define a zone of mineralization. Shearer's report does not specify the dip of the drill holes, so the author assumes that they were vertical. The issue of dip angle and true thickness is not relevant to this drill investigation.

Useful information obtained from the drill program includes:

- The overburden (soil, silt, sand) over the gravel ranges from 1.2 m (4 feet) to 3 meters (10 feet) thick
- The gravel extends to depths below the water table
- The gravel extends to depths up to 24.38 meters (80 feet) below ground surface

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<sup>59</sup> This summary was prepared by S. Graham, P.Geo from the drill logs that were prepared by J. Shearer, M.Sc., P. Geo.

Table 6

Summary of the ODEX Drill Program 2022 at Union Bar

DH ID	Depth to Gravel ft.	Depth to Groundwater ft.	EOH Depth ft.	Comment
GL1 DH1	4	45	80	
GL1 DH2	10	35	40	
GL1 DH3	10	35	40	
GL2 DH1	10	40	70	plug at 50'
GL3 DH1	4	35	60	plug at 60'
GL4 DH1	4	35	60	plug at 60'
GL5 DH1	10	31	80	

Notes: The original data are in feet  
1 foot = 0.3048 meters

EOH is end of hole  
DH is drill hole  
GL is grid line

Material above the gravel is  
soil and/or sand/silt

- While the water table elevation was not established, the gravel became wet at depths of 9.4 to 13.7 meters (31 to 45 feet) below ground surface, and usually between 10.7 to 12.2 meters (35 to 40 feet) below ground surface.

Shearer did not install piezometers in any of the drill holes to determine the true depth to groundwater or the elevation of the groundwater table.

## 10.2 Rock Pit Flagstone Project near Quesnel, BC

To the author's knowledge no drilling has been conducted at the Rock Pit Flagstone site.

# 11.0 Sample Preparation, Analysis and Security

## 11.1 Union Bar near Hope, BC – Samples for Aggregate Testing

As described in §9.1.3 (see Table 5) bulk samples of aggregate were collected from 16 of 17 test pits at the site on April 14, 2022 by J. Shearer M.Sc., P.Geo. of HomeGold Resources Ltd. of Port Coquitlam BC. To the author's knowledge HomeGold Resources is a consulting firm independent of CGG and Mr. Shearer is its principal.

The test pit logs in Shearer's 2022 report show that he logged the samples himself and identified their locations with UTM coordinates (see Figure 14). Each test pit bulk sample was weighed, then separated into 7 size ranges by sieving. The material in each size range was also weighed. All test pit logs were dated April 14, 2022.

A summary of the bulk sample weights (masses) is presented in Table 5 of this report. From the information presented in Table 5 it can be calculated that the total mass of the bulk samples was 13,444 Kg. The "oversize" (> 38 mm diameter) proportion had a mass of 7077 Kg, and the finer proportion had a mass of about 6367 Kg.

Mr. Osha informed the author that the finer fraction was classified into 4 samples by size. Mr. Osha delivered the samples to Metro Testing himself. In an e-mail dated April 20, 2022<sup>60</sup> Mr. Osha stated that four samples were received by Metro Testing from him<sup>61</sup> and authorized Metro Testing to combine the four samples that were received by Metro into one composite sample for aggregate tests. From that the author infers that four samples were delivered to Metro Testing on or before April 20, 2022; however no record of that receipt could be found in CGG's files, According to Mr. Osha, Metro

<sup>60</sup> A copy is placed in Appendix 2.

<sup>61</sup> E-mail from Peter Osha to Brian Hauff, Feb 28, 2023 at 10:45 am, and forwarded to the author. Mr. Osha stated that "I delivered the samples to Metro Testing personally. All samples had been classified into the required sizes. Metro Testing remixed the total of all sampled and they took what they needed for testing from the remixed material"

Testing remixed the four samples and then took what it needed for testing from the remixed material. No Chain of Custody could be found.

In its aggregate quality testing report to CGG of June 03, 2020 Metro Testing stated (page 1) that it “*carried out a prequalification testing on two (2) types of aggregate samples: Pit Run Gravel and Sand<sup>62</sup> from Canyon-Gold’s Hope pit, Hope, BC. It is understood that both are unprocessed composite sample (sic) as blended from 4-sub-samples from Grid Lines, GL#2-4*”.<sup>63</sup>

After combining the four samples into one composite sample Metro stated that it would test the material from 28 mm to 5 mm as coarse aggregate (as this corresponds to the sizes typically used for concrete). Metro also performed tests for fine aggregate in the sand size range. The upper limit of this range is 5 mm, but the lower range is not specified. The gradation charts for both the coarse and sand samples are shown in Figures 15 and 16 of this report.

Problems with the foregoing procedures are: (1) the masses of the original samples delivered to Metro Testing are not documented, (2) the masses that Metro Testing actually tested (especially for size gradation) is not clear, (3) the compositing process or selection process used at the site is not clear, especially as Shearer reports that 16 bulk samples were collected and Metro Testing reports that four samples were received, (4) the subsampling process used in the field is not clear, but it appears to have been spatially biased as samples from GL#1 were not included and (3) the sample number was reduced to one (from 16 original test pit samples to four that were delivered to the lab, to one by combining the four into one at the lab). The aggregate properties were reported on the basis of a single composited sample. A sample of one has no variance nor can statistical analyses be performed on it.

## 11.2 Union Bar near Hope, BC – Samples for Placer Gold Testing

Sevro Laboratories<sup>1</sup> (of Langley, BC) sample receiving sheet dated April 27, 2022 (see Table A3-1 in Appendix 3) shows that 16 samples were delivered there by HomeGold Resources on April 27, 2022 (13 days after logging<sup>64</sup>). The sample names on the test pit logs are not consistent for 2 of these samples and there is no record of a sample from test pit GH2 DL1 (for which no field processing or bag sample was collected. See Table A3-2<sup>65</sup>). An e-mail from Sevro to HomeGold Resources Ltd. of May 30, 2022 states that Mr. Shearer delivered the samples to Sevro himself; however no formal Chain of Custody form was found in the CGG files.

<sup>62</sup> The information in the quotation is not clear. One sample was gravel, the other sample was sand.

<sup>63</sup> See Table 5 and Figure 14

<sup>64</sup> It is about 112 Km from Hope, BC to Langley, BC, where Sevro is located.

<sup>65</sup> Table A8-2 was prepared by the author from the original data.





PROJECT NO. VE40608

CLIENT CANYON GOLD & GRAVEL INC  
C.C.

TO  
CANYON GOLD & GRAVEL INC  
SUITE 200 - 100 PARK ROYAL S  
WEST VANCOUVER, BC  
V7T 1A2

Figure 15

Gravel Sieve  
Analysis

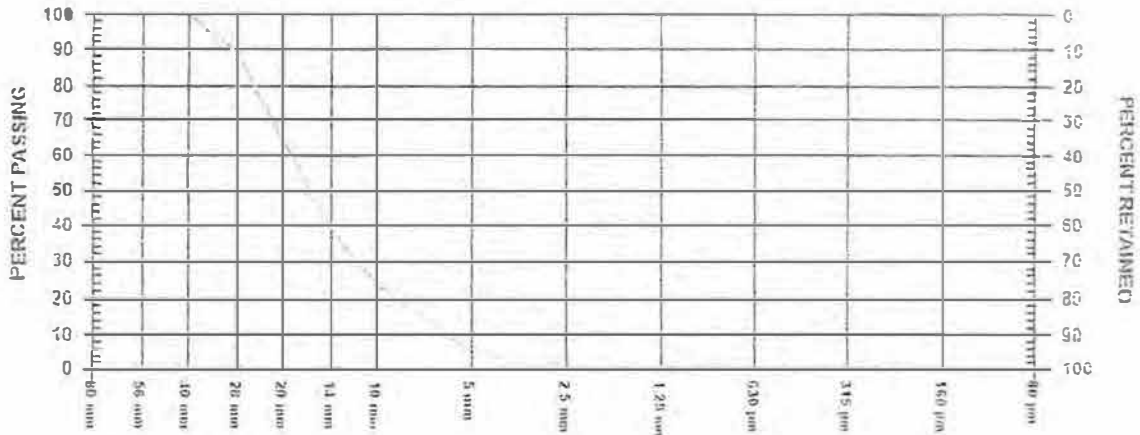
ATTN: BRIAN HAUFF

PROJECT PRE-QUAL FOR CONCRETE/ASPHALT AGG  
PRE-QUAL  
CONTRACTOR CANYON GOLD & GRAVEL INC

TBD Union Bar Deposit  
TBD

SIEVE TEST NO. 1 DATE RECEIVED 2022.Apr.16 DATE TESTED 2022.Apr.25 DATE SAMPLED 2022.Apr.15

SUPPLIER CANYON GOLD & GRAVEL INC.      SAMPLED BY CLIENT  
SOURCE NOT PROVIDED      TESTED BY EX  
SPECIFICATION      TEST METHOD ASTM C-117  
MATERIAL TYPE 75 mm PITRUN



GRAVEL SIZES	PERCENT PASSING	GRADATION LIMITS
80 mm		
56 mm		
40 mm	100.0	
28 mm	88.7	
20 mm	64.1	
14 mm	38.4	
10 mm	24.3	

SAND SIZES AND FINES	PERCENT PASSING	GRADATION LIMITS
5 mm	5.0	
2.5 mm	0.8	
1.25 mm	0.5	
630 μm	0.4	
315 μm	0.3	
160 μm	0.3	
80 μm	0.2	

COMMENTS  
Result is the average of 4 location sample

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request. All tested materials will be stored for one week only.



METRO TESTING & ENGINEERING

#18 - 3275 McCallum Road ph: 1-888-855-9733
Abbotsford, B.C. V2S 7W8 fax: (604) 855-7378



SIEVE ANALYSIS REPORT
SI Standard SERIES

PROJECT NO. VE40608

CLIENT CANYON GOLD & GRAVEL INC
C.C.

TO
CANYON GOLD & GRAVEL INC
SUITE 200 - 100 PARK ROYAL S
WEST VANCOUVER, BC
V7T 1A2

Figure 16

Sand Sieve Analysis

Union Bar Deposit

ATTN: BRIAN HAUFF

PROJECT PRE-QUAL FOR CONCRETE/ASPHALT AGG
PRE-QUAL
CONTRACTOR CANYON GOLD & GRAVEL INC

TBD
TBD

SIEVE TEST NO. 2 DATE RECEIVED 2022.Apr.16 DATE TESTED 2022.Apr.28 DATE SAMPLED 2022.Apr.15

SUPPLIER CANYON GOLD & GRAVEL INC SAMPLER BY CLIENT
SOURCE NOT PROVIDED TESTED BY EX
SPECIFICATION CSA FINE AGGREGATE FA1 TEST METHOD ASTM C-136
MATERIAL TYPE SAND

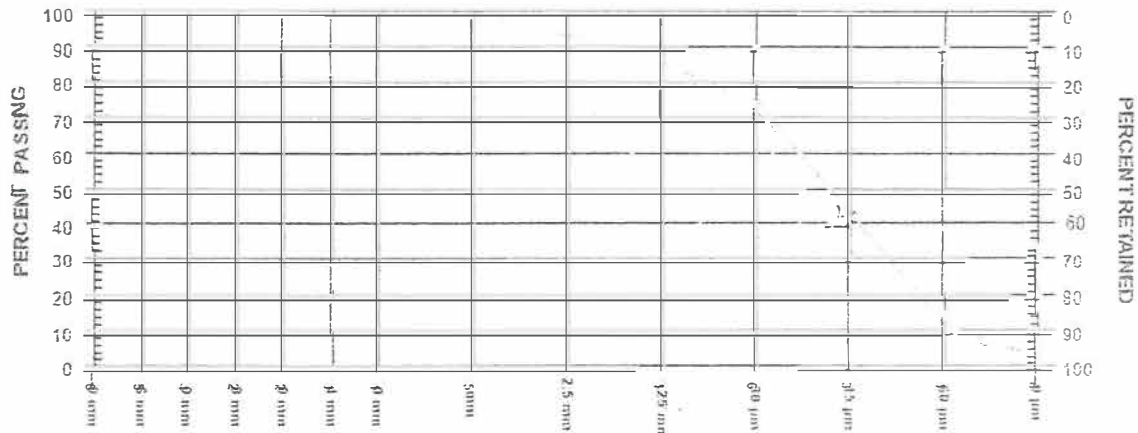


Table with 6 columns: GRAVEL SIZES, PERCENT PASSING, GRADATION LIMITS, SAND SIZES AND FINES, PERCENT PASSING, GRADATION LIMITS. It lists sieve sizes from 80 mm down to 10 micrometers and corresponding passing percentages and gradation limits.

FINENESS MODULUS 1.93 SPEC LIMITS 0.00 - 0.00

COMMENTS
Result is the average of 4 location sample.

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of test results is provided only on written request. All test materials will be stored for one week only.

The total mass of the 16 samples received by Sepro was 17.81 Kg. The average mass of the samples was thus 1.11 Kg. However a calculation from the data in Table 5 is that the mass of the fraction of the 16 bulk samples less than 1.5 inches (38 mm) in diameter was 6367 Kg. It is not clear how the 17.81 Kg submitted for testing was selected from the 6367 Kg of bulk samples.

While there were 16 test pits, and 16 samples were delivered to Sepro, and Sepro received 16 samples, the lack of correspondence between the sample names of two of the samples as delivered and received implies that QA criteria were not applied rigorously. Further the fact that 13 days elapsed between the collection of the samples and their delivery to a lab only about 100 Km away raises concern about the security of the samples. On the other hand, the available information indicates that Mr. Shearer both personally collected the samples and delivered them to Sepro Labs. It is noted that the somewhat informal procedures for sample management do need to be reviewed. While the lab documentation is incomplete for Metro Testing in the CGG files, it does appear that the samples were tracked by Metro Testing and Sepro Labs upon being checked in.

According to Sepro's e-mail report to May 30, 2022 (forwarded to CGG) (a copy is placed Appendix 3) each of the 16 samples was assayed for gold. The remaining material was then composited into a single sample of material less than 300  $\mu\text{m}$  (0.3 mm) and tested for recovery by floatation. While the gold recovery by floatation was thus estimated by a single sample, the composited sample did represent a substantial proportion of Union Bar (see Figure 14).

In summary, the sample masses reported on the test pit logs are typically about 800 Kg, whereas the corresponding samples delivered to Sepro were about 1 Kg, and the masses of the four samples delivered to Metro Testing were not found. No explanation of the sample processing before delivery to the labs was found in the CGG file.

### 11.3 Rock Pit Flagstone Project near Quesnel, BC

The author took four samples of bedrock from the Rock Pit site during the field visit and transported them to Delta in his luggage. He selected one sample as being typical and sent it to Vancouver Petrographics (VP) in Langley, BC by Canada Post. VP acknowledged receipt of the sample by e-mail and returned the sample and a thin section made from it to the author by return mail. The author confirmed that the returned sample matched the one that he sent to VP. After receiving VP's report the author gave the sample and thin section to John Ostler, M. Sc., P. Geo. of CGG for CGG's care. VP did not assess the sample for mineral concentrations, but only for an accurate determination of the rock type.

#### 11.4 Information about Testing Laboratories

Two laboratories were used to test the samples, and one specialty petrographic service was used. All are located in the eastern part of the Fraser Valley about 100 Km west of Hope, BC.

##### Metro Testing & Engineering Ltd.

Metro Testing is located in Abbotsford BC with subsidiary offices in 9 cities in BC and one in Edmonton, Alberta. Metro performs a range of geotechnical and environmental testing (see *Metrotesting.ca*). The following information appeared on its web site on 3/13/2023:

Metro Testing + Engineering's materials testing laboratories are certified by the Canadian Council of Independent Laboratories (CCIL). We are committed to ensure all laboratory procedures and requirements are updated on a continuous basis. It is our policy to ensure that all employees are encouraged to participate in continuing education, in applicable fields, through company-sponsored programs. The equipment used by our technicians is on a regular calibration schedule. Procedures used in testing, correspond to recognized specifications.

As an independent commercial materials testing company, our facilities conform to the Canadian Standards for Certified Concrete Testing Laboratories (CSA A283 Category II + Additional tests). Our concrete testing personnel have been certified by the Canadian Standards Association (CSA) as required and the American Concrete Institute (ACI).

##### Sepro Laboratories

Sepro Laboratories (formerly Met-Solve Laboratory) is a specialist metallurgical and mineral testing company located in Langley, BC. According to a phone call to Sepro (Mr. Kwok, Nov. 23, 2022) Sepro is not accredited for assay work. For assay work Sepro sends samples to MSA Labs Inc., which is accredited.

##### MSA Labs Inc.

Sepro subcontracted the assays for placer gold to MSA Labs Inc. of Langley, BC. MSA specializes in geochemical testing. The author phoned MSA and was informed that it is accredited as ISO 17025:2017 and ISO 9001:015 as of November 23, 2022.

To the author's knowledge all of the above testing services are independent of CGG and the only relationship has been to perform specified tests for samples provided by HomeGold Resources Ltd. on behalf of CGG, or directly by CGG.

## Vancouver Petrographics Ltd.

Vancouver Petrographics is not a laboratory but rather a firm specializing in petrology. The person that analyzed the author's specimen was Dr. John Payne, P.Geo. Dr. Payne is qualified and experienced for this work. He is registered with EGBC as a professional geoscientist (as of the effective date of this report).

### 11.5 Quality Assurance (QA)

QA for samples collected in the field usually involves a combination of duplicate samples, blank samples and travel samples. Sample variance is then compared to prescribed criteria for a decision on sample validity. Other measures such as lab receipt forms and chain of custody forms are used to track sample transmission and demonstrate sample security.

There was no evidence in the CGG or lab records in the CGG files to indicate that any QA protocol was in effect at the field stage. There is no chain of custody record. The only lab receipt form that was found was for the delivery to Sepro (see Appendix 3). The sample names did not match for 2 of the 16 samples delivered.

### 11.6 Author's Opinion

The sampling procedures followed by HomeGold' resources and CGG in April, 2022 at Union Bar site could be described as informal, but they were not unusual for the prospecting industry. In particular the transport of the placer gold samples should not have taken 13 days if the goal was to provide confidence in the sample integrity.

The processing of the samples both in the field and in the labs is underdocumented. Compositing of samples is a common procedure in field sampling. However reducing the number of samples to one removes any variance from the sample set.

Insofar as the field samples were collected by a registered professional, and they appear to have been delivered to Sepro Lab by the same person for gold testing, and the lab that did the gold analyses was accredited and established, the author recommends relying on the lab analyses for placer gold.

While the field sampling procedures were informal and unstructured, the author has little doubt that the samples were collected and delivered to the labs by the same persons, even if the paperwork is insufficient for QA purposes.

On this basis, the author is of the view that the April 2022 composited data are indicative of the general properties of the aggregate and gold content at the site; however the author notes that the data cannot be used to estimate variation of parameters in plan or depth. As the field samples were collected at a consistent depth of 5 to 6 feet below ground surface, it cannot be inferred that the characteristics of the deposit are uniform with depth. The sampling scheme covered most of the proposed

mine area, however spatial bias may have been introduced by not including samples from Grid Line 1 into the composite sample(s) delivered to the labs.

The tests performed by Metro Testing and Sepro lab appear to have been done competently. However Metro did not provide sufficient information on the number and masses of the samples upon receipt, nor from whom the samples were received. Metro's compositing procedure is not well documented.

The informal sampling may be sufficient for exploration purposes, but a more structured sampling procedure is recommended for mine planning and production purposes.

The author recommends that CGG create a file with the entire documentation of the sampling episode, including the complete reports from the labs and from the consulting geologist. It is recommended that this compilation of formal reports be placed on a separate page of CGG's web site.

The author does not consider the procedures for sample collection, preparation, quality assurance, and security to have been adequate, particularly for the placer gold part of the project. The analytical procedures appear to have been adequate.

## 12.0 Data Verification

### 12.1 Union Bar Aggregate and Placer Gold

The author has reviewed the available information and assessed its validity and limitations. This assessment was presented in §11, above.

The author has not attempted to verify the sampling and analytical data in the CGG files. No material related to drilling and test pit sampling was available for review or re-testing. The author observed several of the 2022 test pits on the ground at Union Bar.

The author telephoned both Metro Testing and Sepro to confirm that they were in operation, and whether they are accredited.

The author reviewed the original lab reports in Mr. Osha's project file. Copies are placed in Appendices 2 and 3.

The qualified person's opinion on the adequacy of the data for the purposes used in the technical report is presented in §11.6, above.

## 12.2 Rock Pit Flagstone

There were no drilling, testpitting or analytical lab data collected at the Rock Pit flagstone site to verify. The author inspected the existing pit #2 quarry and confirmed that the resource described in the CGG documents exists at that site, and had an independent firm confirm the field identification of the petrography of the rock at the site on the basis of a representative sample collected by the author.

## 13.0 Mineral Processing and Metallurgical Testing

The required content of this section per Form 43-101F for the title above does not correspond well with the testing required for an aggregate or placer gold deposit. The author will summarize the tests that were done and the results.

### 13.1 Union Bar near Hope. BC – Aggregate Testing

According to Peter Osha (pers. comm., 11/22/2022) CGG collected bulk pit samples of the aggregate from 16 test pits on the site. Those are shown in Figure 14 and tabulated in Table 5. CGG then screened the bulk pit samples into (1) a gravel fraction comprised to 1.5" (38 mm minus) to 3/16" (4.8 mm), a sand and fines fraction of 4.8 mm minus, and (3) an oversize fraction greater than 38 mm. The oversize fraction was discarded.

Summarizing from §11.1, CGG delivered four samples to Metro Testing. Upon receiving Mr. Osha's approval, Metro remixed the four samples and then produced two samples (one gravel, one sand and fines) for its testing program. Each of the two samples received was a composite of four subsamples from Grid Lines 2, 3 and 4 (see Figure 14 and Table 5, in §9.1.3). There is no information in the Metro Testing report or the CGG file as to how the 4 sub-samples were selected, nor how the two gravel and sand samples that were delivered to Metro were composited<sup>66</sup>.

Metro Testing divided all or a portion of the material received from CGG into coarse (28 mm to 5 mm) and fine (5mm minus) fractions. A sieve analysis was performed on each of these coarse and fine fractions. The results are presented in Figures 15 and 16 of this report. 100% of the composite sample was below 40 mm, and 88.7% was below 28 mm. (1½ inch minus is 38 mm minus). Only 5% was finer than 5 mm (a lower limit for gravel)<sup>67</sup> indicating that the 28 mm minus fraction of the Union Bar deposit is not sandy.

Note in Figure 15 (in §11.1) that the samples tested by Metro Testing were entirely less than 40 mm (1.6 inches) diameter, but this fraction was only 48% of the total mass of

<sup>66</sup> Sepro Labs, which performed the placer gold testing, reported receiving 17.81 Kg of the 4.8 mm minus material from HomeGold (see Appendix 3) and Table 8 in the text.

<sup>67</sup> Silt particles are from 0.002 to 0.05 mm in diameter. Sand ranges from 0.05 to 2.0 mm. Particles larger than 2.0 mm are called gravel or stones.

the bulk pit samples (see Table 5) on the average. Thus the sample tested by Metro was not reflective of the larger stones (>1.5" or 38 mm) in the gravel unit at Union Bar.

Metro Testing found the dry relative density of the coarse fraction to be 2.67. This corresponds with the value in Table 3 of the Machibroda report (1996). The author used that relative density to estimate the mass of the Union Bar deposit in Appendix 1 of this report and in §14.

Metro Testing (2022) performed a suite of tests on the aggregate sample supplied by CGG and compared them to Canadian Standards Association (CSA A23.1/2-19) and the BC Ministry of Transport and Infrastructure Section 21 requirements (to be used in concrete production). The tests that were performed included:

1. Sieve Analysis (CSA A23.2-2A)
2. Relative Density of Coarse & Fine Aggregate (CSA A23.2-6A & 12A)
3. Micro-Deval Test (CSA A.23.2-29A & 23A)
4. LA Abrasion (CSAA23.2-16A)
5. Clay lumps (CSA A23.2-3A)
6. Low Density Granular Materials (CSA. A23.24A)
7. Flat and Elongated Particles (CSA A23.2-13A)
8. Organic Impurities in Fine Aggregate (CSA A23.2-7A)
9. Unconfined Freeze and Thawing Test (CSA A23.2-24A)
10. Amount of Material Finer than 80 i.t.m (CSA A23.2-5A)
11. Soundness of Aggregate by using of Magnesium Sulfate (CSA A23.2-9A)
12. Alkali-Silica Reactivity by Mortar Bars (CSA A23.2-25A)
13. Potential Expansivity of aggregates (CSA A23.2-14A)
14. Petrographic Analysis (CSA A23.2-15A)

In general, the aggregate sample met the standards for sand and gravel used for concrete for both the coarse (28 mm to 5 mm) and fine (5 mm minus) classes; and for gravel fill for highway and many other uses.

The petrographic number (PN) for the coarse fraction was classified as "fair", which is limiting for certain concrete applications that are exposed to freeze-thaw. There is no reported test result for AAR (alkali-aggregate reaction) (see CSA A23.1/2-2019). This is occasionally found in alluvial gravel in BC and should be assessed by lab testing.

Recall from §11 that the test results presented above are based on a single composited sample that did not include about half of the mass in the gravel unit and was limited to a sample depth of about 1.5 to 1.8 meters (5 to 6 feet) below ground surface.



### 13.2 Union Bar near Hope BC – Placer Gold Testing

According to Peter Osha (pers. comm. Nov. 22, 2022) the procedure for preparation of the samples that were delivered by HomeGold to Sepro from each of the 16 test pits for placer gold testing was as follows:

- In the field all the pit run was screened to collect 3/16 inch minus (4.8 mm minus)
- The 3/16 inch minus soil was pumped to a sluice box where it was separated into sand and concentrate
- The sand and concentrate fractions were each weighed
- The concentrate was sent to Sepro for fire assay and floatation testing

Sepro's sample receiving record is placed in Appendix 3. Sepro received 16 samples (in separate buckets) of concentrate with a total mass of 17.81 Kg. The sample sizes ranged from 0.61 to 1.62 Kg.

No data could be found in the CGG files as to the measured masses of sand and concentrate that were weighed after the material left the sluice box.

If 5 mm is used as a cutoff (rather than 4.8 mm) then, from Figure 15, this was 5% of the mass that passed a 40 mm sieve. In Figure 16 it was 100% of the fine aggregate fraction. Thus the mass of the 16 samples sent to Sepro approximately represented approximately 5% of the 48% of the total mass of the bulk pit samples, or 2.4%.

#### Sepro Lab Test Results

##### Fire Assays

The CGG file did not have a formal lab report from Sepro or HomeGold Resources Ltd., but rather an e-mail transmission of May 30, 2022 from Danny Kwok of Sepro to (Jo) Shearer M.Sc., P.Geo. of HomeGold. HomeGold forwarded the e-mail to B. Hauff and P. Osha of CGG on the same day. A copy of the entire e-mail is placed in Appendix 3<sup>68</sup>. Sepro received the 16 samples from HomeGold, as described above, and performed a fire assay test on each of them. The fire assay test measures the mass of gold in the sample (as ppm, which corresponds to grams per metric ton) and is considered to be accurate.

Sepro then combined all the remaining material into a single composite sample, and performed a floatation test on this sample. The floatation test is less accurate, but CGG proposes to extract the placer gold from the concentrate by floatation so this test mimics the proposed process for extracting the gold content in the concentrate at the mine site. Ideally the floatation process would be as efficient as the fire assay tests, but this is not expected as the floatation process is known to be less efficient but practical for application at the proposed mine.

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<sup>68</sup> The author phoned Sepro Labs and spoke with Danny Kwok, who confirmed that he works there.

Sepro sieved the concentrate that it received into two fractions: 300 µm plus and 300 µm minus. The 300 µm plus material was found to be too coarse to assay, and thus any gold in the 5 mm minus to 0.3 mm plus fraction was not found. 56.4% by mass of the material was not assayed, and the remaining 43.6% was. See Appendix 3. (The reported assay results may thus underestimate the total gold in the concentrate, but, as discussed later, the mass of gold recovered per unit mass of host rock by a bench-scale floatation process corresponded closely with the fire assay results. The author concludes, on the basis of this preliminary testing, that most of the placer gold is contained in the fine 300 µm minus silt.)

The Sepro gold fire assay summary report is placed on the next page as Table 7. The locations of the samples are shown on Figure 14. All 16 samples are listed in this report, notwithstanding that the names of the first two samples do not correspond with Shearer's nomenclature<sup>69</sup>.

Sepro's report includes the information above and including the line "Head" in Table 7. Some general statistics are also presented below this line in a separate box on Table 7. These were calculated by the author.

Sepro's average Au assay is 17.66 ppm (corresponding to grams per metric ton) for the concentrates. The individual sample results vary, having a range of 48.93 ppm, or 2.8 times the mean value. The highest concentration of gold is 54.57 ppm for GL4 DH2, and the lowest is 5.64 ppm for "GL1 Sample #1" (likely GL1 DH2). Other statistics are presented in Table 7.

About 30 samples are required to have the mean of a sample set correspond closely to a normal distribution about the true population mean; there are only 16 samples in this set. An estimate of the confidence interval for the sample mean (17.68 ppm) for a smaller sample set can be made using a T-distribution. For this case the 95% confidence interval for the sample mean is 17.77 to 17.59 ppm. There is a 5% chance that the population mean does not lie in this confidence interval. See Table 7.

### Floatation Test

The floatation test was based upon a single sample composited from the material not used in the fire assays. Since the masses of the bulk field samples varied (see Table A3-2) but the subsamples used for the fire assays would not, the composition of the composited bulk sample was biased to towards the larger bulk samples. Otherwise the composited sample used for the floatation test represented the full set of field samples.

Sepro (e-mail of May 30, 2022, Appendix 3) also noted that material coarser than 300 µm (i.e. 0.3 mm plus) was also screened out as it was too coarse to be used in the test. As the sample that was sent to Sepro was 5 mm minus, the material with diameter between 5 mm and 0.3 mm was not included in the floatation test. Thus the floatation

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<sup>69</sup> See Table A3-2 in Appendix 3

**Table 7****Sepro Gold Fire Assay Results at  
Union Bar**

Project: M82060		
Sample Name	Sample	Assay (ppm)
	Number	Au
GL1 Sample #1	125881	5.64
GL1 Sample #2	125882	17.82
GL2 DH2	125883	25.21
GL2 DH3	125884	25.53
GL2 DH4	125885	12.31
GL3 DH2	125886	17.46
GL3 DH3	125887	8.77
GL3 DH4	125888	16.85
GL4 DH1	125889	17.78
GL4 DH2	128890	54.57
GL4 DH3	125891	10.92
GL4 DH4	125892	9.10
GL4 DH5	125893	18.47
GL5 DH1	125894	11.07
GL5 DH2	125895	6.55
GL5 DH3	125896	24.82
Head (Average)	-	17.66

Mean		17.68
SDs		11.75
Coeff of Variance		0.665
Max		54.57
Min		5.64
Range		48.93
Range / Mean		2.77
95% Conf. Interval T-distribution		0.187
Upper CL		17.77
Lower CL		17.59

Source: Seupro report provided by CGG.

ppm refers to the ratio of the mass of placer gold to the mass of the concentrate. The concentrate is the 300  $\mu\text{m}$  minus material in the pit run aggregate.

1 ppm corresponds to 1 gram per metric ton

Statistical calculations in the lower box were performed by the author

For sample locations see Figure 14

End of Table 7

test result would be biased conservatively by omitting gold particles with a diameter exceeding 0.3 mm.

Sevro ran the concentrate sequentially through the floatation chamber three times. The percentage of gold recovery increased slightly each time but with much less efficiency, as expected. The optimal processing appears to be one pass through the floatation chamber. See Table 8.

Sevro summarized the results of the floatation tests as follow:<sup>70</sup>

For the floatation test, we simply applied a gold reagent suite to the sample which evaluated a number of different gold collectors.

The primary goal was to make sure we recover the Au, and no optimization was undertaken. We also had to screen the sample at 300um (remove +300um) prior to the floatation test as the sample was otherwise too coarse.

Overall, the floatation results were positive as 97.2% of the overall Au was recovered into 0.5% of the mass [*of the influent concentrate*], with a concentrate grade of 3319.7 g/t Au. Additional floatation stages increased the Au recovery to 99.95%, but diluting the concentrate grade to 949.89 g/t Au.

Referring to the Floatation Test Report in Table 8 (also Table A3-4 in Appendix 3), the calculated recovery of gold by the floatation method was 18.00 grams per metric ton of concentrate (0.3 mm minus) while that assayed by the fire test was 17.68 g/MT (Table 7). The difference (1.81%) is small, and it can be concluded that the floatation process would be suitable at this site if it is cost-effective.

The Sevro data are considered to be reliable to the extent that the samples collected by HomeGold are. It is recommended that CGG obtain a formal report from Sevro.

The risk factors regarding the application of the test results to the proposed placer gold operation are (1) that the small sample sets (16 for the fire assays and 1 (one) for the floatation test) are not representative of the entire aggregate deposit, and 2) that the production-scale floatation process might differ significantly from Sevro's bench-scale floatation result.

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<sup>70</sup> D. Kwok for Sevro, e-mail of May 30, 2022. See Appendix 3.

Table 8

### Sepro Labs Flotation Test Report

Objective : Conduct Scoping Au flotation on undersize (- 300  $\mu$ m) sample to investigate the overall Au recovery

Product	Mass		Assays, g/MT	Distribution, %
	g	%	Au	Au
Total Oversize (+1 mm)	350.9	15.0	0.01	0.01
Total Oversize (+1 mm + 300 $\mu$ m)	965.3	41.4	0.01	0.02
Rougher Concentrate 1	12.3	0.5	3319.70	97.20
Rougher Concentrate 2	16.0	0.7	62.12	2.37
Rougher Concentrate 1 - 2	28.3	1.2	1477.96	99.57
Rougher Concentrate 3	15.9	0.7	10.00	0.38
Rougher Concentrate 1 - 3	44.2	1.9	949.89	99.95
Rougher Tails	973.6	41.7	0.01	0.02
Calculated Head	2334.0	100.0	18.00	100.00
Assayed Head			17.68	

Client: HomeGold Resources  
 Test: CQ102  
 Sample: Head Sample

Date: 12-May-22  
 Project: MS2060  
 Operator: Ja. T.

Source : Sepro Lab report by email May 30, 2022 3:22 PM. See Appendix 2

## 14.0 Mineral Resource Estimates and Classifications

### 14.1 Union Bar near Hope, BC

The Union Bar deposit can be mined for aggregate and for placer gold. There is no tradeoff between the two products as the value of the aggregate lies in the sand and gravel fraction, and the placer gold was found in the fine sand to silt particle sizes (less than 0.3 mm in diameter). Thus they are addressed separately.

### 14.2 Estimate of the Volume and Mass of the *In Situ* Bulk Aggregate Resource

As previously discussed in §6 (History), N. Froc, P.Eng. (1996 Machibroda Engineering report) developed a reasonable estimate of the mass of the aggregate resource on Union Bar as 19.12 million metric tons (20.97 short tons).

Froc's estimate assumed that the gravel on the bar be excavated to elevation 20 m amsl. If the typical ground surface elevation on Union Bar is 46 m amsl, adopted from inspection of the figures on pages 8, 9, 10 and 11 of the Machibroda report, then the gravel deposit on Union Bar had to be at least 26 m (85 feet) thick before bedrock was encountered.

As described in §10 (Drilling) CGG advanced 7 drill holes in Union Bar in 2022 to confirm Froc's assumption that bedrock would not be encountered above 20 m amsl. As shown in Table 6 of this report, the drill holes did not extend to a depth of 85 feet (26 m) bgs, but two were 80 feet (24.4 m) bgs and one was 70 feet (21.3 m) bgs. These results confirmed that the gravel unit is sufficiently thick for Froc's estimate of the aggregate mass (about 19 million MT) to be reasonable, using his assumptions.

Note, however, that the estimated depth to groundwater in the drill holes is only about 31 to 45 feet (9.4 m to 13.7 m) bgs in Table 6. CGG has informed the author that underwater extraction of aggregate is not economically feasible at this time, so the effective extraction depth is about 14 m bgs (or EL 32 m amsl). The drill results do appear to confirm that the thickness of the sand and gravel unit is this thick over the proposed area of Union Bar to be mined.

Froc's estimate can be improved on the basis of additional information collected since it was developed, including:

- An average overburden depth of 2.4 meters (8 feet), per Table 5, is used instead of 300 mm.
- A density factor of 2.6 Mg/m<sup>3</sup> is used on the basis of the bulk specific gravity values in Table 3<sup>71</sup> of Froc's report. Metro Testing derived a similar value.

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<sup>71</sup> The table number is not legible on the author's copy. This table is near the end of the report.

- As Froc did not include his calculations for land elevation in his report, a typical value of EL 46 m amsl for the surface of Union Bar is adopted from inspection of the figures on pages 8, 10 and 11 (pdf) of the Machibroda report.
- The plan area is calculated by Google Earth. The material in the buffer strips and in the excavation slopes are excluded. One Hectare in the southern part of the Union Bar is also excluded as it is described as a “disturbed area”. The initial area suitable for aggregate extraction is estimated to be 46.68 Ha, while the area of DL 57 is 59 Ha. (See Appendix 1 for details.)
- The maximum average depth of extraction is the estimated distance from the ground surface to the average annual lowest water table, based on the record at nearby Fraser Bridge from 1920 to 2022. (The daily water surface level is measured at Fraser Bridge, so the statistics for the water surface level are known for each day of the year for the period of record (102 years). If it is assumed that the water surface level at Union Bar is the value at Fraser Bridge, but adjusted for the elevation difference between Fraser River and Union Bar, and that the elevation of the groundwater table under Union Bar is the same as that of the adjacent river level (due to the high hydraulic conductivity of gravel), then the depth from the ground surface of Union Bar to the average daily elevation of the groundwater table below it can be calculated. The largest value of about 14.1 m occurs about March 1. So, if a ground surface elevation of 46 m is used, then the elevation of the depth of extraction is 31.9 m amsl, assuming that the average high water level at Union Bar is 36 m amsl.<sup>72</sup> (See Figure 22, below, for an illustration)

Please see Appendix 1 of this report for a description of the author's bulk volume and mass estimation procedure. The content of Appendix 1 was prepared on the basis of (1) the Machibroda Engineering report by Froc (1996), (2) drill and test pit logs by J. Shearer, M.Sc., P.Geo., (3) Water Survey of Canada data, and (4) distance and area measurements of the site on Google Earth.

A summary of the calculations presented in Table A1-1 of Appendix 1 is placed on the next page as Table 9. The revised estimates are an *in situ* volume of aggregate of 3.85 million m<sup>3</sup> and an *in situ* mass of aggregate of 10.0 million MT on the DL 57 portion of Union Bar. This revised estimate is 48% less than Froc's estimate. (The reduction of 48% could be recovered by underwater extraction, but CGG has informed the author that it is currently re-evaluating the economic feasibility of underwater extraction but does not wish to consider it to be feasible in this Technical Report.)

It is noted that, while this is considered to be an incremental improvement of Froc's calculation, it is still limited. The topography of Union Bar has still not been surveyed in detail, nor has the excavation plan been drafted in detail, and the piezometric elevations of the water table on Union Bar have still not been measured. However, these

<sup>72</sup> This is an approximate estimate based on average gage values for the period 1922 to 2020. The depth of the water table will exceed the average half of the time, and be less half of the time. Over the mine life this will average out.



Table 9

## Estimate of Aggregate Volume and Mass at Union Bar

Total Area of DL 57	50	Ha	Table 1
Mineable Area on DL 57	46.68	Ha	Google Earth
	466,800	m <sup>2</sup>	
Max Excavation Depth	14.1	m	Flood level figure
Overburden depth	2.4	m	Test Pitting
Aggregate Thickness	11.7	m	Difference
Gross Bulk Agg Vol Available	5,461,560	m <sup>3</sup>	Product
Less Buffers	-1,181,435	m <sup>3</sup>	Table A1-2
Less Cut Slopes	-430,542	m <sup>3</sup>	Table A1-2
Net Bulk Agg Vol Avble	3,849,583	m <sup>3</sup>	Sum
Specific Gravity/Density	2.6	Mg/m <sup>3</sup>	Metro and Froc
Agg Mass Avlbl	10,008,916	Mg or MT	Calculation
Froc Estimate to EL 20 m	19,120,000	Mg or MT	Froc
Difference	-9,111,084	Mg or MT	Calculation
Difference %	-48%		Calculation
Years at 250,000 MT/year	40.0	for 10.0*10 <sup>6</sup> MT	
	76.5	for 19.12*10 <sup>6</sup> MT	

Note: the life of mine calculations are not appropriate for an "inferred mineral resource". They are provided only for the convenience of the reader.

Figure 22

Water Surface Elevation at Union Bar

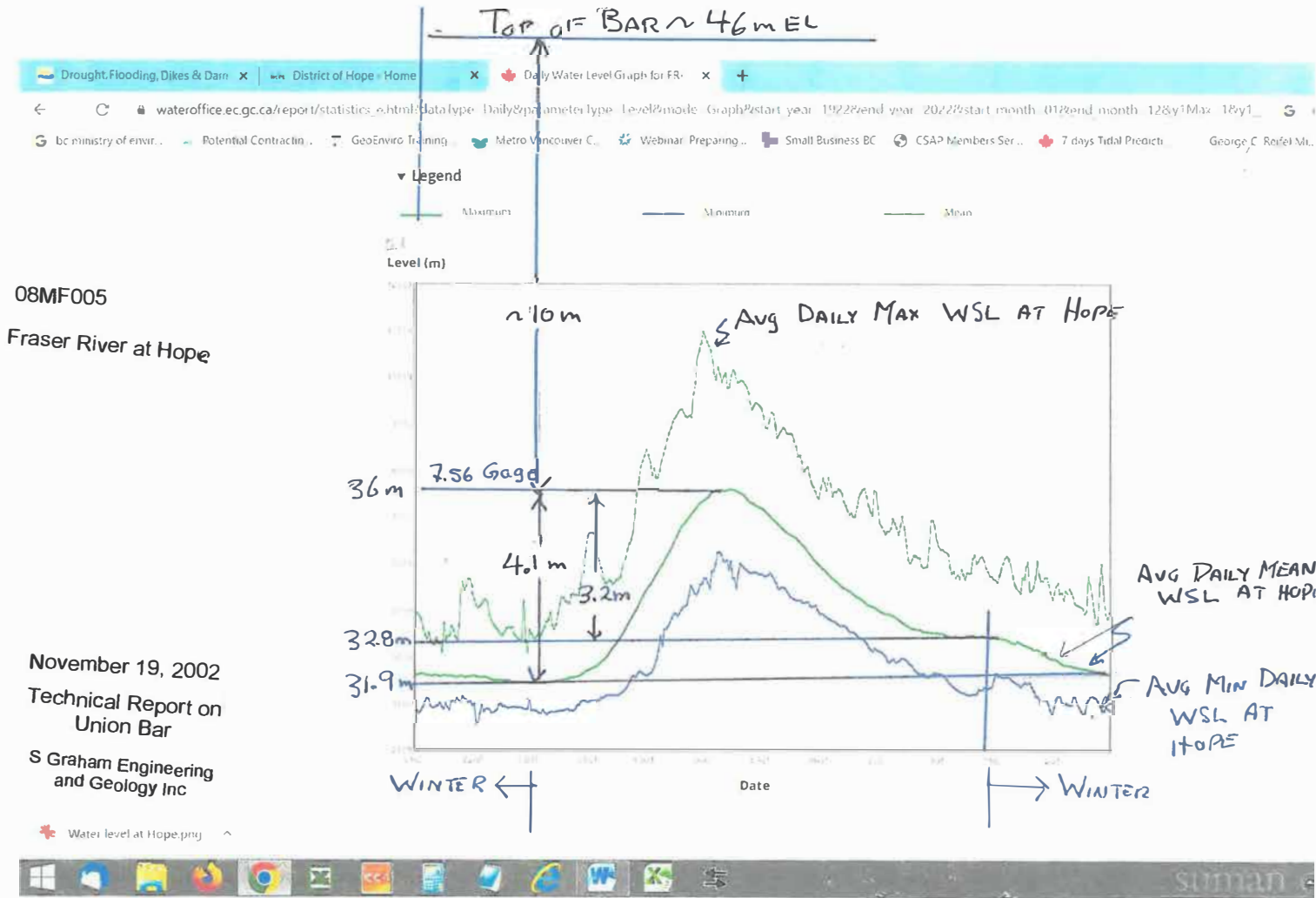


Figure A1-1

estimates of the bulk volume and mass of the sand and gravel unit<sup>73</sup> are the best that can be developed from available information, and are considered to be sufficient for screening level calculations of the feasibility of the aggregate part of the Union Bar project.

(The author has suggested to CGG (B. Hauff, pers. comm. 11/20/2022) that the part of the Union Bar that lies to the north of DL 57 (see Figure 4) could be acquired for mining as well. The author understands, but has not confirmed, that this area is Crown Land. Its area is about 8.2 Ha.<sup>74</sup> Thus the mass and volume estimates in Table 9 do not include the part of Union Bar north of DL 57, so they are conservative in this respect.)

### 14.3 Classification of the Aggregate Resource at Union Bar

Given the foregoing, and the CIM definitions, the author classifies the aggregate deposit at Union Bar as an “inferred mineral resource”.

The CIM Industrial Minerals Best Practices guideline recommends that deposits of industrial minerals consider the ability to sell them into the local market, as the local markets are often oligopolistic. As market research is ongoing for this deposit, no reliable estimate of its value can be provided at this time.

The author is confident that the gravel resource exists at Union Bar since the Bar is an alluvial gravel deposit. However, the uniformity of the deposit needs to be confirmed by additional sampling and testing. In particular AAR tests should be done on aggregate samples of material that would be used for concrete. Additional samples on the Petrographic Number are also recommended.

It is noted that, to the author’s knowledge, no permits have been obtained yet for this project. The project cannot proceed until these are obtained. The permit process is onerous in the Lower Mainland region of BC due to its population density; however, there do not appear to be any significant technical obstacles to obtaining the required permits.

### 14.4 Placer Gold Resource at Union Bar

It is known from historical information that placer gold was found and mined at Union Bar; however, there has been no long-term mining activity on the site. CGG plans to extract placer gold from the fines portion (<0.3 mm minus) of the aggregate waste stream by sieving, washing, and floatation. Thus the volume and mass of the placer gold deposit are the same as those of the aggregate deposit (as described above) times the average concentration of placer gold particles in the bulk deposit of aggregate<sup>75</sup>.

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<sup>73</sup> Silt particles are from 0.002 to 0.05 mm in diameter. Sand ranges from 0.05 to 2.0 mm. Particles larger than 2.0 mm are called gravel or stones.

<sup>74</sup> A approximate measurement using Google Earth

<sup>75</sup> The result should be corrected for the higher specific gravity of gold (19.3) relative to that of rock (about 2.6). This correction is minor given the low concentration of placer gold in the host aggregate and is ignored.

CGG collected 16 samples of fines (0.3 mm minus) over most of the plan area of the deposit at a depth on 1.5 to 1.8 m bgs and submitted them to Sepro Laboratories for fire assay. The mean grade of this concentrate was 17.68 g/MT with a range of 48.93 g/MT (see Table 7). The mean grade of the single floatation test of a composite sample of concentrate was 18.0 g/MT (see Table 8). The recovery rate for the floatation test was 97.2%. The results of the two tests were consistent.

The author could not find an estimate of the mass placer gold contained in a metric ton of pit run aggregate mined. In its absence the author presents one below. The author cautions that this estimate is based on the existing testing data with assumptions at each stage. It is intended only to provide an approximate estimate using the available information. The author prepared this estimate independently, then consulted with CGG about its reasonableness. CGG responded (Peter Osha, pers. comm. by e-mail, 11/27/2022) that CGG's calculations indicated almost the same results.

Please see Table 10 on the next page. Using Metro Testing and Sepro Lab's data, it is calculated that the concentration of placer gold in the samples tested was 0.184 grams per metric ton of pit run aggregate. If the mass of the available *in situ* aggregate resource in the DL 57 portion of Union Bar is 10,008,916 metric tons (about 10 million metric tons, per Table 9), then the estimated mass of gold in the *in situ* aggregate deposit is 1.846 MT (about 1.8 MT). For convenience, the corresponding *in situ* weight would be 59,357 troy oz. (about 59 thousand troy oz).

#### 14.5 Classification of the Placer Gold Resource at Union Bar

The above estimate can only be considered to be an approximate calculation based on limited available information.

The placer gold samples were taken at only 16 places on the deposit at the same limited range of depth below ground surface. The economic viability of placer gold mining at Union Bar will depend on mining and processing costs and the mass of gold mined at large scale. A site-specific large-scale floatation system is only in the development stage. It is noted that the cost of the processing at this site will be reduced by using the waste stream from the aggregate processing as the feedstock for the placer gold processing.

The long history of placer mining in the Fraser River basin, including on Union Bar, and the measured presence of placer gold in all the samples tested indicate that the Bar is auriferous. However, the sample tests also indicated a fairly low grade, so the economic viability of the placer gold operation will depend on the measured grade being

Table 10

Estimate of *In Situ* Placer Gold Resource at Union Bar

Note: This is an approximate estimate only and cannot be relied on

Amount	Units	Fraction	Comment
1,000	MT		mass of bulk pit run aggregate sample
		48%	sieve out 1.5 inch minus and retain
480	MT		1.5 inch minus per 1000 MT of pit run
		5%	sieve out 5 mm minus fines and retain
24	MT		5 mm fines per 1000 MT of pit run
		42.70%	remove 300 µm minus and retain
10.25	MT		300 µm minus concentrate for floatation imp
18	g/MT		Sepro recovery from concentrate by floatati
184	g		mass of gold per recovered per 1000 MT of run
0.184	g		mass of gold per recovered per MT of pit ru
10,008,916	MT		estimated <i>in situ</i> aggregate mass per Table
1,846,285	g		estimated <i>in situ</i> placer gold mass
1.846	MT		estimated <i>in situ</i> placer gold mass
32151			troy oz per metric ton ( $g = 9.81 \text{ m/s}^2$ )
59,359	troy oz		estimated <i>in situ</i> placer gold weight (in air)

Note - calculated values are overly precise. These calculations should be considered to be approximate

found to be uniform or higher with depth and the success of the aggregate project that absorbs many extraction costs.

Given the foregoing available information the author classifies the placer gold deposit at Union Bar as an "inferred mineral resource", if CGG proceeds with the aggregate mining operation.

#### 14.6 Extent and Classification of the Rock Pit Flagstone Deposit

The Rock Pit Flagstone deposit at Quesnel is in the early stage of development. There is one confirmed outcrop on the site, and a test extraction and sale were performed on it in 2022. However, the size of the deposit has not been delineated, and there is no specific mine plan to the author's knowledge.

The current exposed area of the latite outcrop at Pit #2 is about 300 m<sup>2</sup> (see Figure 10). Observations by the author at the site indicated that the depths of the cleavage planes (or vertical fractures) were at least 3 m bgs. Thus the current volume of the confirmed latite mineral resource is about 900 m<sup>3</sup>. If a typical specific gravity of siliceous rock is about 2.6, then the corresponding mass would be about 2300 MT. The estimate of mass is not relevant as ornamental stone is typically sold on a volume basis.

The author classifies the 900 m<sup>3</sup> of exposed latite at the Rock Pit Flagstone site as an "inferred industrial mineral resource".

The risks for the Rock Pit Flagstone project are that the extent and quality of the source deposit is not known, ornamental rock is a niche market, and the location of the deposit is somewhat remote, although it is connected to the road network. This site is at an early stage of development. All that is essentially known is that a rock with suitable characteristics exists at one outcrop.

## 15.0 Mineral Reserve Estimates

The author opines that none of the three resources described in this Technical Report qualifies as a "reserve" per the CIM definition at the time of writing.

It is noted that Machibroda Engineering (1996) referred the Union Bar aggregate deposit as being a "reserve", but that reference preceded the adoption of NI 43-101 and would be incorrect today.

## 16.0 Mining Methods

### 16.1 Union Bar near Hope, BC – Aggregate

Canyon Gold and Gravel Inc. plans to open-pit mine the bulk aggregate at Union Bar by stripping and stockpiling the surface soil layer and by excavating the aggregate using mechanical excavators. The current mine plan is to excavate from south to north on the bar, and perform reclamation on the previously excavated area as mining proceeds. This is illustrated in a conceptual mine plan included in the CGG Notice of Work application to the Ministry of Mines for the 2022 field program. The plan is shown on Figures 17 and 18 on the following pages.

Since this mine plan was prepared, changes to the section drawing (Figure 18) include excavation to EL 31.9 m amsl (see Figure 22 or Figure A1-1) instead of EL 38 m, reducing the side pit slopes to 1½ to 1 instead of 2 to 1, and buffer widths as described in Appendix 1.

Standard methods for aggregate mining and processing will be used. A drawing showing a typical set-up is presented as Figure 19. As described later in §17.3, the proposed recovery process at Union Bar will include an extra step(s) for preparing the concentrate for the placer gold processing. The undersize material will be screened to pass 0.3 mm particles. Wash water may be directed to dedicated settling ponds. The remainder will go to the onsite ponds for clarification.

Oversize (> 38 mm) stones will be sold as ornamental stone to the extent possible; otherwise they may be crushed to standard product sizes. There should not be appreciable oversize waste generated by the mining operation.

Prior to commencement of aggregate mining the new access road will be constructed, and site preparation performed. The latter will entail removal of tree cover, deepening the existing ponds, and installation of one or more groundwater well(s). The mining operation should not have any issues obtaining process water.

The major geotechnical issue affecting the mine plan is the pit slopes. These are currently being set at 1½ to 1 (34°), which is the typical angle of repose for sand and gravel (Peter Osha, pers. comm. Nov. 22, 2022); but the author is not aware of any geotechnical engineering study having been done on the site.

There is a foreseeable risk that excessive excavation in proximity to the railroad track could cause geotechnical instability leading to a failure of the track foundation. The author recommends that a professional geotechnical assessment be performed in order to develop a mine plan that will not affect the right-of-way, and that this area be re-inspected on a regular basis to revisit the safety plan in the light of operational experience

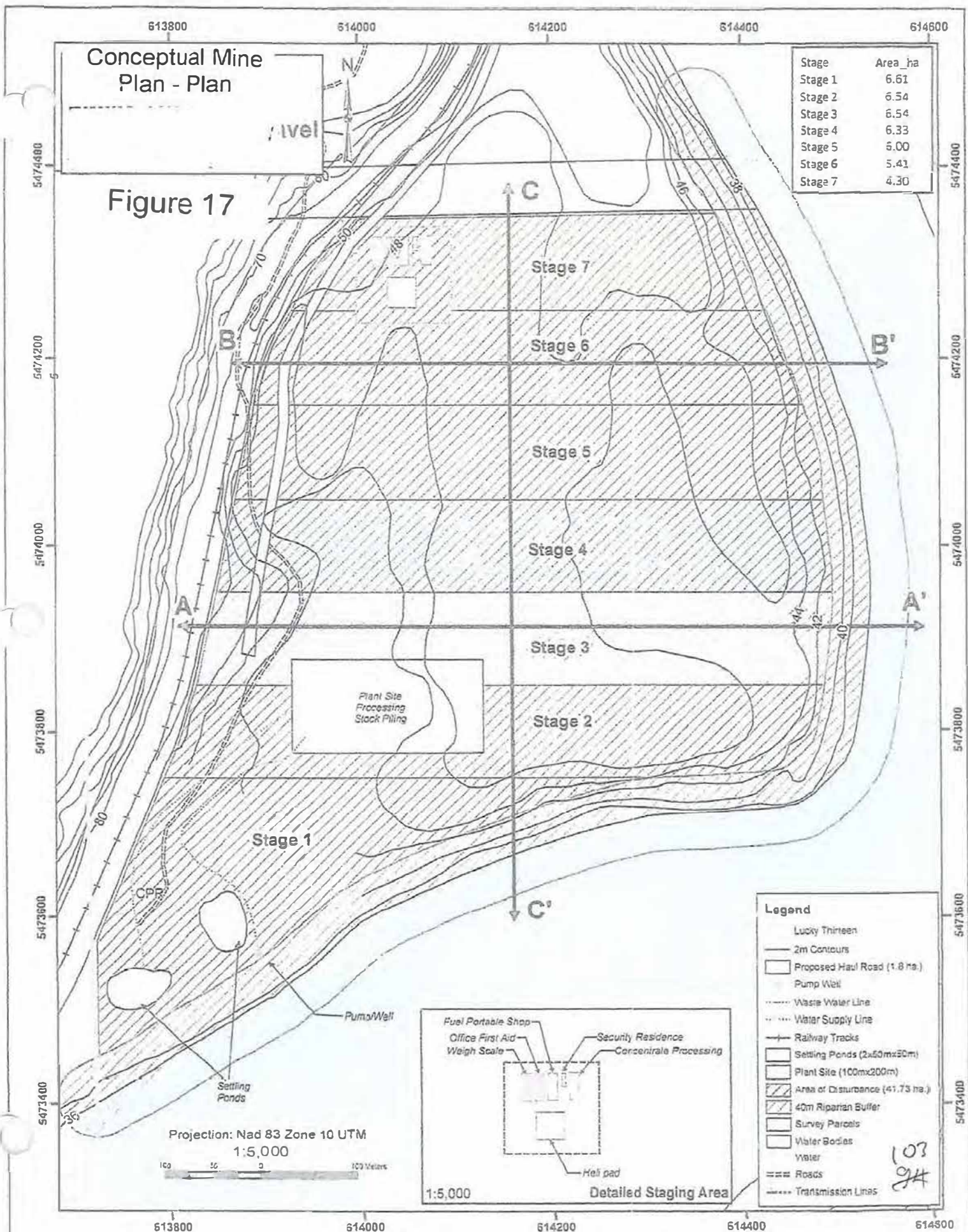
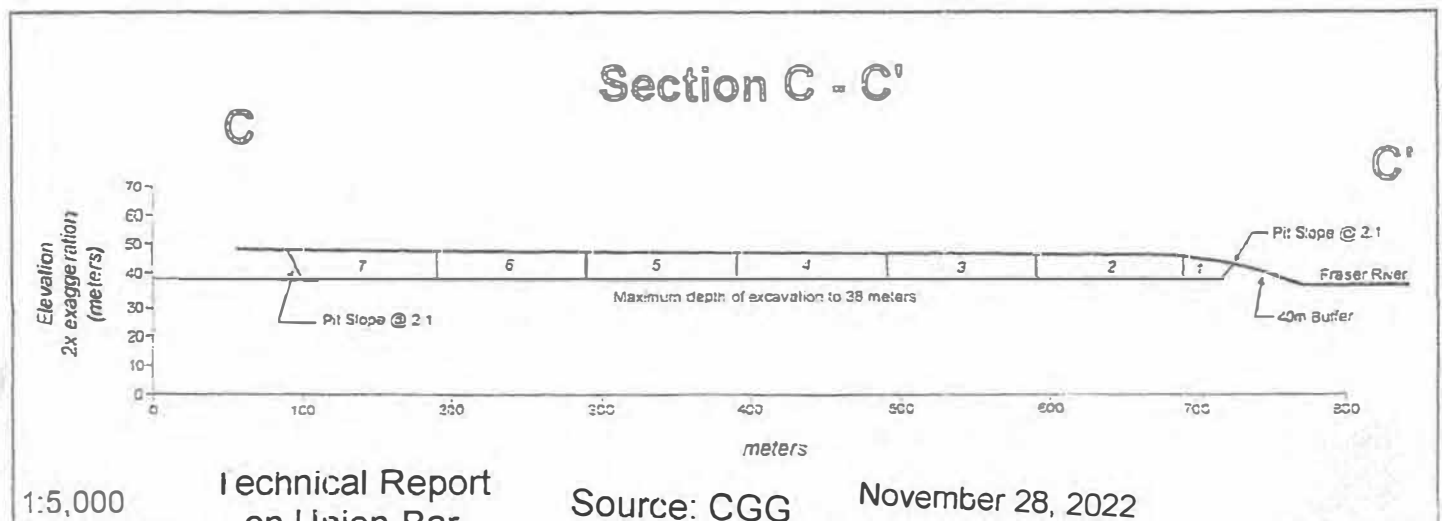
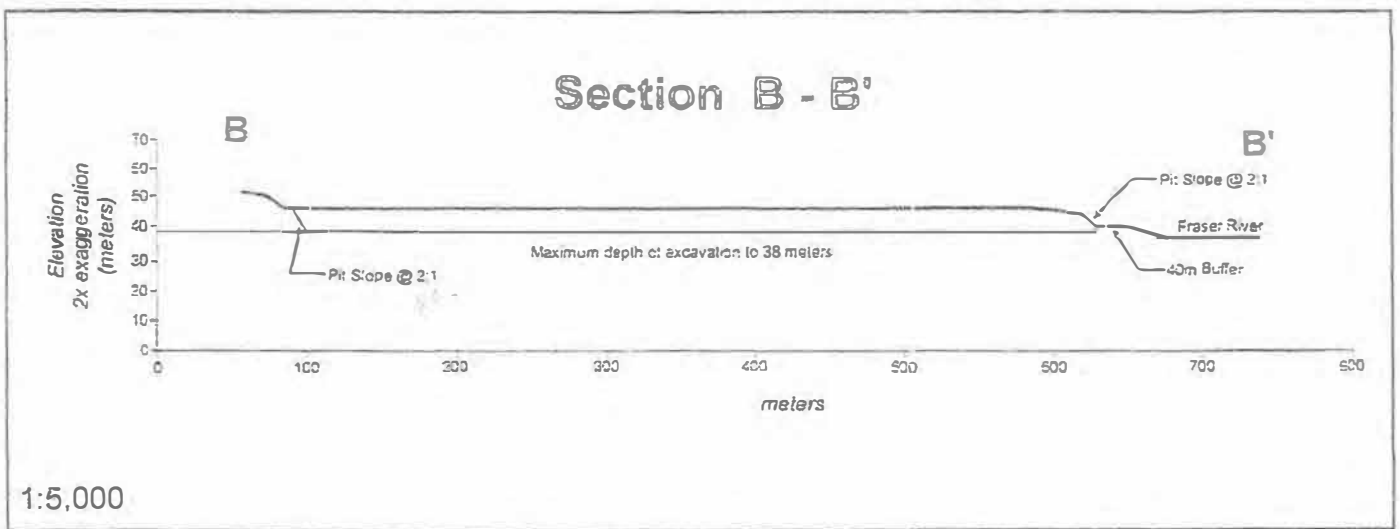
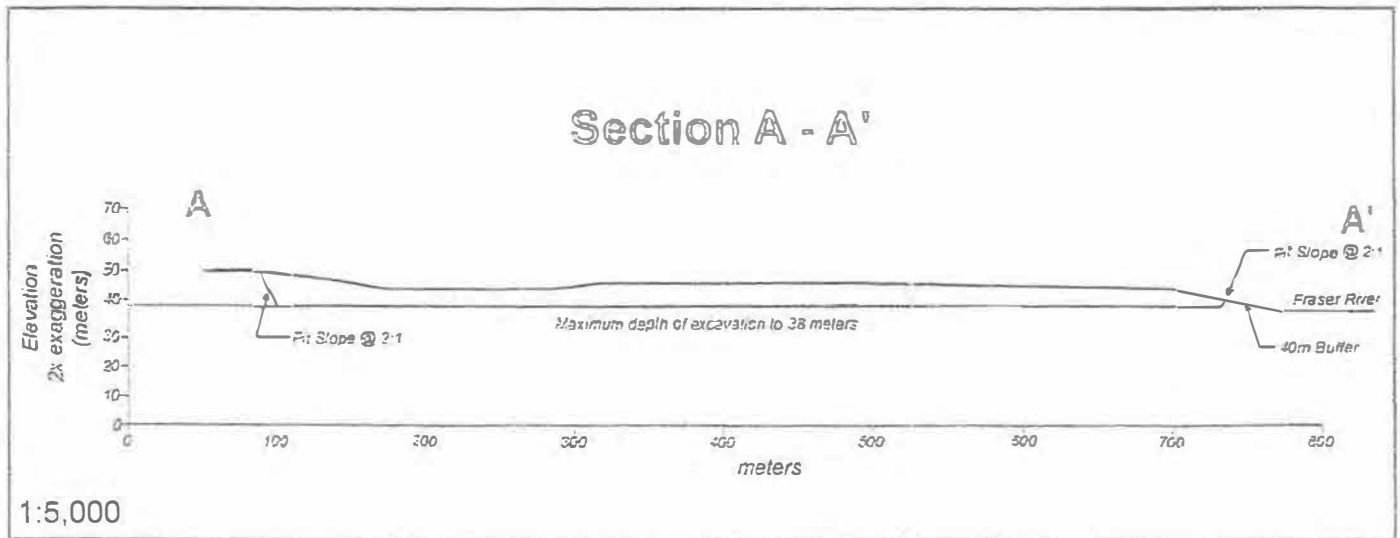




Figure 18

Conceptual Mine  
Plan - Section



# FLOW CHART OF A TYPICAL SAND AND GRAVEL PROCESSING OPERATION

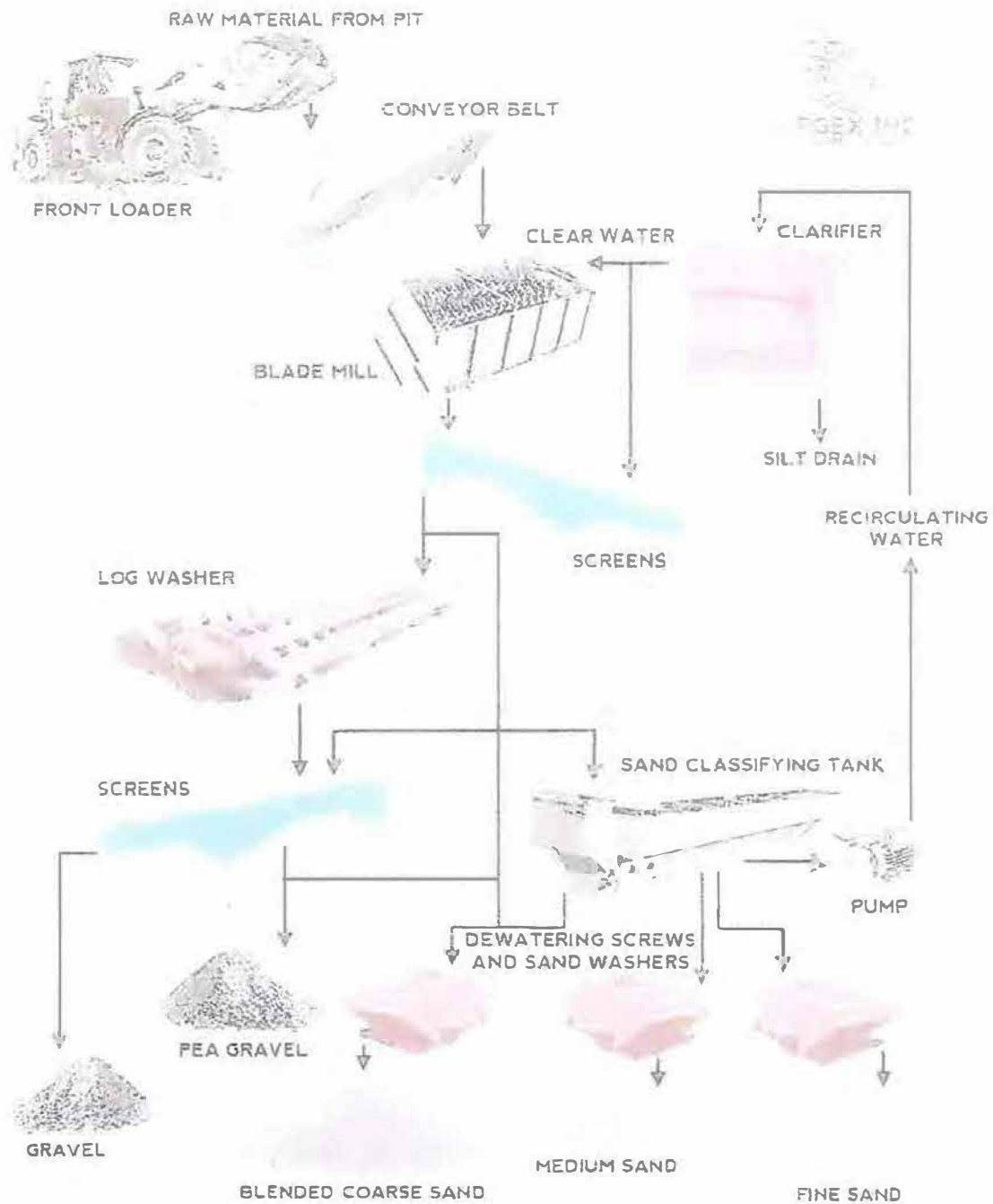


Figure 19

Other pit slopes might be increased locally if they are stable in order to extract additional material. This assessment would be made by a geotechnical engineer in association with the excavation manager.

The original mine plan appeared to be to process and export only gravel that is less than 38 mm (1.5") in size. As shown on Table 9, 52% of the pit run excavated in 2022 exceeded this size. The oversize material would be used as backfill for remediation. This practice, essentially highgrading, is more profitable, but most of the gravel resource would not be sold. In reviewing the scale of the opportunity cost with the author, CGG decided that it would crush some to most of the oversize rock and gravel if this were profitable. This would increase the mine capacity, increase sales revenue but reduce the profit margin per unit of gravel and require a larger volume of backfill for ongoing remediation.

The site is located adjacent to the Fraser River, but is above the official flood level (see Figure 9). Nonetheless the Fraser River is not dammed and occasional larger flows may affect the project. Otherwise the undammed river exhibits a marked seasonal flow pattern, as shown on Figure 22. The annual peak water discharge due to upstream snowmelt, locally known as the "freshet", occurs in early June. The lowest water surface level typically occurs in late winter before snowmelt. While the groundwater table elevation under Union Bar has not been monitored, it likely corresponds with that of the Fraser River since the gravel and sand will have a high hydraulic conductivity. If so, the time for maximum excavation in the dry is the winter period from November to March. On the average, the maximum depth of excavation will be about 14 meters (46 feet). After early March the groundwater table will begin to rise.<sup>76</sup>

There is a foreseeable issue in remediating the aggregate mine. The Union Bar has been created by, and is shaped by, the Fraser River. If too much material is extracted from the center of the bar, then the entire bar may become unstable under the stress applied to it by a large river flow. Even if this does not occur, an unfilled center will not be able to be remediated for agricultural use after the mine closes. Thus a volume of fill must be imported on an ongoing basis to replace the volume of aggregate that has been removed offsite. CGG proposes to accept clean soil from construction and other projects for this purpose. There is a known market for construction excavation soil disposal in the Vancouver region.

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<sup>76</sup> For a more detailed discussion, please see Appendix 1

The proposed initial production rate is 250,000 metric tons per year of bulk aggregate. CGG informs the author that it may apply to increase this production rate after about 3 years once it has established a satisfactory record of extraction and reclamation. The author notes that an Environmental Assessment will be required per the BC Reviewable Projects Regulation if the production exceeds 500,000 metric tons per year, or one million metric tons in a period of 4 years or less.

As shown in Table 9, the expected life of mine is 40 years using the assumptions listed in that table. This does not include start-up and shut-down periods. Again, this estimate is preliminary and intended only to provide an approximate value.

Mining dilution would not apply to this aggregate operation.

Existing overburden of about 2.4 meters of overlying fine sand and silt will be stripped before gravel is excavated. It will be stored onsite. CGG plans to fill the excavated pit with clean soil from construction sites in the Lower Mainland. Upon reaching design grade the stored overburden soil will be placed over the imported clean soil and the soil cover will be vegetated. The goal is to create an area suitable for agriculture.

There is no underground component to the project plan.

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### Required Equipment

A list of required equipment for the mining operation, prepared by Peter Osha<sup>77</sup>, is presented below:

#### Rolling Stock

Excavators	Cat 375	(1)
	Cat 345	(1)
	Komatsu 228	(1)
Off-road Trucks	Komatsu HM 400-2	(2)
Wheel Loaders	Cat 980	(2)
Dozer	Cat D8	(1)

#### Screening Plant

Feeder

Screen Decks

Conveyors

Dewatering Screw

Generating Set (350 KW)

Water Pumps

Slurry Pumps

Truck Scale        80 ton deck

Mobile or Semi-Mobile Crusher (optional).\

The generating set might be replaced by installing a hydro line to the site. This is still being investigated.. (Pers. comm. Peter Osha, Nov 22, 2022).

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<sup>77</sup> Peter Osha of Triple "O" Contracting Ltd. Mr. Osha has more than 30 years experience in placer mining and gravel production. Mr. Osher is President of, and a shareholder in, CGG. This list was found in Holmes Mining Consultants Ltd. (2022)

## 16.2 Union Bar near Hope, BC – Placer Gold

Placer gold will be produced by the same mining operation as aggregate. The text of §16.1 will not be repeated here.

An important characteristic of the gold mining operation at Union Bar is that it utilizes a waste stream of the aggregate processing as its input. Thus, a portion of the preprocessing occurs during aggregate processing, thereby reducing cost and waste. Also, the benefits of averaging over a variable placer gold particle distribution in the *in situ* aggregate deposit will reduce the risk of not finding the "pay dirt". The project will be economically viable if it is economically viable for the average placer gold particle concentration in the bulk aggregate deposit.

Should it prove to be economically viable, the placer gold operation should continue for the duration of the life of the aggregate mine. This is estimated to be about 40 years (see Table 9) at the proposed initial mining rate of 250,000 MT per year, or less if the mining production is increased in the future.

If the annual pit run aggregate production is 250,000 MT, then, from Table 10, about 46 Kg of gold would be produced annually if Sepro's laboratory yield of 18 g per MT of concentrate by floatation can be achieved a larger scale at the Union Bar mine site.

## 16.3 Rock Pit Flagstone Project near Quesnel, BC

According to Peter Osha (pers. comm. Sept 15, 2022) the current mine plan at Rock Pit entails quarrying 40 MT/day into 20 pallets of 2 MT each during the operating season (excluding winter), and trucking these pallets to a storage area along the paved road nearer to Quesnel. Delivery trucks can then transport the rock pallets to urban markets on the paved highway system upon receipt of sales orders.

The mining method for the Rock Pit Flagstone deposit has not been finalized. A test batch was mined and extracted by Peter Osha in the summer of 2022 using an excavator to break and remove the rock. A truck with a boom winch was used to place the rock pieces into pallets and to place the pallets on a flatbed truck. Photos of this test extraction that were sent by Mr. Osha to the author are presented as Figure 11 in §6.2.3<sup>78</sup>.

The life of mine will depend on the market demand and the extent of the resource, neither of which has yet been assessed.

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<sup>78</sup> The author did not observe or participate in the test extraction. The author recognizes the location shown in the photos from his site visit. Mr. Osha is President and a shareholder of CGG.

## 17.0 Recovery Methods

It is noted that all aggregate and placer gold recovery estimates reported in this report relate to testing a single composite sample at a lab scale. No testing of bulk samples in the field has been done by the Issuer. Doing so efficiently will require construction of the new access road to be completed.

### 17.1 Union Bar near Hope, BC – Aggregate

The processing of gravel and sand into aggregate is an established technology. Almost all material greater than about 0.5 mm diameter can be offered for sale after processing. Particles with diameters exceeding 38 mm (1½ inches) can be crushed to a desired size. From Figure 15, only about 0.35% of the aggregate in the sample that Metro tested was finer than 0.5 mm<sup>79</sup>. There will be some loss in the process of washing, sieving and crushing the pit run material, but the overall recovery rate is expected to be high.

### 17.2 Union Bar near Hope, BC – Placer Gold

Mr. Osha presented the following description of the recovery process for the placer gold operation to the author:

3/16" (48 mm) minus including the water from the aggregate wash plant will be pumped into the Jig Bank. The waste off of the Jig Bank will be fed into a dewatering screw and either stock piled as sand or mixed back into the aggregate to form another product that we may make. This is a very simple process and doesn't interfere with the gravel production.

The Jig concentrate will then be moved to the Gold Processing circuit, which includes the following:

Magnetic separation

Milling

Floatation

The total process is very simple and has been around and used for the past 100 years.

A description of the recovery of placer gold by Sepro Lab by fire assay and floatation is presented in §13.2 and Appendix 3. The recovery rates by floatation for lab tests ranged from 97.2% with one floatation stage, and up to 99.59% with 3 passes through the floatation system. However these results are based on the testing of one concentrate sample at a lab scale. Additional lab tests are required to define the recovery rates over a larger sample population. The floatation process will have to be scaled up for

<sup>79</sup> Recall that 52% of the pit run (> 38mm) was removed before the remainder was sampled for delivery to Metro Testing

operation at the mine site. The author understands that CGG and Sepro are currently working on developing a floatation recovery system for operation at the site. No further information on the status of this project has been found.

The author has suggested to CGG that designing the gold recovery system on the basis of the floatation test result of a single composite sample would be imprudent, and suggested that several more tests be conducted to assess the characteristics of gold recovery at the site.

### 17.3 Rock Pit Flagstone Project near Quesnel BC.

No mineral processing work is required for the flagstone project.

## 18.0 Project Infrastructure

### 18.1 Union Bar Deposit Near Hope, BC

Hope is a major transportation hub in BC that can supply the general requirements for the development of the Union Bar deposit. The Town of Hope can supply some general services, and specialty services can be obtained from the Metro Vancouver region.

In the Hope area there is access to the highway network, the CPR main line, and the Fraser River, which is technically navigable to Hope. However CGG plans to service the site by motor vehicles using the highway network.

The project requires a heavy-duty industrial access road from Highway 1 (the Trans-Canada Highway) to the site. Construction work on this road began in 2022; however, its completion requires a permit to build a bridge over the CPR rail line (obviating the requirement for a level crossing). According to CGG (Brian Hauff, pers. comm. Nov 28, 2022) this permit was expected to be received in early 2023, but the author understands that it has not yet been received by the effective date of this report.

CGG proposes obtain required power and energy initially from diesel fuel and electric generators. Once in operation CGG proposes to investigate the feasibility of switching to the BC Hydro grid for electric energy. If this proceeds then a line will be installed to the site and a switchyard on the site will be required.

There is sufficient water at the site for mining purposes. Potable water can be trucked to the site once the new road is completed. It is unlikely that the groundwater at the site is potable, but there is no information in the CGG file on this matter.

The surficial soil unit will be stripped and stockpiled before aggregate mining. A dedicated soil stockpile area will be required. CGG plans to remediate by backfilling the excavation to grade with construction excavation soil imported from offsite, then



covering the imported soil with the stockpiled soil. Thus the stockpile volume and the stockpile area should remain stable while the mine is in operation.

Due to the requirement to backfill the excavation, no spoil dump is required. (General industrial waste and trash will be taken to the nearby Hope landfill).

There are two large ponds currently on the site that were created by excavations during the Siga investigations in 2011-2012. These will be used initially for sediment removal by settling and for some mining requirements. Less turbid water for processing will be obtained from groundwater wells.

There will be a requirement for laydown and storage areas for both pit run and processed aggregate. These will move with the excavation activity.

There will be a requirement for portable offices, equipment parking and fuel storage. These will require environmental protection to avoid soil contamination.

## 18.2 Rock Pit Flagstone Project Near Quesnel, BC

The Rock Pit Flagstone project is in a remote location that is not served by the provincial road system, although a forest service road of fair quality is near to the site. A former site service road has become treed and was not fully passable in July 2022. CGG was reconstructing the site access road in July 2022 and it has informed the author that this work is now complete. (The site access road is shown in Figure 10).

There is no public water supply to the site. The groundwater potential on the site is low, in the author's opinion, although there is a small wetland on the southern part of the site. The mining process will not require much water, but the requirements of a small work force will likely require trucking in potable water.

The site has no electrical service nearby. Electric requirements will have to be met by generators. The mining process will require either no or minimal electrical power if it is performed by diesel or gasoline powered equipment.

There is no nearby place for the work crew to live. The options are for the work crew to live in Quesnel and commute, or to establish a temporary seasonal work camp at the site. CGG informed the author (Peter Osha, pers. comm., July 15, 2022) that this decision has not been made yet. The town of Quesnel can provide most services required by the proposed flagstone mine.

## 19.0 Market Studies and Contracts

### 19.1 Union Bar Deposit Near Hope, BC – Aggregates

The CIM Industrial Minerals Best Practices Guidance<sup>80</sup> advises that the value of industrial mineral deposits often depends on access to local markets as these markets tend to be oligopolistic.

The author has not been involved in the marketing efforts of CGG. The author understands that CGG expects its aggregate to be absorbed by the metro Vancouver and Fraser Valley construction industry, the BC Ministry of Transportation and Infrastructure on highway projects<sup>81</sup>, and the Trans Mountain pipeline project. This is a reasonable assumption given that the project is not large by regional standards. However, the author is not aware that any sales contract is in effect as of the effective date of this Technical Report, and is aware that the aggregate market in the Lower Mainland of BC is oligopolistic. The author does not rely on any CGG marketing or promotional statements and avoids estimating project revenues.

### 19.2 Union Bar Deposit Near Hope, BC – Placer Gold

There is an established global market for gold. Concentrate produced by floatation can be processed into gold bars by several independent firms. A local firm providing this service is Technic Canada Ltd. in Richmond BC near Vancouver<sup>82</sup>.

The market price of gold fluctuates in terms of dollars. The profitability of the placer gold operation will depend on the market price and the CAD/USD exchange rate, less the production costs.<sup>83</sup>

### 19.3 Union Bar Deposit Near Hope, BC – Landfill

CGG plans to remediate the aggregate mine by filling the excavation with "clean" fill from construction projects in the Lower Mainland. CGG hopes to generate a revenue stream from tipping fees for this disposal service. Operation of a landfill in BC requires an operating certificate from the Ministry of Environment and entails testing and paperwork to confirm that the accepted soil is not contaminated. (The landfill could also be authorized as a component of a Mines Permit from the Ministry of Energy and Mines). The author is aware that there is a demand for relocation and disposal of soil excavated for construction projects in the region. However the author is not aware of

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<sup>80</sup> CIM, Miree, Haines and Mullins, *Industrial Minerals*, available from the CIM web site.

<sup>81</sup> CGG, pers. comm. Brian Hauff, July 15, 2022 and others. See also the CGG Executive Summary, 2021, p.4.

<sup>82</sup> This information is from Shearer (2002). The author called Technic Canada several times and the calls were not returned.

<sup>83</sup> The current and historical price of gold can be found at <https://tradingeconomics.com/commodity/gold>. The long-term historic value of gold is discussed in chapters 1 and 2 of Siegel (2023). The value of gold has remained fairly constant since 1800 while the purchasing power of fiat currency has decreased due to inflation.

any specific marketing that has been performed to date by CGG on this initiative or of any sales agreements that are in place.

#### 19.4 Rock Pit Flagstone Project near Quesnel, BC

The author is not aware of any formal marketing study or effort by CGG regarding sales of its proposed flagstone product.

The author was informed by Peter Osha of CGG by e-mail of 10/18/2022 that he did remove a truckload (about 12 MT) of flagstone from the site in October 2022 as a bulk sample on the then existing road system. The author did not see this exercise personally, but he did receive photos of it, two of which are shown on Figure 11. The upper photo in Figure 11 shows the site that the author visited in September 2022 and is identified as Pit 2 in Figure 10. According to CGG (Brian Hauff, pers. comm, 10/19/2022) Mr. Osha sold the truckload of flagstone offsite, but the author has received no written confirmation of this transaction. Accordingly the author does not consider this reported event to be reliable for economic purposes, although he does believe that it occurred and that it demonstrates that the project concept has been shown to be valid at a microscale level.

#### 19.5 Development Contracts

The author has not found or viewed any contracts in place to develop the Union Bar or Rock Pit Flagstone properties. The author is aware that Triple "O" Contracting Ltd. of Cranbrook BC, which is owned by Peter Osha, has been performing road construction and other preparatory work at both properties, and that Triple O has offered to perform site mining operations at both properties. However, the terms of these engagements are not known to the author.

The author found an agreement dated Jan 25, 2022 in CGG's files between CP Rail and CGG for CGG to construct a private crossing at Union Bar, as well as subsequent correspondence between CGG and an engineering firm to design the bridge over the CPR rail line.

CGG has previously engaged archeological, environmental, and economic consultants to obtain its permits from regulatory agencies (see §20). CGG has retained S. Graham Engineering and Geology to prepare this Technical Report. The author is aware that CGG has also retained consultants to assist with a public issue on a stock exchange.

## 20.0 Environmental Studies, Permitting and Social or Community Impact

Applicable policies and regulations relating environmental aspects of mining in BC are described in the Health, Safety and Reclamation Code for Mines in British Columbia (2022).

### 20.1 Union Bar near Hope, BC

### 20.2 Environmental and Agricultural Studies

CGG has had three environmentally-related studies performed for the Union Bar project:

- “*Environmental Assessment for the Lucky Thirteen Project*”<sup>84</sup>, prepared by Nova Pacific Environmental (Rob Akester, B.Sc., R.P.Bio.) of Vancouver, BC for Canyon Gold and Gravel, West Vancouver, BC, 5/5/2002, 39 pp.
- “*Agricultural Capability and Suitability Assessment for Union Bar*”, prepared by Nova Pacific Environmental (Rob Akester, B.Sc., R.P.Bio.) of Vancouver, BC for Canyon Gold and Gravel, West Vancouver, BC, 6/29/2022, 25 pp.
- “*Results of an Archaeological Overview, Assessment conducted for Proposed Placer Mining and Reclamation Impact Zones at the Lucky Thirteen Mine Near Hope, B.C.: A Non-Permit Report*”, prepared by Antiquus Archeological Consultants Ltd., Maple Ridge, B.C. (Geoff Homel, BA), August 14, 2017.
- “*Preliminary Field Reconnaissance, Non-Permit Summary Report, Draft V1*”, prepared by Pathways Archeological Consulting Ltd. (Dan Heinrichs B.A.)<sup>85</sup> for Canyon Gold and Gravel, West Vancouver, BC, 7/12/2022, 6/29/2022, 9 pp. + 2 Appendices

#### Environmental Site Assessment

The conclusion for the Nova Pacific Environmental environmental (site) assessment was:

#### 12.0 CONCLUSION

*The Lucky Thirteen Project is located in an area of low ecological importance and sensitivity. Protecting the Fraser River from hydrocarbon, and sediment contamination is a high priority. As long as proper erosion*

<sup>84</sup> The placer gold lease is called the “Lucky Thirteen”.

<sup>85</sup> No address given in the report, but its web site states that it is located in Kimberley BC. Kimberley is not close to the project site.

*and sediment control measures are in place, relevant First Nations groups are consulted, and all equipment is kept clean and free of leaks, the risk to fish, wildlife and their habitats will be minimal.*

As the project is not subject to the BC environmental assessment process and as the consultant appears to be qualified, the author is relying on this report.

Nova Pacific noted that there are least-risk timing windows for some species known to be on the project site, and these could affect the mine construction schedule. Nova Pacific recommended (p. 35) that a nesting bird survey be completed prior to cutting down any trees. The author is not aware that a nesting survey has been conducted, and alerted CGG in a meeting on 2/10/2023 that tree removal after April 1 might be precluded. (CGG replied that all trees required for site construction in 2023 have already been removed).

The Nova Pacific environmental report focused on the ecological and biological sphere; it had little content that dealt with engineering and geological issues.

The author searched the Contaminated Sites Approved Professionals Society web site<sup>86</sup> that has a map of many of the known contaminated sites in BC. There is no record of a contaminated site on DL 57 or the CGG placer lease properties.

The author notes that there is a principle in fluvial morphology that fluvial features are adapted to higher discharges. As such Union Bar likely has a size and shape that is stable under the stress of higher flows. If sufficient mass is excavated from the bar so that the weight of the bar cannot resist the force imposed on it by the river discharge, then the bar may be destabilized and erode. The science is such that the point of instability cannot be accurately predicted, but the mine plan to remediate the mine by filling the excavation in tandem with the mining activity is considered to be prudent when the mine is located on a transient geological feature.

### Agricultural Studies

The conclusion for the Nova Pacific Environmental agricultural study was:

#### *11.0 Conclusion*

*The Canyon Gold and Gravel is located in an area of low agricultural capability and suitability. There are no other agricultural sites within the area so there will be no negative effects to the agriculture of the Fraser Valley and access to the site is difficult. The remediation plan will also improve the long-term arability of the land.*

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<sup>86</sup> <https://www.csapsubmissions.com/>. Access is restricted to CSAP members.

The consultant's report appears to be of standard quality, but the report is stamped by a Registered Professional Biologist and not a Professional Agrologist (P.Ag.). The report cover states that Zachary Fleming B.Ag.Sci., P.Ag. reviewed the report. According to the BC Institute of Agrology web site Mr. Fleming is a member but is an independent consultant. Mr. Fleming did not stamp or endorse the report.

As the rationale for this report is to obtain permits from the BC Agricultural Land Commission and support of relevant First Nations, the adequacy of this study will depend on whether the ALC will approve the project. The author understands (Brian Hauff, pers. comm., 2/20/2023) that an application has been submitted to the ALC but no approval has been received as of the effective date of this technical report.

### Archeology Studies

The scope of a August 14, 2017 Antiquus Archaeological Consultants Ltd. ("Antiquus") report was for a proposed placer gold project entailing excavation along the base of the hill to the west of Union Bar, while a July 12, 2022 Pathways Archaeological Consulting Ltd. ("Pathways") report covered the proposed area of gravel extraction over most of the Union Bar. Both were "non-permit" reports. The Antiquus report is a final report, while the Pathways report is clearly marked as a draft report. The conclusions of the two reports were similar.

The conclusions in the Antiquus report are pasted below:

On June 26<sup>th</sup>, 2017, Antiquus Archaeological Consultants Ltd. conducted a detailed archaeological overview assessment for a proposed placer mining operation and reclamation project at the Lucky Thirteen Mine near Hope, BC.....Steven Patterson of the Yale First Nation conducted the fieldwork inspection for this AOA study. ....

This AOA<sup>87</sup> identified two areas of high archaeological site potential (AoHP 1 and AoHP 2) within the proposed placer mining project impact zone, and a large swath of medium archaeological site potential encompassing the majority of the eastern aspect of the study area. While much of the proposed impact zone has already been subjected to disturbance from previous mining activities, some intact areas have the potential to contain buried intact cultural deposits. We recommend complete avoidance of AoHP 1 and AoHP 2 if possible, or an archaeological impact assessment (AIA) of these areas if avoidance is not feasible. We also recommend that an archaeological impact assessment be carried out within areas of medium potential prior to any land-altering activities associated with the mining project that will impact the Holocene-age topsoil deposits.

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<sup>87</sup> Archeological Overview Assessment

The conclusions of the Pathways report are pasted below:

#### Recommendations

Based on the identification of 10 AoHPs<sup>88</sup> (A0HP 1 - A0HP 10) within the mine area, and the identification of moderate potential throughout much of the remaining Project area, the following recommendations are provided for the management of the archaeological values present with the Lucky Thirteen Gold and Gravel Mine and ancillary access road:

Based on the mine plan as described by Peter Osha (personal communication, 2022) avoidance of AoHPs and other areas identified as moderate archaeological potential are not feasible. As such, any form of development that may be required within the identified moderate potential and AoHPs will require an Archaeological Impact Assessment (AIA) inspection under a Section 12.2 Heritage Inspection Permit, prior to the commencement of ground altering activity. This inspection will confirm or refute the presence of subsurface archaeological material and provide pertinent recommendations for the mitigation of archaeological resources.

Pathways Archaeological Consulting Ltd.

Canyon Gold and Gravel: Lucky Thirteen Gold and Gravel Mine - PFR Report  
SHIP: 2022-099

The author concludes from the foregoing that additional archeological work may be required on the site in order to receive approvals and permits from the Agricultural Land Commission (ALC), the District of Hope, and the Ministry of Energy, Mines and Low Carbon Innovation. The ALC approval and the Ministry of Mines permit will depend, in part, upon receiving consent from affected First Nations and the BC Archaeology Branch. CGG (Brian Hauff, pers. comm., 2022) has informed the author that CGG has been in discussions with the Sto:lo First Nation.

#### 20.6 Conclusions

The Nova Pacific environmental report does not specify any issue that would materially affect or preclude the proposed mining operation.

The archeological reports both recommend further site investigations. The author has no information to the effect that these have been done. If local First Nations or the BC Archaeology Branch are not satisfied with the archeological investigations performed for the proposed Lucky Thirteen project, then permitting may be delayed. The author recommends that CGG obtain letters from the First Nations and the BC Archaeology Branch and file these with the permitting agencies.

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<sup>88</sup> Areas of High Archeological Potential

## 20.7 Waste Disposal, Monitoring, Water Management

The requirements for waste disposal, tailings management, site monitoring and water management will be specified in the Mines Act permit and permits from other agencies (especially the ALC). General guidance is provided in the *BC Health, Safety and Reclamation Code for Mines in British Columbia (2022)*.

The author has not seen a comprehensive mine plan for the project, however the provisional plan shown in Figures 17 and 18 provides some information, as does the information in the CGG files. A summary is presented in §16.1.

The proposed aggregate mine will not produce tailings. Oversize stones that are not removed from the site will be used as backfill for the excavation. Nonauriferous fines produced by the floatation process will also be placed into excavation. General wastes will be disposed of in the nearby Hope landfill. Contaminated wastes, if any, will be disposed of offsite in a licensed landfill. Sewage services will be provided by porta-potty facilities or a holding tank, and the sewage will be removed from the site.

Water used for the wash plant, other production, or removed from the excavation, will be turbid. It will be directed initially towards existing ponds at the southern part of the property for sediment settling. The water discharged from the ponds to the Fraser River will be monitored for suspended solids and any other parameter specified in the mine permit. Site runoff will be directed towards the ponds; however the discharge of site runoff is expected to be minimal on a gravel bar.

As described in Appendix 3, the mine plan is to excavate to the water table, so the excavation itself should be dry during aggregate mining. Some ponding may occur during transient high water episodes in the river, but the excavation will self-drain when the river level falls to its average elevation for the particular time of the year.

In summary an aggregate mine should not have the waste disposal issues often encountered with metal mines, so there is a low pollution and contamination risk. The placer gold operation will be small-scale, and the treatment process involves floatation rather than leaching; so the environmental risk associated with the placer gold operation should also be relatively low. It is expected that the mine permit will require the characteristics of the fines waste stream to be monitored.

The author does not foresee a material risk to the project resulting for waste and water management



## 20.8 Permitting

The proposed Union Bar project cannot be constructed or operated without the required approvals and permits.

The status of permitting of the Union Bar projects is reviewed in §4.1.8 of this report. For convenience and to comply with Form NI43-101F Technical Report guidelines, the text of §4.1.8 is pasted below:

A list of permits that are or may be required, to the author's knowledge, is presented below.

- A Mines Act permit is required from the Ministry of Mines<sup>89,90</sup> for both aggregate and placer gold mining. Documents in the project file provided to the author by Mr. Osha indicate that CGG has been working on an application for a Mines Act permit from the Ministry of Mines; however there is no documentation that one has been yet been received. This is a key permit.
- A permit for the landfill operation from the Ministry of Mines (assuming that the landfill does not accept contaminated soil or solid waste). This could be included in the Mines Act permit.
- Aggregate extraction from Lands within the Agricultural Land Reserve (ALR) in excess of 500 m<sup>3</sup> requires authorization from the Agricultural Land Commission (ALC). A Reclamation Plan should be submitted to the Commission. The scope of the Reclamation Plan is comprehensive. This is a second key permit.
- An operating permit from the District of Hope. Permits from Regional Districts are usually issued after a Provincial Mine Permit has been granted. The applications are usually processed concurrently.
- Local permits from the District of Hope regarding business operations, including any use of land in the Hope landfill property for access
- Approval from CP Rail for a crossing. This required before the new access road can be completed.
- Consent of local First Nations for Provincial permits. (This may not be a legal requirement, but the Province is reluctant to issue permits without Aboriginal consent).

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<sup>89</sup> The current official name is the Ministry of Energy, Mines and Low Carbon Innovation.

<sup>90</sup> The Ministry has suggested that a single Mines Act permit could be issued for both the aggregate and placer gold mining if CGG requests one.

- A permit from the Sto:lo First Nation and the BC Government Archaeology Branch for further archeology investigations if these are required by them

Documents in the project file provided to the author by Mr. Osha indicate that CGG has been working on an application for a mine permit from the Ministry of Mines; however there is no documentation that one has been yet been received. The author is not aware of the status of the other required permits and approvals. The author understands that no permit has been received as of the effective date of this report.

The fact that no required permits have yet been received can materially affect the project. The project cannot be constructed or operate unless and until the required permits are received. The author recommends that the permit acquisition process be documented and reviewed, roadblocks and problem issues be identified, and effort be focused on resolving them.

#### 20.9 Social or Community Impact

The author is not aware of any social or community impact study. The project falls below the BC criteria for an Environmental Impact Assessment per the Reviewable Projects Regulation.

The project is located in an uninhabited area of the Fraser River canyon about 3 Km north of Hope BC. Mining activity at the site should not be noticed in the Town of Hope.

The project will have a small work force. This will provide employment opportunities and create a minor increase in the demand for goods and services in the Town of Hope.

Hope is at the junction of four major highways. The incremental traffic to the project site will be minor in comparison to the typical traffic flow in the area.

A new access road to the site is being constructed in coordination with District of Hope so as to minimize any impact of site traffic to the Hope landfill (Brian Hauff, pers. comm., Feb 20, 2022). The new access road will make the site available for agriculture or other uses after the mine has closed.

In general the author concludes that the project will result in some enhancement of the local economy and job market with few adverse impacts.

#### 20.10 Mine Closure Requirements (Remediation and Reclamation) and Costs

The Union Bar mine reclamation requirements are specified by the BC Ministry of Energy, Mines and Low Carbon Innovation, *Health, Safety and Reclamation Code for Mines in British Columbia* (rev. September 2022), and the BC Agricultural Land Commission (BC), *Policy P-13, Reclamation Plans for Aggregate Extraction*, April 2021. The ALR policy is more detailed.

CGG proposes to have ongoing reclamation performed with associated aggregate extraction so that the site is reclaimed as it is being mined. The excavation will be filled with oversize rock and imported clean soil from construction excavation. After compaction and grading the subsurface will be covered with stockpiled soil that was previously stripped from the surface, and replanted with native vegetation.

The procedure of continuous reclamation will minimize the reclamation liability at the end of the mine life, and improve the agricultural capability and access to the site. As the land is in the ALR, the current requirement is for it to be used for agriculture after the mine closes. However the ALR is a creation of the Provincial government and may not exist when the mine closes. If it does not, then it is likely that the land may be developed for other uses or sold. It should have enhanced value relative to the current one because of the installation of an access road.

The main problem with the reclamation plan is that the volume of aggregate that is extracted and removed from the mine site must be replaced by an equal volume of fill material. If the fill must be purchased, then the profit margin will be substantially reduced. CGG proposes to use imported soil generated by excavation from construction projects. Currently there is a demand for places to dispose of soil excavated for construction projects and dump fees could pay for the reclamation costs in full or in part. A construction soil disposal operation would also create a backhaul opportunity that would reduce overall transportation cost for the aggregate operation.

The author understands that the current reclamation plan is conceptual, and details regarding operation and costs are being developed by CGG. The material items are (1) the site has to be reclaimed to its current configuration (approximately), (2) the reclaimed site has to be suitable for agriculture (assuming that the ALR is still in place in 40 years), and (3) the excavation has to be backfilled with suitable material that is less costly than the value of the aggregate being removed from the mine site in order for the mine to be reasonably profitable.

#### 20.11 Rock Pit Flagstone Project near Quesnel, BC

The Rock Pit Flagstone project is in an early stage of development. It is a small site in a remote area. The product does not require processing. Waste will consist of small pieces of broken rock.

The author is not aware of any environmental or archeological studies that have been conducted for the site. The project falls below the BC criteria for an Environmental Impact Assessment per the Reviewable Projects Regulation.

The project has a Mines Act Permit that is in good standing. According to this permit a reclamation bond of \$2,000 is required. The total disturbance area allowed is 902 m<sup>2</sup>. Progressive remediation is required for an end use of forest and range land.

This small project is located in a remote uninhabited area. No adverse community impact is foreseen. The labor force will be seasonal and small. It may be drawn from the town of Quesnel or imported, or be a combination of the two.

The author does not foresee a significant material risk arising from the current work at the Rock Pit Flagstone site, except if it is determined that the flagstone resource cannot be mined profitably. If this turns out to be case the capital loss would be relatively small at this stage of development.

## 21.0 Capital and Operating Costs

### 21.1 Union Bar Near Hope BC

Both the aggregate and gold resources projects at Union Bar are classified as “inferred resources”. The guidance for NI 43-101 specifies that financial estimates for projects at this classification level not be disclosed. As required by Section 3.4.(e) of the Instrument the author notes that any economic analysis of the Union Bar project is based upon inferred resources that are not mineral reserves and do not have demonstrated economic viability.

Some general information and comments on capital and operating costs are presented in this section as checklist items.

The author has not seen a current detailed financial model for either aggregate or placer gold production at Union Bar. The author reviewed a valuation model prepared for CGG by Holmes Mining Consultants Ltd. (2022) (Derek Holmes, MBA, P.Chem) of Langley, BC ; however, Holmes’ report is considered to be obsolete as the Union Bar project description has changed substantially since it was written. This report has not been released or disclosed by CGG and is considered to be confidential to CGG. The author understands that the financial model for the Union Bar project is being revised and updated (pers. comm., Feb. 20, 2023 meeting). The author does not wish to comment on economic data or conclusions until an updated economic analysis has been reviewed.

The author cautions that the 2022 Holmes Mining Consultants report should not be relied upon<sup>91</sup>.

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<sup>91</sup> The author notes that he has recommended classifying the Union Bar aggregate and placer gold mineral resources as “inferred” (see §14.2 and §14.3). Section 2.3(1)(b) of the *Standards of Disclosure for Mineral Projects, National Instrument 43-101* (2016) states that “An issuer must not disclose...(b) the results of an economic analysis that includes or is based on inferred mineral resources or an estimate prepared under subsection 2.3(2) or section 2.4”.

It is noted that several major capital costs have already been made at Union Bar by CGG, including the purchase of DL 57, permit acquisition costs, lab testing of an aggregate sample, purchase of some heavy equipment, and partial construction of the access road. A part of the site has already been cleared, and the ponds for water treatment have been installed. The author does not know the costs of these sunk investments.

Mr. Osha has provided a list of the major construction equipment required for the projects. This list is presented in §16.1. The cost to the project will depend on whether this equipment is purchased new or used, or leased, or supplied by the contractor. Sustaining capital costs will occur if the operating equipment is owned by CGG.

## 21.2 The Rock Pit Flagstone Project Near Quesnel BC.

The Rock Pit Flagstone Project is in the preliminary stages of development. It has been classified as an “inferred Mineral Resource” by the author (§14.5). Thus section 2.3(1)(b) of the *Standards of Disclosure for Mineral Projects, National Instrument 43-101* (2016) precludes disclosing financial estimates for a project at this stage of development. The author is not aware of any financial model that has been prepared for the Rock Pit Flagstone project.

As required by Section 3.4.(e) of the Instrument the author notes that any economic analysis of the Rock Pit Flagstone project near Quesnel, BC would be based upon inferred mineral resources that are not mineral reserves and do not have demonstrated economic viability.

## 22.0 Economic Analysis

### 22.1 Union Bar Near Hope BC.

As summarized in §21, the author has classified the Union Bar aggregate and placer gold mineral deposits classified as “inferred mineral resources”. Therefore the Instrument requires this Technical Report not to disclose economic analyses of them. The author is not aware of any economic analysis regarding the mineral resources at Union Bar that has been disclosed by CGG.

Further, as noted in §21.0, the author reviewed a valuation model prepared for CGG by Holmes Mining Consultants Ltd. (2022) (Derek Holmes, MBA, P.Chem) of Langley, BC; however, Holmes’ report is considered to be obsolete as the Union Bar project description has changed substantially since it was written. This report has not been released or disclosed by CGG and is considered to be confidential to CGG. The author cautions that the 2022 Holmes Mining Consultants report should not be relied upon

The author understands that the financial model for the Union Bar project is being revised and updated (pers. comm., Feb. 20, 2023 meeting). The author does not wish to comment on economic data or conclusions until an updated economic analysis has been reviewed.

The author has recommended to CGG that it prepare a Preliminary Economic Analysis (PEA) of the Union Bar project and to release this separately from this Technical Report when the PEA is completed (pers. comm. with Brian Hauff, Jan. 26, 2023).

The author notes that a project summary with an economic analysis prepared by Trickle Research dated 10/31/22 can be found on the internet. The author understands (pers. comm. Brian Hauff, 10/31/22) that the Trickle Research report was prepared by a third party without CGG's (the issuer's) knowledge or consent. As such it presents only the opinion of a third party that is not associated with the issuer. The author has read the Trickle Report, but does not rely on it.

## 22.2 The Rock Pit Flagstone Project Near Quesnel BC

Per §14.5 and §21.2 the Rock Pit Flagstone deposit is classified as an "Inferred Mineral Resource". Therefore the Instrument requires the Technical report not to include a disclosure of an economic analysis of it.

Further, the author is not aware of any economic analysis that has been disclosed, nor of any current draft economic analysis that has been performed.

## 23.0 Adjacent Property

### 23.1 Union Bar Near Hope, BC

The author is not aware of any relevant information on an adjacent property that would affect either the viability or the development of the aggregate or the placer gold resources at Union Bar.

As shown in Figure 4 there is a triangular area on the north end of Union Bar that is not part of DL 57, but is included in Lucky Thirteen Placer Lease 1079782, which is owned by CGG. Brian Hauff (pers. comm.) has told the author that he thinks that it may be Crown Land, but the author has not verified the ownership. This land is not occupied. This land does not affect the viability of the project.

The Canadian Pacific Railway has a right-of-way across DL 57 with a mainline railroad track along the west side of the Union Bar. This ROW does not affect the viability of the project, but it needs to be considered in the mine plan.

### 23.2 The Rock Pit Flagstone Project Near Quesnel, BC

There are no properties adjacent to the Rock Pit Flagstone property.

## 24.0 Other Relevant Data and Information

### 24.1 Union Bar Near Hope BC

The author is not aware of any unusual or unique circumstances or facts affecting the ownership, or potential to develop the Lucky Thirteen aggregate mine or Placer Lease, except that the property is in the Agricultural Land Reserve and thus must adhere to the regulations of the Agricultural Land Commission.

### 24.2 The Rock Pit Flagstone Project near Quesnel BC

The author is not aware of other relevant data or information.

## 25.0 Interpretations and Conclusions

### 25.1 Union Bar near Hope, BC – General

CGG proposes to mine for placer gold by processing the fine fraction resulting from the aggregate processing (which is a waste stream for the aggregate operation) for particles of placer gold by a floatation process. The upstream extraction and processing costs that would be borne by the aggregate operation should reduce the operating costs of the placer gold extraction. The two projects are synergistic. The excavation would be filled by imported clean soil from construction projects. Tipping fees for the soil disposal will provide a revenue stream that can be used to pay for continuing remediation and reduce backhaul transportation costs.

### 25.2 Union Bar Near Hope BC – Aggregate

The Union Bar site (DL 57) has a gravel and sand deposit (estimated to contain about 10 million metric tons above the mean lower annual ground water table) located on the periphery of the Fraser Valley region of British Columbia. It is also at the trifurcation of 3 major highways that lead to the Interior and Alberta.

Despite its proximity to a large market and excellent regional transportation and infrastructure, the site has not been developed because it is difficult to access. CGG's conceptual plan is to construct an industrial access road to the site from the Trans-Canada highway and develop a typical aggregate extraction and processing facility.

The required technology is fairly standard and there do not appear to be extraordinary technical difficulties to successful extraction. Remediation will require replacing the volume of the exported aggregate with fill. CGG is proposing to use clean soil imported from offsite construction excavations as fill.

Insofar as the Union Bar is a geomorphologically identifiable gravel bar on the Fraser River, the existence of a gravel resource is very likely. Machibroda Engineering (1996) provided an approximate estimate of its size at 19.1 million metric tons. Machibroda based its estimate upon a survey of 3 sections over the surface of the Union Bar and an assumption that the gravel could be excavated to EL 25 meters amsl without encountering bedrock or groundwater constraints.

In 2022 seven ODEX drill holes were drilled into the bar to depths up to 24.4 meters (80 feet) bgs confirming that Machibroda's (1996) assumption that bedrock would not be encountered was correct.

The author estimates<sup>92</sup> that the maximum excavation depth above the transient groundwater table would be about 14 meters bgs on a seasonal basis. Assuming this to be the effective initial extraction depth, the average ground surface elevation to be EL 46 meters amsl, and the available surface area to be 46.68 Ha per Google Earth, the author estimated the mass of the inferred gravel resource at Union Bar to be about 10 million metric tons.

The characteristics and quality of the gravel and sand material were tested on samples sent to Metro Testing & Engineering Ltd. Metro tested a single composite sample that was blended from four sub-samples. The locations and depths of the four sub-samples were not reported. It is likely that the samples were collected over a limited depth range of 1.5 to 1.8 meters (5 to 6 feet) bgs.

Two sieve tests were performed by Metro on the composite sample. The composite aggregate sample was first screened to pass 28 mm (1.10 inch) minus particles. Metro reported that 90% of this composite sample was less than 28 mm in diameter<sup>93</sup>; however Shearer (2002) reported that 52% of the original pit run sample was "oversize" (> 38 mm) and was discarded before the sample was sent to Metro.

Metro's coarse material sieve test showed that only 5% of the particles less than 28 mm in diameter were finer than 5 mm, and 0.3 % were less than 315 µm in diameter. This indicates that the gravel deposit is fairly coarse and has a low sand and silt content (to the extent that a single sample can be used to characterize the entire deposit). The oversize (>28 mm) particles will have to be crushed in order to meet commercial product requirements. If these clasts are crushed, and if a lower size of 0.5 mm diameter is used for concrete application, then about 99% of the gravel can be used for construction fill or for concrete. However, it is noted that this conclusion is based upon

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<sup>92</sup> See Appendix 2.

<sup>93</sup>Hence, about 10% of the stones were less than 38 mm but more than 28 mm in diameter



testing of a single sample. To confirm this conclusion, more sample testing and some bulk sample tests are required.

Metro also tested the sample for several CSA and MOTI concrete specifications. The aggregate was found to be acceptable for all the specifications tested for. However, the petrographic number (PN) for the coarse fraction was classified as “fair”, which is limiting for certain concrete applications that are exposed to freeze-thaw. There is no reported test result for AAR (alkali-aggregate reaction) (see CSA A23.1/2-2019). This is occasionally found in alluvial gravel in coastal BC and should be assessed.

In summary the Metro Testing & Engineering described the particle size distribution of the aggregate, which was found to be fairly uniform medium-size gravel and sand lean, and its properties for use in a concrete mix and for construction fill. It was found to meet the specifications for these uses. The testing program was limited in that only a single composite sample was tested, the petrographic number (PN) result precluded some concrete applications, and the AAR (alkali-aggregate reaction) (see CSA A23.1/2-2019) test result was not reported.

The author concludes that the aggregate tests provided encouraging results, and recommends testing of additional and larger samples.

## 25.2 Union Bar Near Hope, BC – Placer Gold

Sediments in the Fraser River have been known to be auriferous since the Gold Rush of 1858. Placer gold prospecting and small-scale mining have occurred in the lower Fraser River canyon and on Union Bar on an occasional basis since then. These historic projects are poorly documented, and none has evolved into a long-term mine. All those reported have focused on finding local high grade placer deposits.

The proposed CGG placer gold project differs from historic efforts. Sample and test results show that the placer gold clasts are mostly located in the sub-sand fines. These fines are a waste stream from the process of aggregate sieving and washing, so the aggregate waste stream is the basis of a feedstock concentrate for gold extraction. This will substantially reduce processing cost for placer gold extraction, and mitigate the requirement to limit extraction to a few, if any, high grade zones. While the average concentration of placer gold in the Union Bar aggregate matrix (based on a sample size of 16) is not high, the project feasibility can be based on an average concentration in the fines over the entire aggregate deposit. By doing so, the usual risk of placer mining is mitigated. The success of the placer gold project at Union Bar will depend on installing an extraction system at field scale that can replicate efficiencies reported in testing at the lab scale.

Shearer (2022) collected 16 samples from 16 test pits that covered a large portion of the surface of Union Bar. The samples were collected from a limited depth range of 1.5 to 1.8 meters bgs. The author considers the sample collection, quality assurance, and sample security procedures to have been informal.

The samples were taken to Sepro Laboratories in Langley, BC. Sepro produced concentrates by sieving the 16 samples to remove 300 µm plus particles. Sepro then performed fire assay tests on the sample concentrates and found the average head grade to be 17.66 ppm with a range of 48.93 ppm. The purpose of those tests was indicative; that is, some placer gold was detected in every sample.

A floatation test was performed by Sepro on a single composite sample. The concentration after a single pass through the floatation device was 18.0 g/metric ton (of concentrate), which Sepro estimated to have recovered 97.2% of the gold. The fire assay and floatation test results were thus consistent.

The floatation test was relevant insofar as CGG intends to process the fines from the aggregate processing for placer gold, so an average concentration over the entire deposit should be obtained in order to estimate the *in situ* mass of the gold resource.

If the average placer gold concentration in the aggregate deposit is assumed to be the same as that of the limited depth zone that was sampled, then the available *in situ* placer gold resource is estimated to be about 1.8 metric tons (see Table 10 in §14.4).

The drawbacks with the gold sampling and testing program included the informal sample collection methodology, the application of the floatation test to a single sample, and the fairly low mass of gold recovered per unit metric ton of pit run aggregate (0.184 g/MT, see Table 10). However, the aggregate preprocessing should reduce gold processing costs (18 g/MT was recovered from a 300 µm minus concentrate).

The exploration program would be enhanced by sampling over a greater depth range of the deposit, testing a greater number of samples with less compositing, testing larger samples when access to the site is upgraded, and imposing a more rigorous sample collection and transport protocol.

### 25.3 Conclusions – Union Bar Aggregate and Gold Project

The author provides the following conclusions for the Union Bar site:

1. The aggregate drill program indicated that the gravel extends from the base of the surficial soil unit to the water table, so the confidence in the volume and mass estimates of the aggregate resource has been enhanced.
2. The aggregate size distribution appears to be appropriate for development of a gravel quarry. The deposit appears to have a low proportion of sand.
3. The aggregate tests indicate that the gravel is suitable for most construction fill and concrete applications.

4. The gravel testing and exploration has been indicative. More testing and field surveys are required to enhance the estimates to the level of an *indicated* deposit.
5. The project is well-located with respect to a large aggregate market.
6. The reject fines from the aggregate processing are the input to the gold processing. This synergy should lower the costs of recovering the gold component of the resource.
7. Measurable placer gold was found in all the (16) samples tested. More testing is required over a larger range of depths. Floatation testing should be done over a larger number and size of samples.
8. CGG should begin to develop a structured business plan in order to evaluate development options, and update this as additional site information becomes available. The aggregate project depends on a successful marketing effort.
9. The project requires all permits to be obtained and a new access road to be built in order for the project to be developed. The author is aware that CGG is focused on these key items, but no permits have been obtained and the approval from CPR to build a bridge over its right-of-way has not been obtained as of the effective date of this report to the author's knowledge.

#### 25.4 Risks – Union Bar Aggregate and Gold Project

There is no explicit place in the prescribed NI 43-101 technical report format for a discussion on general risks, so the author has decided to discuss them in §25. The items mentioned below in this section are not comprehensive.

The author describes the following risks:

- The project depends on the efforts of a few key staff, particularly Peter Osha and Brian Hauff. John Ostler M.Sc., P.Geo. is also an important technical resource. This is common for projects at what might be termed the entrepreneurial stage. The absence of these key personnel could have an adverse material impact to the company.
- The project has not received the permits required for it to get into operation. Failure to obtain the required permits and authorizations within a reasonable time frame would have a serious material impact on the proposed project and to the company
- The company will need sufficient capital for mining equipment, site preparation and construction of the access road in order to get into operation, even though the proposed aggregate project is of medium size. If sufficient capital cannot be

obtained then the project would have to be downsized, delayed, abandoned or sold. The financial consequences would vary with the option selected to adjust to circumstances. For instance a downsized operation might have higher margins for a shorter duration by highgrading, or the entire project might be of interest to a well-capitalized established firm interested in securing the resource at a discount.

- The aggregate market is oligopolistic in the Vancouver area. Failure to obtain access to the aggregate market would be materially adverse to the company. To the author's knowledge CGG has no sales contracts at this time. This is not unexpected as it is not yet in production.
- The success of the aggregate product is dependent on aggregate prices. A decrease in the nominal or real price of aggregate would be materially adverse to the company. Fortunately the project is located close to a large market and demand and price for aggregate tend to be relatively stable. The major risk would be one caused by a serious economic recession or an unstable currency.
- There is a risk that the aggregate project will not be economic because of the requirement that the excavation caused by aggregate extraction will have to be filled in order to meet the ALC's requirements for remediation. The cost of imported fill will reduce the profit margin of aggregate sales. This risk would be substantially reduced or completely avoided if the fill can be obtained from relocated clean soil from constructed projects, so the success of this component of the overall project is important.
- Some of the estimates and assumptions used by CGG (and the author) for project planning are based on data sets as small as one sample. If the available information turns out to be not representative of the parent population then an economic forecast based on them would be wrong.
- The major risk to the placer gold project is that the gold cannot be economically extracted as the grade is somewhat low. This risk can be mitigated by having the aggregate project pay for preprocessing costs and using a floatation system for separating the placer gold from the concentrate. However, to date the efficacy of the floatation process has only been determined on a single sample at a bench scale at Sepro Lab.
- The economic viability of the placer gold project depends on the price of gold, which is set by an international market. All the gold produced can be sold into this market. This risk is mitigated by the facts that gold has maintained a fairly constant real value since 1800 and is priced in US dollars. The market price of gold has risen fairly steadily in nominal terms since the US went off the gold standard.

## 25.5 Rock Pit Flagstone Project near Quesnel BC

On the basis of the site visit the author concludes that an inferred flagstone mineral resource exists at the site. The full extent of the deposit has not been delineated in plan or depth. . Further exploration is required to determine the size of the mineral resource at the Quesnel site, and the scale of extraction that is appropriate to it.

Vancouver Petrographics described the bedrock at the site as a porphyritic trachy-latite, which is consistent with the field assessments of the author and of John Ostler M.Sc., P.Geo., who is an experienced geologist (and CGG shareholder). According to an internet search, a latite is often well-suited for commercial flagstone applications.

The test mining and transport exercise in September 2022, as reported by Peter Osha, indicated that the product can be produced at a small scale.

The market for the flagstone can be described as a boutique one and its characteristics will need to be investigated further. Revenues will have to exceed the costs of production and transport.

In summary the limited information obtained in 2022 is encouraging for the development of a small-scale ornamental rock facility at this site. The project should be considered to be in the early stage of development at this time and its economic viability is unproven. However, the flagstone project will likely become a small-scale endeavor that will not require a major capital investment. Successful boutique projects can be quite profitable as they operate in a limited market requiring special expertise or product.

## 26.0 Recommendations

### 26.1 General

- The project scope and plan need to be reviewed by CGG and a unique consensus developed. The overall concept is good and is considered to be achievable, but the project plan needs to be updated by incorporating the results of the 2022 site sampling and material testing results, changing economic parameters, and this Technical Report.
- A detailed business plan and operations plan for the projects at Union Bar should be prepared. CGG should consider preparing and issuing a *Preliminary Economic Assessment* (PEA) that describes the economic viability of each of the three components of the project (aggregate, placer gold, and soil relocation), and release the PEA separately from this Technical Report.
- The author is of the view that some of the existing CGG promotional and informative material, particularly on its web site, is outdated or incorrect due to

changes in the project development concept. The author recommends that the existing information on the CGG web site be updated where appropriate with currently correct and consistent information. The author also recommends that the historical reports be placed in a separate part of the web site so that persons interested in reviewing them can do so, but be warned that CGG does not rely on it. Independent reports and lab data can be placed in a separate area as well.

- The author recognizes the difficulties in obtaining permits in BC, but CGG must focus on obtaining the required permits as a priority.

## 26.2 Union Bar near Hope, BC – Aggregates

- The project site on Union Bar should be surveyed and proper scaled drawings generated that can be used for resource and environmental investigations, and mine planning purposes. Permanent survey monuments should be installed on the site.
- Short-term, medium-term and long-term mine plans should be developed when the survey information is available. The level of detail should correspond inversely with the time to implementation.
- A legal opinion, or other appropriate legal review, should be sought confirming that CGG holds the mineral rights to the aggregate on DL 57, given that the lien on the land title regarding this issue is not clear to the author.
- The author recommends that a professional geotechnical assessment be performed in order to avoid an unacceptable risk to the CPR right-of-way. The author recommends that any proposed excavation near to the CPR railway track or the buffer zone along the Fraser River be reviewed and approved by an independent professional geotechnical engineer.
- A summary of wildlife timing constraints should be obtained from Nova Pacific for use in project planning and scheduling.
- Both archeology consultants stated that additional work is required. This work should be scheduled as it may be seasonally affected. However, before doing so, the First Nations should be consulted as to their level of concern regarding archeological issues, and the scope of the required work.
- A Permit Summary report should be compiled that lists the permits required and tracks their progress, status, and timelines. Obtaining permits is a priority particularly in light of the proposed schedule for being in operation. The permit status should be reviewed and updated on a regular basis.
- A benefits agreement with First Nations should be concluded as soon as possible. The permitting process in BC reacts to objections and concerns

expressed by First Nations. Once a formal agreement is in place, the permitting agencies should be notified of it.

- One or more groundwater monitoring wells should be installed and groundwater elevations on the site monitored. The depth of excavation will be limited to the depth to the groundwater table, which will vary with river level at this site.
- A water level gage should be installed along the shore of the Fraser River and river level should be recorded daily whenever staff is on site. The relationship between the water surface elevation of the Fraser River at the site to that at the nearby Water Survey of Canada gage should be determined.
- The initial aggregate test results by Metro testing were positive, but were based on a single composited sample. Additional tests should be performed on multiple samples collected over most of the surface area (of the DL 57 portion of Union Bar) and a greater range of depths of the gravel resource. The sampling program should be planned in order to obtain appropriate information for resource estimation and mine planning. Sample documentation, QA, and sample security criteria should be established and followed so that the investigation results are credible. The goal should be to raise the classification level of the aggregate mineral resource from “inferred” to “indicated”.
- The AAR test result for the 2022 sample should be recovered from Metro Testing if available. Otherwise several other samples should be collected and tested for AAR as soon as possible. Additional samples and testing for the Petrographic Number are also recommended.
- Research on the local aggregate market should continue.
- The author suggests that the part of the Union Bar that lies to the north of DL 57 could be acquired for mining as well. CGG already has placer rights to this property.

### 26.3 Union Bar near Hope BC – Placer Gold

- The Sepro Laboratories data are considered to be reliable to the extent that the samples collected by HomeGold are. It is recommended that CGG obtain a formal report from Sepro. This report could be placed on CGG’s web site.
- The field sampling protocol for future placer gold samples be changed to include enhanced QA and sample security procedures. Sample duplicates should be retained for retesting if required (a procedure similar to that of a “core shack”).
- Additional sample testing and some bulk testing is recommended to improve estimates of the mass of recoverable placer gold in the aggregate deposit.

- Additional sampling should be performed to raise the classification of the placer gold mineral resource to “indicated”. (The spatial coverage and the consistency of flame assay tests of the 16 samples tested by Sepro indicate that achieving “indicated” status should be feasible).
- The floatation results were based on a single sample. More testing of the performance of the floatation process at the lab scale is required.
- Ongoing work on developing a scaled-up floatation system for use at the site should be a priority. The success of the placer gold project depends on this.
- A system for washing the raw aggregate to remove fines, and the collection and processing of the fines to prepare the feedstock concentrate, at an operational scale needs to be described or designed. It is not a component of a typical aggregate operation.
- An economic model of the placer gold project should be prepared in order to demonstrate that will be profitable in the long run at this site.

#### 26.4 Rock Pit Flagstone near Quesnel BC

- The site access road should be completed, if it has not been done so already
- The site should be surveyed so that scaled working drawings are available. A survey of the site access road and the area it encloses should be sufficient for short-term requirements.
- A geological survey of the site should be performed (as suggested to the author by John Ostler, M.Sc., P.Geo.) to better define the extent of the suitable fractured latite deposit. In particular, Pit #1 should be investigated after snowmelt and compared to Pit #2, and any other bedrock outcrops that are found in the vicinity, with respect to fracture characteristics and petrography.
- In the course of the geological survey, and areas with potential as groundwater sources should be identified
- A general mine plan should be developed. The existing Mines Act Mineral Claim tenure appears to be sufficient for current exploration and development purposes. It can be upgraded if production exceeding 800 metric tons between August 24, 2022 and August 23, 2027 is contemplated
- Research into potential buyers of the flagstone product should be continued. CGG should identify and join relevant trade associations.



## 27.0 References

The references are listed by the last name of the first author

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<sup>94</sup> The placer gold lease is called the "Lucky Thirteen".

<sup>95</sup> This report was not prepared by a P.Ag.

<sup>96</sup> No address given in the report, but its web site states that it is located in Kimberley, BC. Kimberley is not close to the project site.

<sup>97</sup> [http://cmscontent.nrs.gov.bc.ca/geoscience/PublicationCatalogue/Paper/BCGS\\_P2014-01-06\\_Schiarizza.pdf](http://cmscontent.nrs.gov.bc.ca/geoscience/PublicationCatalogue/Paper/BCGS_P2014-01-06_Schiarizza.pdf) \1  
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## 28.0 Statement of Qualifications and Certificate of Qualified Person – Steve Graham

1. Statement by Donald Steven Graham, Ph.D., P.Eng., P.Geo., President of S. Graham Engineering and Geology Inc., 46 Parkgrove Cres., Delta, BC V4L 2G3
2. I am an independent consulting geoscientist and engineer.
3. I am a registrant of Engineers and Geoscientists of British Columbia (EGBC). My EGBC registration number is 19974. [EGBC is the business name of the Association of Engineers and Geoscientists of British Columbia (APEGBC)]
1. I am the sole employee of S. Graham Engineering and Geology Inc. of the same address. S. Graham Engineering and Geology's EGBC Permit to Practice number is 1001479. My academic qualifications are:
  - Hon. Bachelor of Arts, Physical Geography, McGill University, 1971
  - Ph.D., Environmental Engineering, The Johns Hopkins University, 1982
  - Completion of a set of exams set by the Association of Professional Engineers of Ontario to qualify as a P.Eng. in Ontario, 1989.
  - Ph.D. candidate in civil engineering, the University of Florida, all requirements completed except dissertation.
2. I have been professionally active in the mining industry as a consultant and government regulator since 1985. I have worked on several aggregate projects in BC since 1994. My Ph.D. dissertation dealt with alluvial sediment transport. I have worked on mineral mining developments on three continents as an employee of Fluor Daniel Wright, and smaller consulting firms in Canada and the US.
3. I have read the definition of "qualified person" in National Instrument 43-101 and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements set out in §1.1 of NI 43-101 to be a "qualified person" for the purposes of NI 43-101.
4. I am responsible for all sections of the Technical Report entitled "Technical Report on the Union Bar Gravel and Sand Deposit and the Lucky Thirteen Placer Gold Lease 1079702, Fraser River Area near Hope, BC and the Rock Pit Flagstone Deposit near Quesnel, BC", dated February 17, 2023, and signed and authenticated by me, except information from testing laboratories and other third party sources that has been identified as such.
5. I visited the Union Bar site on July 14, 2022 and the Rock Pit Flagstone site on September 14, 2022. In both cases I was accompanied by Canyon Gold & Gravel executives. I opine that those site visits constitute Current Personal Inspections as defined in Section 6.2 of National Instrument NI 43-101.
6. I have reviewed the files of Canyon Gold & Gravel Inc. that have been provided to me, and I have reviewed relevant information from other sources. These sources are listed in the References section (§27.0) of this Technical Report.
7. I am independent of the issuer per the requirements of §1.5 of NI 43-101.
8. S. Graham Engineering and Geology Inc. has been retained by Canyon Gold & Gravel Inc. to prepare this report as an independent qualified person.

9. I had no prior involvement with the Union Bar or Rock Pit Flagstone projects, which are the subjects of this Technical Report.
10. I have read the NI 43-101 and I have endeavored to prepare this Technical Report in compliance with the NI 43-101 and Form 43-101F1.
11. I have relied on the information provided to me by Canyon Gold & Gravel Inc, and on sources listed in the References listed in §27 of this Technical Report, and on information included in the Appendices of the Technical Report, and on personal communications with Canyon Gold & Gravel Inc. executives where noted in the text of this Technical Report. I assume that no relevant or material information has been withheld that would affect the conclusions or recommendations.

**DRAFT**

---

Steve Graham, P.Geo. P.Eng

Seal

Dated this day of March 15, 2023

## 29.0 List of Abbreviations, Acronyms, and Conversion Factors

Conversion	1 troy oz = 31.1035 grams
Conversion	1 troy oz./ton = 34.2857 g/metric ton
Conversion	1 troy oz. per cubic yard = 40.6818117 g/cubic meter
Conversion	1 cubic yard = 0.764555 cubic meter
amsl	Above mean sea level
AAR	alkali-aggregate reaction (a test on aggregate for suitability in concrete)
AIA	Archeological Impact Assessment
AoHP	Area of High Archeological Site Potential
ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
Alluvium	Sediment deposited by flowing water, as in a riverbed, floodplain, or delta. Adjective is “alluvial”.
Au	Chemical abbreviation for gold, from the Latin <i>aurum</i> .
Auriferous	Containing gold (adj.)
Bar	A geomorphological term referring to an alluvial sand or gravel deposit on the bed of a water body, such as a river. A “lateral bar” is located adjacent to the bank of a river.
bgs	below ground surface
CIM	The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) is a not-for-profit technical society of professionals in the Canadian minerals, metals, materials and energy industries.
CGG	Canyon Gold & Gravel Inc., the Proponent and Issuer
CSA	Canadian Standards Association, Canadian Securities Administrators
CSAP	Contaminated Sites Approved Professionals Society

DL 57, DL 57	District Lot 57; owned by CGG at Union Bar near Hope, BC
g/mt, g/MT	1 gram per metric ton = 1 ppm = 1000 ppb = 0.0292 troy ounce per short ton
Hectare	Metric unit of area. 1 Ha = 10,000 m <sup>2</sup> = 2.471 acres
Latite	A fine-grained extrusive igneous rock.
MEMLCI	BC Ministry of Energy Mines and Low Carbon Innovation
Meter	Meter; 1 meter is equal to 1,000 mm (millimeters), or 1,000,000 μm (micrometers).
MOTI	BC Ministry of Transport and Infrastructure
MT or mt	1 metric ton = 1000 Kg = 1 Mg; a unit of mass
NI 43-101	National Instrument 43-101 -- Standards of disclosure for mineral projects prescribed by the Canadian Securities Administration
NOW	A Notice of Work for a Ministry of Mines permit.
Ore	Mineral bearing rock that can be mined and treated profitably under current or immediately foreseeable economic conditions
oz.	Ounce. A unit of force.
Porphyry	The texture of a rock in which relatively large phenocrysts with regular crystal faces are set in a generally fine-grained groundmass.
ppm	Parts per million, a measurement of concentration. 1 ppm = 1000 ppb = 1 gram per metric ton
QA/QC	Quality Assurance/Quality Control is the process of controlling and assuring data quality for assays and other exploration and mining data
Qualified Person	The term “qualified person” refers to an individual who is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these, has experience relevant to the subject matter of the mineral project and the



technical report and is a member in good standing of a recognized professional association.

Rock	Indurated naturally occurring mineral matter of various compositions
RSBC	Revised Statutes of British Columbia
SUV	Sports utility vehicle
Ton or Short ton	2000 lb = 907.1847 Kg; a unit of force
Tonne	Definition varies. French term for a metric ton. British term for a short ton. Seldom used in US. Not used in this report.
Trachyte	A fine-grained extrusive igneous rock, similar to latite
Troy oz.	A troy ounce is a unit of weight (force) used for precious metals and gems, based on a pound of 12 ounces as opposed to the traditional 16. A troy ounce corresponds to a mass of 31.1034768 grams under standard conditions. Gold is typically priced in troy oz. or grams.
YDYD	Yale Division Yale District

## 30.0 Limitations and Legal Notices

This document has been prepared by S. Graham Engineering and Geology Inc. for the sole benefit and use of Canyon Gold & Gravel Inc. The information and data in this document reflects S. Graham Engineering and Geology Inc.'s best professional judgment in the light of the information available to S. Graham Engineering and Geology Inc. at the time of preparation. Except as required by law, this document and the information contained herein are to be treated as confidential, to be used and relied upon only by the client, its officers and employees. It may be relied upon by securities agencies and investors to the extent that reliance is explicitly authorized in the text. It may be relied on by permitting agencies in support of a permit application. Any use which a third party, except as noted above, makes of this document, or any reliance on or decisions to be made based on it, are the responsibilities of such third parties. S. Graham Engineering and Geology Inc., its employees, shareholders, directors and officers accept no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this document

The conclusions and recommendations in this report are based entirely on information provided by others, except those relating to site visits. Should this information change, then SGE should be notified so that it may review its conclusions and recommendations.

S. Graham Engineering and Geology Inc. has relied in good faith on information provided by sources noted in this report. S. Graham Engineering and Geology Inc. accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of omissions, misstatements, errors or fraudulent acts of others.

S. Graham Engineering and Geology Inc.'s General Terms of Engagement apply to this project.

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S. Graham Engineering and Geology has an APEGBC Permit to Practice #1001479. This permit expires on June 30, 2023.

## Appendix 1

# Estimate of Feasible Depth of Excavation and Approximate Volume of the Bulk Gravel Deposit at Union Bar

Prepared by

S. Graham Engineering and Geology Inc.

per Steve Graham, P.Eng., P.Geo

Prepared for

Canyon Gold & Gravel Inc.

November 20, 2022

## A1 - 1.0 Introduction

The purpose of this appendix is to present a rationale for the maximum depth of excavation at Union Bar, and the gross volume and mass of bulk aggregate available in the Union Bar deposit.

These calculations are intended to supplement the analysis of N. Froc, P.Eng., in the Machibroda Engineering report (1996; see §27 of the main report). Mr. Froc assumed that (1) the bedrock would lay below the level of maximum extraction and thus would not be limiting, and (2) that the maximum excavation depth would be EL 20 meters (66 feet) amsl. Froc also assumed that the high water elevation of the Fraser River is 36 meters, and based the surface elevation of Union Bar upon three lateral surveys. Froc took into consideration setbacks of 30 m from the Fraser River, 20 meters from the CPR line and 1 meter from adjacent private properties, as well as allowing a 1.5:1 slope into the excavation pits. Froc did not disclose his calculations of plan area.

For this analysis the plan area of the Union Bar on DL 57 (extending north to 5474350 m UTM northing)<sup>98</sup> is measured at 47.68 Ha using Google Earth. CGG will use a buffer of m (150 feet) along the Fraser River, m (75 feet downgradient from the centerline of the CPR tracks), and 1 meter from the legal property line on the north (Peter Osha, pers. comm., 11/22/2022). Mr. Osha said that about 1 Ha in the southern part of the property would not be mined due to previous activity. A 1.5 to 1 cut slope into the excavation area was used.

## A1 - 2.0 Ground Water Elevation at Union Bar

It is assumed that CGG will be able to obtain a mine permit to extract to the water table. Due to the high hydraulic transmissivity of a sand/gravel unit it is assumed that the groundwater level under Union Bar will equilibrate with the level of the adjacent Fraser River. This assumption is considered to be reasonable, but it has not been confirmed in the field.

It is also assumed that the level of the Fraser River at Union Bar will correspond with that of the level of the Water Survey of Canada (WSC) gage 08MF005, Fraser River at Hope. This gage is located on the Hwy. 1 bridge over the Fraser River about 3.6 Km downstream of Hope, just inside the mouth of the Fraser River Canyon.

The average maximum, mean and minimum daily water levels over the period 1922 to 2020 were calculated by WSC from its historic data base. The results are plotted on Figure A1 – 1 on the following page.

It was then assumed that the water surface elevations at Union Bar would correspond to those at the Fraser River at Hope gage, with a correction for the difference in elevation.

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<sup>98</sup> The author has no site survey of Union Bar. Figure 4 was used to define the subject area.

Figure A1-1

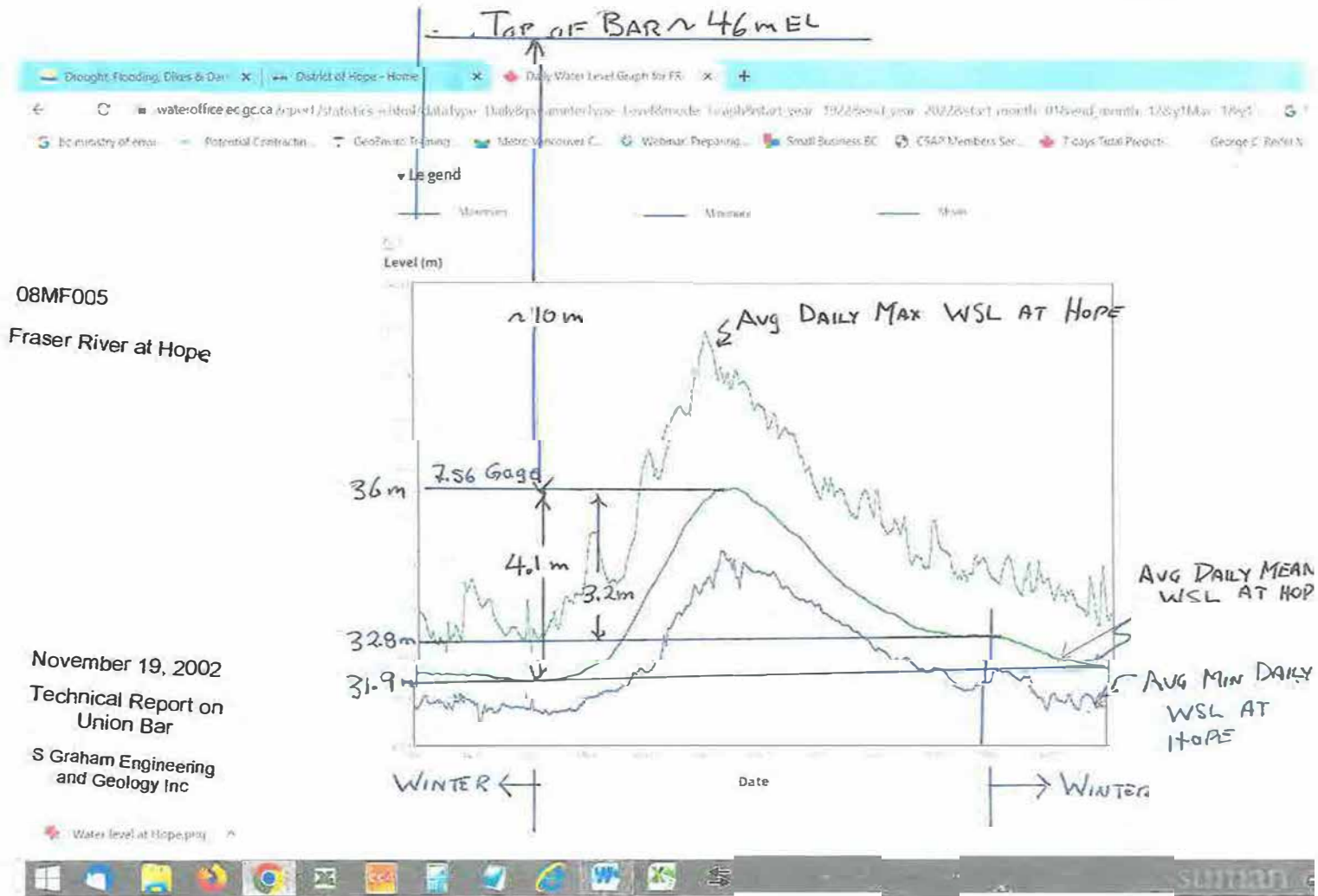


Figure A1-1

This assumption has also not been confirmed with field data at Union Bar, but is based on proximity and topographic similarity.

The high water level at Union Bar, reported by Froc to be EL 36 meters amsl, would then correspond to the average daily high water level at the Fraser River at Hope gage, which is about EL 7.6 meters amsl as shown on Figure A1-1. The highest water level almost always occurs during the spring freshet in June.

Conversely, the average daily lower water levels at the gage occurs during the period from December to March before snowmelt. The maximum difference between the highest and lowest average daily water surface levels is about 4.1 meters.

As noted above it is assumed that the groundwater elevation under Union Bar corresponds with the assumed level of the Fraser River at Union Bar with the maximum water level set at 36 meters per Froc, as shown in Figure A1-1.

#### A1 - 3.0      Excavation Depth

The topographic surface of Union Bar has not yet been surveyed in detail. Froc presents a topographic map on page 8 (pdf) and section lines on pp. 10 and 11 (pdf) of the Machibroda Engineering report. The Union bar slopes downward from west to east and from north to south. A typical elevation in the center of the Union Bar is EL 46 m amsl. This is selected to represent the average elevation of the entire bar for current purposes.

If the typical ground elevation of the Union Bar is EL 46 m and the high water level of the Fraser River at Union Bar is EL 36 m, then the excavation depth to the high water table is about 10 meters. See Figure A1 -1. Noting that the water table at Union Bar varies over an annual cycle, then excavation to the lowest average daily water level would allow about 4.1 meters of additional depth, or 14.1 meters bgs. See Figure A1-1. The incremental excavation would have to be undertaken as the water tables declines after the June freshet.

If operations are shut down between November 1 and March 1 for the winter period, the lowest average daily water table level on November 1 is about EL 32.8 m, and it is EL 31.9 m on March 1 (but rises steeply after April 1). A strategy in this case might be to excavate to EL 32.8 before November 1, and then perform another lift of about 1 meter after March 1 if the water in the excavation is still low enough by then (it will be at or below this level half of the time on March 1).

For current purposes it is then calculated that the maximum excavation depth on Union Bar will be about EL 31.9 meters amsl (See Figure A1-1). This is about 12 meters less than would be calculated using Froc's assumed maximum excavation depth of EL 20 meters amsl.

#### A1 – 4.0 Estimates of Bulk Aggregate Volume and Mass

Froc's (1996) bulk volume estimate of the gravel unit was based upon 3 transects of the surface of Union Bar and a constant excavation depth to EL 20 meters amsl, less losses from not removing aggregate from buffers and pit excavation slopes, and not including an overburden thickness of 0.3 m. Froc did not provide his survey data nor his pit geometry assumptions. His estimate of the available mass of aggregate was 19.1 million metric tons (MT) using a density ratio of 2.1 MT/m<sup>3</sup>. This would correspond to a volume estimate of 9.10 million cubic meters.

The author does not have the resources to replicate Froc's survey procedure, but wishes to adjust Froc's estimate to account for subsequent incremental information. The input parameters include:

- a typical ground surface elevation of 46 m amsl
- a reduced the mineable area to 46.68 Ha (47.68 Ha measured on Google Earth less 1.0 Ha removed due to past disturbance) (DL 57 is 50 Ha).
- a density ratio of 2.6 MT/m<sup>3</sup> (corresponding to the soil data in Froc's report, and to the Metro Testing results of 2022 (see Appendix 7).
- a typical overburden depth of 2.4 m (8 feet) per the drill and test pit data collected by Shearer (2022). See Tables 5 and 6 in the main report.
- a maximum extraction depth of 14.1 meters bgs
- The revised losses for buffer strips
- The revised losses for cut slopes (400 m added)

The calculations are presented in Table A1-1 on the next page. The estimates are 3.85 million cubic meters and 10.09 million metric tons. These are 48% less than Froc's estimates. This is not due to calculation error but rather due to a 1 Ha reduction in the expected excavation footprint, larger buffer strips, and a 46% reduction in the expected maximum excavation depth.

Using an extraction rate of 250,000 metric tons per year (per the current initial mining plan) the estimated life of the mine (LOM) is reduced from 77 years to 40 years. This will not affect the mine economics greatly since the net revenues 40 years out and beyond would be significantly discounted.

Table A1-1

## Estimate of Aggregate Mass at Union Bar

Total Area of DL 57	50	Ha	Table 1
Minable Area on DL 57	46.68	Ha	Google Earth
	466,800	m <sup>2</sup>	
Max Excavation Depth	14.1	m	Flood level figure
Overburden depth (Froc)	2.4	m	Test Pitting
Aggregate Thickness	11.7	m	Difference
Gross Bulk Agg Vol Avlbl	5,461,560	m <sup>3</sup>	Product
Less Buffers	-1,181,435	m <sup>3</sup>	Table A1-2
Less Cut Slopes	-430,542	m <sup>3</sup>	Table A1-2
Net Bulk Agg Vol Avble	3,849,583	m <sup>3</sup>	Sum
Froc Table 2? & Metro	2.6	Mg/m <sup>3</sup>	Froc
Agg Mass Avlbl	10,008,916	Mg or MT	Calculation
Froc Estimate to EL 20m	19,120,000	Mg or MT	Froc
Difference	-9,111,084	Mg or MT	Calculation
Difference %	-48%		Calculation
Years at 250,000 MT/year	40.0	for 10.0*10 <sup>6</sup> MT	
	76.5	for 19.12*10 <sup>6</sup> MT	



Table A1-2 Estimate of Volume in Buffers and Cut Slopes

Description	Length	Width	Depth	Area	Volume
	m	m	m	m <sup>2</sup>	m <sup>3</sup>

Fraser R shore	1588	45.72	14.1		1,023,707
CPR	469	22.86	14.1		151,171
Legal Boundaries	465	1	14.1		6,557

Sum	1,181,435
-----	-----------

Cut Slope	2522			147.35	371,604
Cut Slope Interior	400			147.35	58,938

Sum	430,542
-----	---------

Total	1,611,977
-------	-----------

Cut Slope Area		
Slope 1.5:1	0.667	slope 34 deg
height	14.1	m
base	14.1/TAN34	20.9 m
area	0.5 * base * height	147.345 m <sup>2</sup>
Volume =	area* length	

## CAUTIONARY NOTICE

This summary was prepared to provide an approximate estimate of the volume and mass of the bulk aggregate deposit at Union Bar on the basis of currently available information. It is based on several assumptions that have not been corroborated in the field. It should not be relied upon as accurate and/or precise estimates for design or financial estimation purposes.

## APPENDIX 2

2022 Aggregate Test Results

Metro Testing & Engineering Ltd.

**From:** Peter Osha <tripleo@telus.net>  
**Sent:** Wednesday, April 20, 2022 10:58 AM  
**To:** James Rivero <jlrivero@metrotesting.ca>  
**Subject:** RE: Aggregates Test Schedule

Hi James

Further to our phone conversation this morning April 20, 2022 this is to verify that I authorize you to combine the four samples received from Canyon Gold & Gravel into one sample and run the tests.

Thank you  
Peter Osha

Sent from Outlook for Windows

**From:** James Rivero  
**Sent:** April 19, 2022 8:25 PM  
**To:** alchavarras@water@gmail.com; tripleo@telus.net  
**Cc:** A. J. Hernandez; Henock M.; Jim Alvaro; Shana Davis  
**Subject:** Aggregates Test Schedule

Hi Peter/Brian,

I have attached table of test schedule for each material source.

1. Please confirm if we need to do individual prequal for each source or combined them into groups, Some test need to do only the rocks as coarse agg and some are just the sand as fine aggregate and some are both.
2. We only be testing rock sizes from 28mm up to 5mm for Coarse Agg as this will be common for concrete mix and the sand. Usual stockpile for Concrete Agg (28mm. 20mm 14mm, 10mm 5mm- Birds eye.) Let us know if you need to test the larger Aggregates for other use.

If you have any questions please let us know.

Regards,

**James Rivero**  
Laboratory Supervisor

Mobile: **604-835-0038**

Direct: **604-835-9733**

Email: [jrivero@metro.ca.gov](mailto:jrivero@metro.ca.gov)

Web: [www.metro.ca.gov](http://www.metro.ca.gov)



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SUMMARY REPORT  
AGGREGATE QUALITY TESTING PROGRAM (2022)  
C-S HOPE PT, HOPE, B.C.

Prepared for:

Mr. PETER OSHA



Suite 200 100 Park Royal St  
West Vancouver, B.C. V7T 1A2

Prepared by:



**Metro Testing & Engineering Ltd.**  
#18 – 3275 McCallum Road  
Abbotsford, B.C. V2S 7W8

Project No. VE40608 (Rev.00)

June 03, 2022



## TABLE OF CONTENTS

<b>I. INTRODUCTION</b>	1
<b>II. AGGREGATE TEST STANDARDS &amp; RESULTS</b>	
1. Sieve Analysis (CSA A23.2-2A)	1
2. Relative Density of Coarse & Fine Aggregate (CSA A23.2-6A & 12A)	1
3. Micro-Deval Test (CSA A.23.2-29A & 23A)	1
4. LA Abrasion (CSA A23.2-16A)	2
5. Clay lumps (CSA A23.2-3A)	3
6. Low Density Granular Materials (CSA A23.2-4A)	3
7. Flat and Elongated Particles (CSA A23.2-13A)	4
8. Organic Impurities in Fine Aggregate (CSA A23.2-7A)	4
9. Unconfined Freeze and Thawing Test (CSA A23.2-24A)	4
10. Amount of Material Finer than 80 µm (CSA A23.2-5A)	4
11. Soundness of Aggregate by using of Magnesium Sulfate (CSA A23.2-9A)	5
12. Alkali-Silica Reactivity by Mortar Bars (CSA A23.2-25A)	5
13. Potential Expansivity of aggregates (CSA A23.2-14A)	5
14. Petrographic Analysis (CSA A23.2-15A)	6
<b>III. CLOSURE AND COMMENTS</b>	7

**Appendices**

Appendix A1 Photographs

Appendix A2 Test Reports

## I. INTRODUCTION

As requested, Metro Testing & Engineering Ltd. (Abbotsford), carried out a prequalification testing on two (2) types of aggregate samples: Pit Run Gravel and Sand from Canyon-Gold's Hope Pit, Hope, B.C. It is understood that both are unprocessed, composite sample as blended from 4-sub-samples from Grid Lines, GL#2-4.

The samples were tested to determine the suitability of aggregates for use in concrete production in accordance with CSA A23.1/2-19 and BC Ministry of Transportation & Infrastructure (MoTI) Section 211 requirements. This report summarizes the testing results.

## II. TESTING RESULTS

### 1.0 Sieve Analysis of Fine and Coarse Aggregate

This test method sets out a procedure for the determination of the particle size distribution of fine and coarse aggregate using sieves with square openings. Noted, the majority of particles for coarse aggregate pass 28 mm sieve (~90%).

Results are included in Appendix A2.

### 2.0 Relative Density and Absorption of Coarse and Fine Aggregate (CSA A23.2-6A & 12A)

This test method covers determination of the average density of a quantity of coarse & fine aggregate particles, the relative density and the absorption of the aggregates.

Test results are included in the attached appendix. The average test results are summarized below.

Aggregate Type	Bulk Relative Density (Dry) (kg/m <sup>3</sup> )	Bulk Relative Density (SSD) (kg/m <sup>3</sup> )	Absorption (%)
Coarse Aggregate (40-5mm)	2563	2597	1.09
Fine Aggregate (Sand)	2526	2597	1.55

### 3.0 Micro-Deval Test (CSA A23.2-23A & 29A)

This test method covers a procedure for testing the resistance of aggregates to abrasion using Micro-Deval apparatus. It furnishes information which is helpful in judging the suitability of course and fine aggregate subject to weathering and abrasive action when adequate information is not available. The test results are shown in the appendices and are summarized below.



**Coarse Aggregate - 28mm-5mm (CSA A23.2-29A)**

Sample:	Coarse Aggregate
Degradation (%)	4%
Applicable Requirement	
CSA A23.1-19 Table 12 MoTI Section 211 Table 211E	17% max

The material meets CSA and MoTI requirements for Coarse aggregate.

**Fine Aggregate - Concrete SAND (CSA A23.2-23A)**

Sample:	Fine Aggregate
Degradation (%)	10.0%
Applicable Requirement	
CSA A23.1-19 Table 12 MoTI Section 211 Table 211E	20% max

The material meets CSA and MoTI requirements for Fine aggregate.

**4.0 Resistance to Degradation of Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine (CSA A23.2-16A)**

This test method measures the resistance to degradation of aggregates (smaller than 40 mm or 37.5 mm) using Los Angeles abrasion machine. It is the degradation of mineral aggregates of standard grading resulting from a combination of actions, including abrasion, impact, and grinding in a rotating steel drum containing a specified number of steel spheres. The test results are shown in the appendices and are summarized below.

**Coarse Aggregate (40mm-5mm)**

Product	Grading	Original Mass (g)	Mass After Test (g)	Loss (g)	Percent Loss (%)
Coarse Aggregate	A	5010.9	4514.4	866.5	17.3
Applicable Requirement					
CSA A23.1-19 (Table 12) Concrete exposed to freezing & thawing					50% max
MoTI Section 211 Table 211E for Portland Cement Concrete (max loss)					35*/50 % max

\* For bridge deck concrete.

The material meets CSA and MoTI requirements for Concrete aggregates.

**5.0 Clay Lumps and Friable Particles in Aggregate (CSA A23.2-3A)**

This test method sets out the procedure for determination of Clay Lumps and Friable Particles in aggregate. The test results are shown in the appendices and are summarized below.

**Coarse Aggregate (28mm-5mm)**

Test Scope	% by mass
Clay Lumps and Friable Particles	0.05
Applicable Requirement	
CSA for Concrete A23.1-19 Table 12 Coarse Aggregate MoTI Section 211 Table 211E	0.3/0.5

The material meets CSA and MoTI requirement for Coarse aggregate.

**Fine Aggregates (Concrete Sand)**

Test Scope	% by mass
Clay Lumps and Friable Particles	0.2
Applicable Requirement	
CSA for Concrete A23.1-19 Table 12 Coarse Aggregate MoTI Section 211 Table 211E	1.0

The material meets CSA and MoTI requirement for Fine aggregate.

**6.0 Low Density granular material in aggregate (CSA A23.2-4A)**

This test method sets out the procedure for determination of the appropriate percentage of low-density granular pieces in aggregate by means of sink-float separation in a heavy liquid of suitable relative density. The test results are shown in the appendices and are summarized below.

**Coarse Aggregate –(28mm-5mm)**

Test Scope	% by mass
Percentage of Low-Density Particles	0.0
Applicable Requirement	
CSA for Concrete A23.1-19 Table 12 Coarse Aggregate MoTI Section 211 Table 211E	0.5

**Fine Aggregate – Concrete Sand**

Test Scope	% by mass
Percentage of Low-Density Particles	0.01
Applicable Requirement	
CSA for Concrete A23.1-19 Table 12 Coarse Aggregate MoTI Section 211 Table 211E	0.5 /1.0

The material meets CSA and MoTI requirements for Coarse & Fine concrete aggregates.

**7.0 Flat and Elongated Particles in Coarse Aggregate (CSA A23.2-13A)**

This test method outlines the procedures for determination of flat and elongated particles in coarse aggregate. The test results are shown in the appendices and are summarized below.

**Plant Feed (1:4 Ratio)**

Aggregate Size	Flat Particles	Elongated Particles	Flat & Elongated Particles	Total Flat & Elongated Particles (Procedure A)
40-5mm	0.0%	0.0%	0.0%	0.0%
Applicable Requirement				
CSA A23.1-09	max 25%	max 45%	max 20%	max 20%

The material meets CSA and MoTI requirements for Coarse Aggregate.

**8.0 Organic Impurities in Fine Aggregate - Concrete SAND (CSA A23.2-7A)**

This test method sets out the procedure for an appropriate determination of the presence of possibly injurious organic compounds in natural sands that are to be used in cement mortar or concrete. The color plate value was 1 – Light-yellow. The aggregate is considered not containing injurious organic impurities. The test result are shown in the appendices.

**9.0 Unconfined Freeze – Thaw Test (CSA A23.2-24A)**

This test method describes the procedure to be used in testing of coarse aggregates to determine their resistance to disintegration by repeated freezing and thawing in a sodium chloride solution. The test results are shown in the appendices and are summarized below.

**Coarse Aggregate (28mm - 5mm)**

Test Scope	% by mass
Percentage Loss after 5 cycles	0.0
Applicable Requirement	
CSA for Concrete A23.1-19 Table 12 Coarse Aggregate MoTI Section 211 Table 211E	6.0 – 10.0

**10.0 Amount of Material finer than 80um in Aggregates (CSA A23.2-5A)**

These test methods cover the determination of the amount of material finer than an 80-µm sieve by washing. The test results are shown in the appendices and are summarized below.

Material	Material passing 80um (% by mass)
Concrete Sand	2.0
Coarse Aggregate	0.2

### 11.0 Soundness of Aggregate by using of Magnesium Sulfate (CSA A23.2-9A)

This test method determines the aggregates resistance to disintegration using a standard solution of Magnesium Sulfate. It provides helpful information in judging the soundness of aggregate subjected to weathering action. The test results are shown in the appendices and are summarized below.

#### Coarse Aggregate (28 - 5mm Aggregate)

Sample ID	Weight % Loss
Coarse Aggregate	5.6
Applicable Requirement	
MoTI Specified Maximum Loss (%) Section 211 Table 211-E	12.0% max
CSA A23.1-19 (Table 12) for Concrete exposed to freezing and thawing/other exposure conditions	12.0/*18.0% max

\*other exposure

The material meets CSA and MoTI requirements for Coarse Aggregate.

#### Fine Aggregate- Concrete SAND

Sample ID	Weight % Loss
Concrete SAND	6.9
Applicable Requirement	
MoT Specified Maximum Loss (%) Section 211 Table 211-E	16% max
CSA A23.1-19 (Table 12) for Concrete exposed to freezing and thawing/other exposure conditions	16/*18.0 % max

o other exposure

The material meets CSA and MoTI requirements for Coarse Aggregate.

### 12.0 Alkali-Silica Reactivity by Mortar Bars (CSA A23.2-25A)

This test method allows detection within 16 days the potential for deleterious expansion of concrete aggregates due to the alkali-silica reaction by means of mortar bar subjected to accelerated test conditions. Test results are included in Appendix A2.

Testing is still in progress. It is understood that 25A test is an aggressive test and verification via long-term AAR test (Section 13.0) is recommended.

### 13.0 Potential Expansivity of Aggregates (CSA A23.2-14A)

This test method provides requirements for measurement of length change of concrete prisms, due to alkali-aggregate reaction, stored under moist condition at temperature of 38°C for a minimum of 365

days. This test method is intended to evaluate the potential expansivity of coarse or fine aggregates, or combination of coarse and fine aggregates.

The testing will be recommended for verification should the short-term AAR test as outlined in Section 13 (AMBT test) would fail.

#### 14. Petrographic Examination of Coarse and Fine Aggregates (CSA A23.2-15A)

Please refer to separate sheets for completed reports.

Per CSA and BC MOT, in general, aggregates with petrographic numbers at or below 125 are considered suitable for all classes of ready-mix concrete. Aggregates with petrographic numbers below 140 are suitable for most classes of concrete with the exception of Class C1, C2, and F1 (these are concrete mixes that have entrained air and may be exposed to freeze/thaw) (CSA A23.2 - 15A). Gravel sources with a petrographic number below 155 may be suitable for other construction applications, e.g., road-base or sub-base, backfill materials, drain rock.

The coarse sample consists of predominantly igneous rock (volcanic & plutonic rocks), lesser amount of metamorphic rocks, and minor sedimentary rock particles. They were found to be hard to medium hard in general, tough with some particles being fractured, or weak to moderately weathered. The porosity of the rock types was generally low. No significant amounts of flat or elongated particles were observed. *PN Grade is judged as "Fair"*. It is understood that processing (crushing operation) could bring down the PN #/Grade. The Sand (fine portion) of aggregate sample *was judged as "good"*

PN Number and Grade are summarized in Table below.

Sample ID	PN number	PN grade
40-5mm	133	fair
Sand (5 mm minus)	-	good

### III. COMMENTS AND CLOSURE

The tests results indicate that in general, the aggregates comply with CSA and BC MoTI requirements for aggregates to be used in concrete production.

Short term AMBT CSA 25A (mortar bar) T test is in progress; Metro will update results once they are available. Prior to that it would be prudent that some measures of mitigation be taken as per CSA A23.1/2.



We trust this report meets your requirement. If there are any questions or concerns, please do not hesitate to contact the undersigned at your convenience.

Yours truly,

**METRO TESTING & ENGINEERING LTD.**

Per:

**Jaime Rivero**  
CCIL Certified Sr. Tech/  
Laboratory Supervisor

Reviewed by:

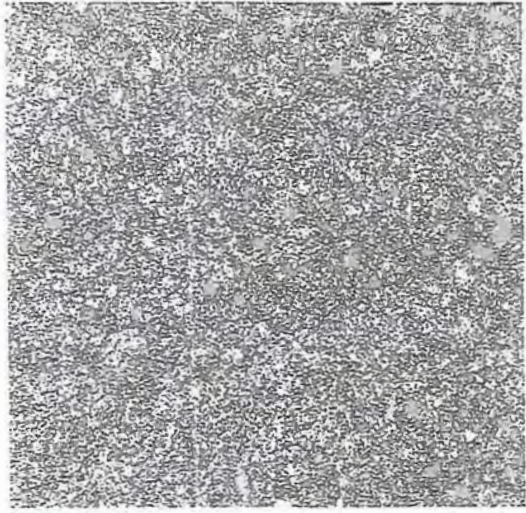
**Henry H. Xu, P.Eng.**  
Sr. Materials Engineer



### Appendix A1 Photos



40mm Agg



SAND

Sample photos - (Taken for reference only)

## Appendix A2 Test Reports

NOT INCLUDED



APPENDIX 3

2022 Placer Gold Test Results

Sevro Laboratories

From: jo@homegoldresourcesltd.com  
Sent: May 30, 2022 5:06 PM  
To: BRIAN HAUFF  
Cc: tripleo (Peter Osha)  
Subject: FW: Test Results from Sepro

Hello Peter/Brian:

Please see attached results from Sepro— much what we expected.

Henry at Metro Testing says their report is done and is being checked—should send it out tomorrow or Wednesday.

Peter: Where do you want to meet in Quesnel on Thursday?

Thanks, Jo Shearer

From: Danny Kwok <Danny.Kwok@seprosystems.com>  
Sent: May 30, 2022 3:22 PM  
To: jo@HomeGoldResourcesLtd.com  
Subject: Test Results

Hi Jo,

Sorry on the delay in getting back to you with the results.

Please see attached:

1. Sample receiving log of the 16 samples you dropped off.
2. The Au assay results of the 16 samples
3. Scoping flotation test results (test CQ102)

Each of the respective 16 samples were dried, homogenized, and subsampled for Au assays. The remaining material were combined into a single composite for the flotation test.

For the flotation test, we simply applied a gold reagent suite to the sample which evaluated a number of different gold collectors. The primary goal was to make sure we recover the Au, and no optimization was undertaken. We also had to screen the sample at 300um (remove +300um) prior to the flotation test as the sample was otherwise too coarse.

Overall, the flotation results were positive as 97.2% of the overall Au was recovered into 0.5% of the mass, with a concentrate grade of 3319.7 g/t Au. Additional flotation stages increased the Au recovery to 99.95%, but diluting the concentrate grade to 949.89 g/t Au.

Please let me know if you have any questions.

Best regards,  
Danny

3  
TABLE A8-1



**SAMPLE RECEIVING LOG SHEET**

Company:	HomeGold Resources LTD	Courier:	
Project No:		Date:	Apr-27-22
Receiver:	Daniel	Page:	1

Count	Sample Label	Container Type	Sample Type (C, R, P, Sl, S)	Wet/ Dry	Top Size	Weight ( kg )
1	GL1 Sample #1	Bucket	sl	w		1.11
2	GL1 Sample #2	Bucket	sl	w		0.90
3	GL2 DH2	Bucket	sl	w		1.15
4	GL2 DH3	Bucket	sl	w		1.07
5	GL2 DH4	Bucket	sl	w		0.66
6	GL3 DH2	Bucket	sl	w		0.61
7	GL3 DH3	Bucket	sl	w		1.02
8	GL3 DH4	Bucket	sl	w		1.66
9	GL4 DH1	Bucket	sl	w		1.27
10	GL4 DH2	Bucket	sl	w		1.32
11	GL4 DH3	Bucket	sl	w		1.19
12	GL4 DH4	Bucket	sl	w		0.98
13	GL4 DH5	Bucket	sl	w		1.06
14	GL5 DH1	Bucket	sl	w		1.07
15	GL5 DH2	Bucket	sl	w		1.62
16	GL5 DH3	Bucket	sl	w		1.12
Note : Water on all samples						17.81
Core, Reject, Pulp, Slurry, Solution						

Picture:



Table A3-2

## Comparison of Sepro and HomeGold Sample Names

Sepro SAMPLE RECEIVING LOG SHEET  
 laboratories

Company:	HomeGold Resources LTD			
Project No:			Date:	Apr-27-22
Receiver:	Daniel		Page	1

Count	Sample Label per Sepro	Sample Label on HomeGold Test Pit Log	Container Type	Sample Type (C,R,P,Sl,S)	Wet/Dry	Top Size	Mass ( kg )
		GL1 DH2					
		GL1 DH3					
1	GL1 Sample #1		Bucket	sl	w		1.11
2	GL1 Sample #2		Bucket	sl	w		0.90
	no field sample taken	GL2 DH1					
3	GL2 DH2	GL2 DH2	Bucket	sl	w		1.15
4	GL2 DH3	GL2 DH3	Bucket	sl	w		1.07
5	GL2 DH4	GL2 DH4	Bucket	sl	w		0.66
6	GL3 DH2	GL3 DH2	Bucket	sl	w		0.61
7	GL3 DH3	GL3 DH3	Bucket	sl	w		1.02
8	GL3 DH4	GL3 DH4	Bucket	sl	w		1.66
9	GL4 DH1	GL4 DH1	Bucket	sl	w		1.27
10	GL4 DH2	GL4 DH2	Bucket	sl	w		1.32
11	GL4 DH3	GL4 DH3	Bucket	sl	w		1.19
12	GL4 DH4	GL4 DH4	Bucket	sl	w		0.98
13	GL4 DH5	GL4 DH5	Bucket	sl	w		1.06
14	GL5 DH1	GL5 DH1	Bucket	sl	w		1.07
15	GL5 DH2	GL5 DH2	Bucket	sl	w		1.62
16	GL5 DH3	GL5 DH3	Bucket	sl	w		1.12
Note: Water on all samples							
							17.81
Core Reject Pulp Slurry Sotutton							

This table was compiled by S. Graham, P.Geo. from Sepro Labs and HomeGold documents.

# 3 TABLE A8-3



## FLOTATION TEST WORKSHEET

Client: Home Gold Resources  
 Test: CQ102  
 Sample: Head Sample (Undersize -300 µm)

Date: 12-May-22  
 Project: MS2060  
 Operator: Ja.T

**Objective:** Conduct scoping Au flotation on undersize (-300µm) sample to investigate the Au recovery.

**Conditions:**

Stage	Reagents added, g/t						Time, minutes			pH	ORP (mV)	Observations
	Lime	CuSO <sub>4</sub>	PAX	AMG900	3418A	MIBC	Grind	Cond.	Froth			
<i>Reagent Preparation</i>	10%	10%	0.5%	Drop	Drop	Drop						
Grind							0			6.63	228.0	
Conditioning			35		20			2		6.83	8.5	
Rougher 1						20			3	6.74	29.9	Floated to barren
Conditioning			30	10				2				
Rougher 2						25			4	7.20	-34.9	Floated to barren
Conditioning		300	40	10	15			8		5.97	246.0	Not much floated
Rougher 3						25			5			
Total		300	105		35	70	0	12	12			

Stage	Rougher
Flotation Cell	3L
Speed: r.p.m.	1200

3  
TABLE A8-4



FLOTATION TEST REPORT

Client: Home Gold Resources  
 Test: CQ102  
 Sample: Head Sample

Date: 12-May-22  
 Project: MS2060  
 Operator: Ja.T

Objective: Conduct scoping Au flotation on undersize (-300µm) sample to investigate the overall Au recovery.

Metallurgical Balance

Product	Weight		Assays, g/t <sup>1</sup>		Distribution, %	
	g	%	Au <sup>1</sup>		Au	
Total Oversize (+1mm)	350.9	15.0	0.01		0.01	
Total Oversize (-1mm+300µm)	965.3	41.4	0.01		0.02	
Rougher Concentrate 1	12.3	0.5	3319.70		97.20	
Rougher Concentrate 2	16.0	0.7	62.12		2.37	
Rougher Concentrate 1-2	28.3	1.2	1477.96		99.57	
Rougher Concentrate 3	15.9	0.7	10.00		0.38	
Rougher Concentrate 1-3	44.2	1.9	949.89		99.95	
Rougher Tails	973.6	41.7	0.01		0.02	
Calculated Head	2,334.0	100.0	18.00		100.00	
Assayed Head			17.68			

# TABLE A<sup>3</sup><sub>8-5</sub>



## PARTICLE SIZE ANALYSIS

Client: Home Gold Resources  
 Test: CQ202  
 Sample: Head Sample

Date: 9-May-22  
 Project: MS2060

Sieve Size		Weight		Cumulative (%)	
Tyler Mesh	Microns	(g)	(%)	Retained	Passing
8	2,360	0.0			
9	2,000	0.0			
14	1,180	0.0			
20	850	2.5	1.62	1.62	98.38
28	600	9.0	5.84	7.47	92.53
35	425	21.4	13.90	21.36	78.64
48	300	32.6	21.17	42.53	57.47
65	212	31.7	20.58	63.12	36.88
100	150	24.5	15.91	79.03	20.97
150	106	17.6	11.43	90.45	9.55
200	75	9.1	5.91	96.36	3.64
270	53	0.6	0.39	96.75	3.25
400	38	4.5	2.92	99.68	0.32
Undersize	-38	0.5	0.32	100.00	
<b>TOTAL:</b>		154.0	100.0		

Size (um)	Passing P (%)
431	80
273	50

Size (um)	Passing P (%)
442	80
268	50

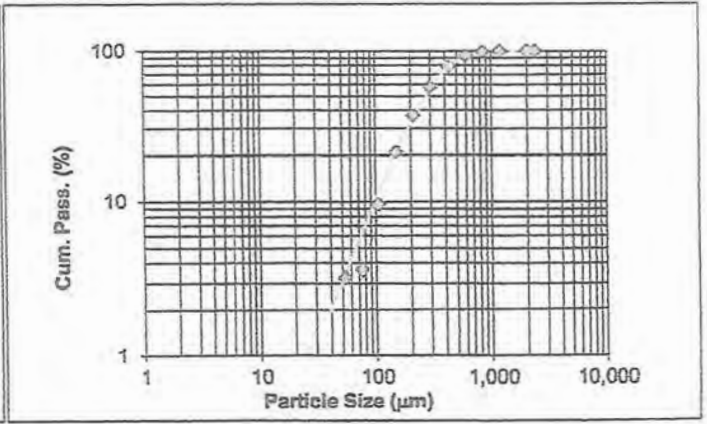
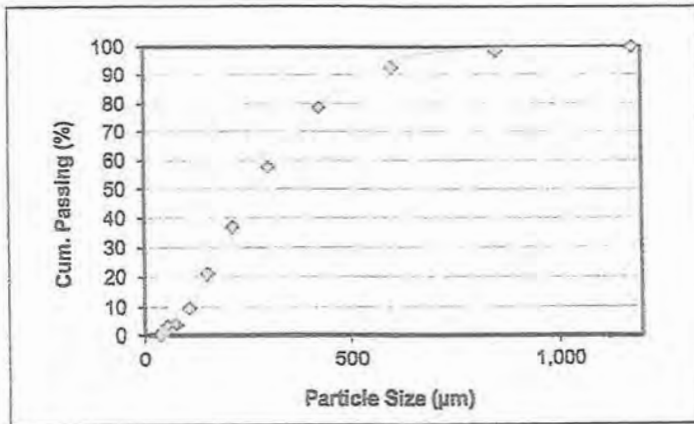


TABLE A<sup>3</sup>~~8~~-6



**FIRE ASSAY REPORT**

**Method:** Au, Fire Assay, 30g fusion, AAS finish. Detection 0.01-100 g/t Au.

**Project:** MS2060

Sample Name	Sample Number	Assay (ppm)
		Au
GL1 Sample #1	125881	5.64
GL1 Sample #2	125882	17.82
GL2 DH2	125883	25.21
GL2 DH3	125884	25.53
GL2 DH4	125885	12.31
GL3 DH2	125886	17.46
GL3 DH3	125887	8.77
GL3 DH4	125888	16.85
GL4 DH1	125889	17.78
GL4 DH2	125890	54.57
GL4 DH3	125891	10.92
GL4 DH4	125892	9.10
GL4 DH5	125893	18.47
GL5 DH1	125894	11.07
GL5 DH2	125895	6.55
GL5 DH3	125896	24.82
<b>Head (Average)</b>	-	17.68