BC Geological Survey
Assessment Report
38069

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Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Assessment Report **TOTAL COST:** $35,000.00

AUTHOR(S): J. T. Shearer, M.Sc. P.Geo. **SIGNATURE(S):**

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): **YEAR OF WORK:** 2018

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5722994

PROPERTY NAME: Sukunka

CLAIM NAME(S) (on which the work was done): 1051055 + 1051192

COMMODITIES SOUGHT: Limestone

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Liard Mining Division **NTS/BCGS:** 93P-4, BCGS 93P.011

LATITUDE: 55 ° 08 '30 " **LONGITUDE:** 121 ° 53 '00 " **(at centre of work)**

OWNER(S):

1) J. T. Shearer
2) J. Pellizzon

MAILING ADDRESS:

Unit 5 - 2330 Tyner Street
Port Coquitlam, BC V3C 2Z1

Unit 5 - 2330 Tyner Street
Port Coquitlam, BC V3C 2Z1

OPERATOR(S) [who paid for the work]:

1) Same as above
2) Same as above

MAILING ADDRESS:

Same as above

Same as above

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

The deposit Lies within a bed of limestone of the Mississippian Rundle Group underlain by shaley carbonates of Lower Mississippian Banff Formation and overlain by siltstone and shale of the Triassic Sulphur Mountain Formation

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

Assessment Reports 36853; 34177; 30717; 30718

Next Page

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other Water (3)		1051055	$2,000.00
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other Bulk Sample		1051055	$33,000.00
		TOTAL COST:	$35,000.00

ASSESSMENT REPORT
on the
SUKUNKA LIMESTONE DEPOSIT
LIARD MINING DIVISION
93P-4, BCGS 93P.011
55° 08' 30" North; 121° 53' 00" West
Claim Tenure 1051055 and 1051192
Permit Q-9-055; Mine #1640235
EVENT #5722994

for

SUKUNKA LIME RESOURCES LTD.
Unit 5 – 2330 Tyner Street
Port Coquitlam, BC V3C 2Z1
Ph: 604-970-6402

by

J.T. SHEARER, M.Sc., P.Geo. (BC & Ontario)
Consulting Geologist

December 14, 2018

Fieldwork completed between April 5, 2018 to December 14, 2018

TABLE of CONTENTS

LIST of FIGURES

SUMMARY

The Sukunka Limestone occurrence is situated on the southeast side of the Sukunka River, just east of its confluence with Baker Creek, 64 kilometres south-southwest of Chetwynd.

The deposit lies within a bed of limestone of the Mississippian Rundle Group underlain by shaly carbonates of the Lower Mississippian Banff Formation and overlain by siltstone and shale of the Triassic Sulphur Mountain Formation (Spray River Group). The limestone outcrops as one of several narrow northwestward trending bands along the east limb of an overturned syncline. Locally, the limestone is warped into a pair of closely-spaced anticlines trending west-northwest.

The deposit is comprised of a chemical grade limestone member that passes upward into an overlying impure limestone member. The chemical grade member consists of white speckled micrite and brown to grey-brown, very fine-grained, slightly dolomitic wackestone. The impure member consists of brown-grey to grey, fine to coarse-grained, silty, dolomitic wackestone with minor dolomitic micrite. Veins of white calcite are present in both units. Pyrobitumen is commonly displayed on fractured surfaces.

Two zones of resources have been defined in the chemical grade limestone member along the crest of each of the two anticlines. The two zones are separated by an 80 to 90 metre wide band of impure limestone preserved along the intervening syncline. Indicated and inferred resources (in tonnes) with average grades (in per cent) are given as follows (Industrial Mineral File - W.A. MacLeod, 1988):

Zone	Resources	CaO	MgO	SiO_2	Al_2O_3	Fe_2O_3
South	1,700,000	54.36	0.67	0.37	0.26	0.01
North	440,000	54.42	0.73	0.48	0.27	trace

The South zone outcrops along the crest of the southern anticline over a length of 260 metres with a width of between 80 and 100 metres. The North zone outcrops for up to 160 metres along the crest of the northern anticline with a width of up to 100 metres.

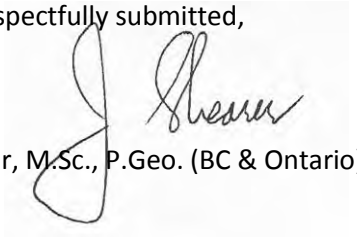
Average grade is calculated at average 54.36% CaO (97.02% $CaC0_3$), 0.37% $Si0_2$, 0.01% Fe_20_3, and 0.26% $A1_20_3$ (McLeod, 1988).

Limited quarry development and test marketing and mine planning was done in 2018 for the property. The recommended program budget will total $ 160,000.

Six Mineral Claims were staked to cover the Sukunka Limestone Deposit and others to cover a similar carbonate zone to the west.

The work program in 2018 consisted of continued geochemical sampling, assaying and mine planning.

Respectfully submitted,



J. T. Shearer, M.Sc., P.Geo. (BC & Ontario)

Figure 1 Location Map

Figure 1a Project Location

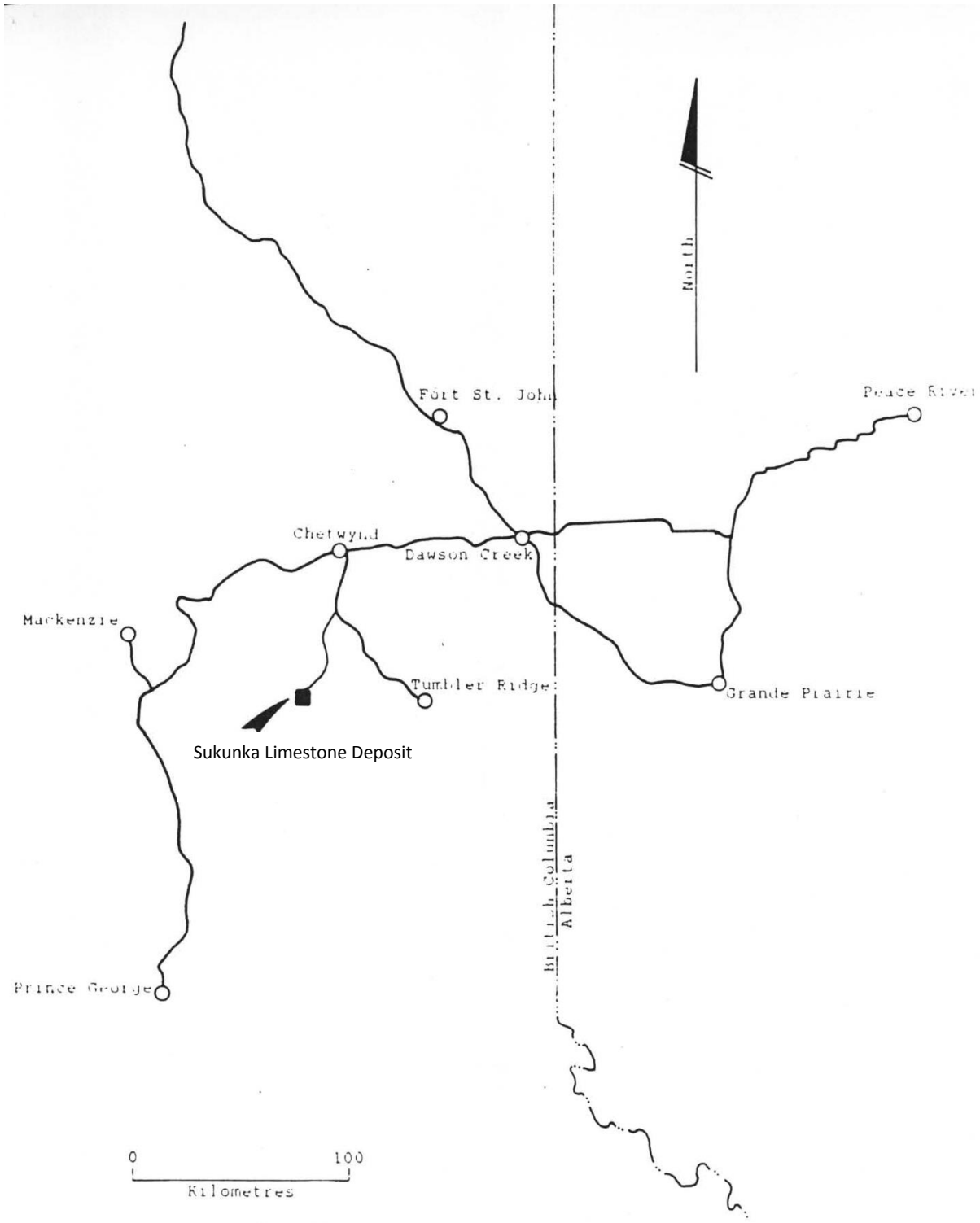


Figure 1b Detail Location Map

INTRODUCTION

This assessment report documents recent bulk and geochemical sampling on the former on the Sukunka Limestone claims located in the Sukunka River Valley in the Liard Mining Division, British Columbia.

Sampling was undertaken in between May 27 and September 6, 2018.

The previous geological mapping and outcrop sampling program described in the history section was planned-and supervised by W. A. McLeod during June, 1988.

This report describes the work performed and the results obtained and further recommends continued exploration by diamond drilling, quarry development (trial production), and the test marketing of recoverable chemical grade limestone present on the property.

LOCATION and ACCESS

The claims are located some 64 kilometres south southwest of Chetwynd, British Columbia in the Sukunka River Valley within the Liard Mining Division in N.T.S. grid 93 P/4 at 55°08'30" N.; 121°53'00''W
(Figure 1&2).

The property is accessible from Chetwynd via Provincial Highway No. 29 and the all-weather- Sukunka Forest Service Access Road to the 52km sign.

CLAIM STATUS

The Sukunka limestone property consists of three MTO Mineral Claims which cover the former five-year Lease (Number 802015) DL3470 granted to Westmin Resources Limited of Calgary, Alberta for the sole purpose of quarrying limestone.

The property consists of the following mineral claims as tabulated in Table 1 and illustrated on Figure 2 and 3.

The staked claims are recorded as follows, owned by J. Shearer (124452) and J. Pellizzon (201414):

Table 1
List of Claims

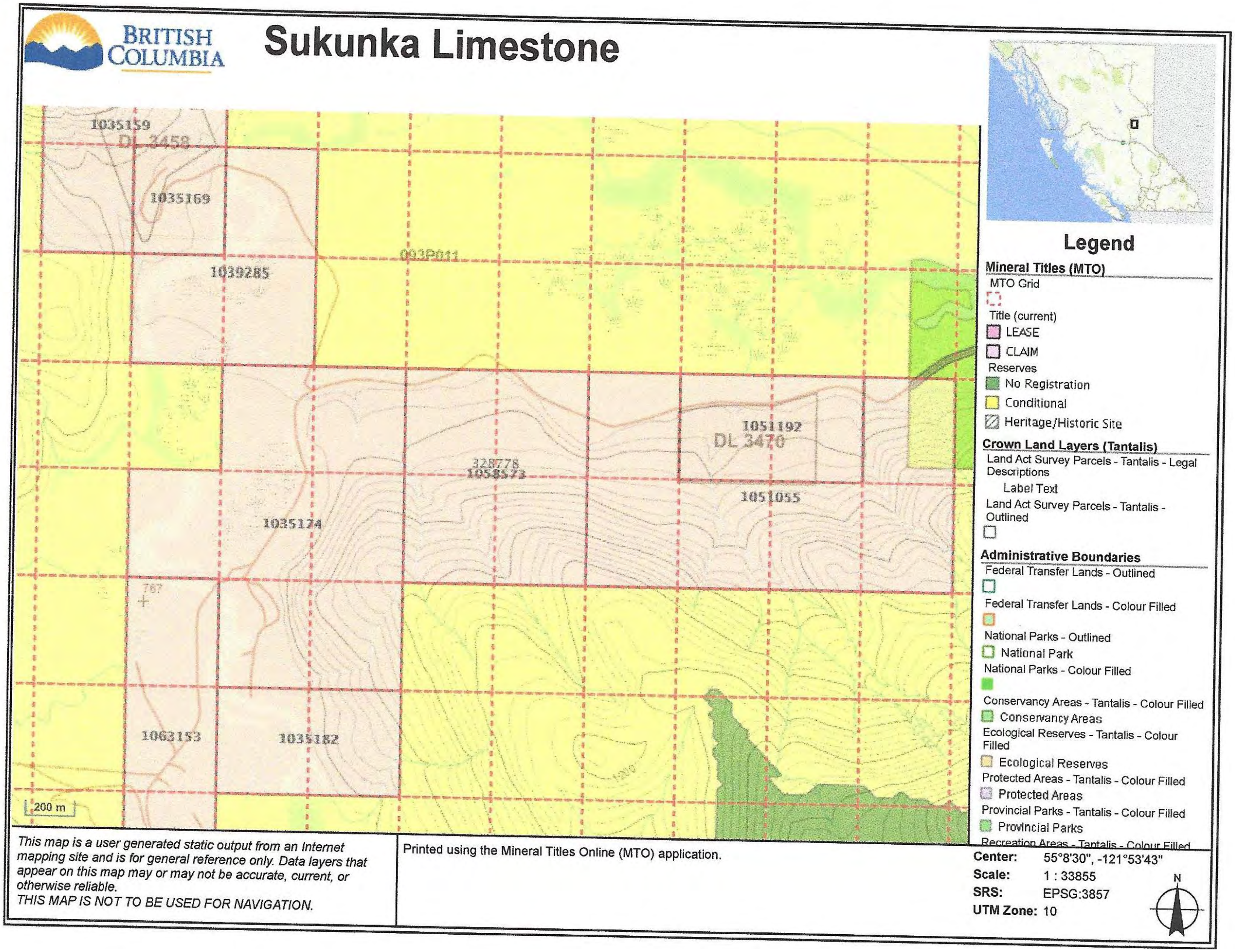
Claim Name	Tenure No.	Size (ha)	Located Date	Current Expiry Date*	Owner
Lime 1	1051055	110.94	March 30, 2017	March 30, 2025	J. Shearer
Lime 2	1051192	36.98	April 4, 2017	April 4, 2025	J. Shearer
Lime 3	1058573	73.96	February 11, 2018	February 11, 2025	J. Shearer
Golden 1	1035174	129.43	April 2, 2015	April 2, 2025	J. Pellizzon
Golden 2	1035182	36.99	April 2, 2015	April 2, 2025	J. Pellizzon
Golden 3	10631533	55.48	September 17, 2018	September 17, 2019	J. Pellizzon

Total 443.78 ha

* with application of assessment work documented in this report.

Cash may be paid in lieu if no work is performed. Following revisions to the Mineral Tenures Act on July 1, 2012, claims bear the burden of $5 per hectare for the initial two years, $10 per hectare for year three and four, $15 per hectare for year five and six and $20 per hectare each year thereafter.

Figure 2 Claim Map



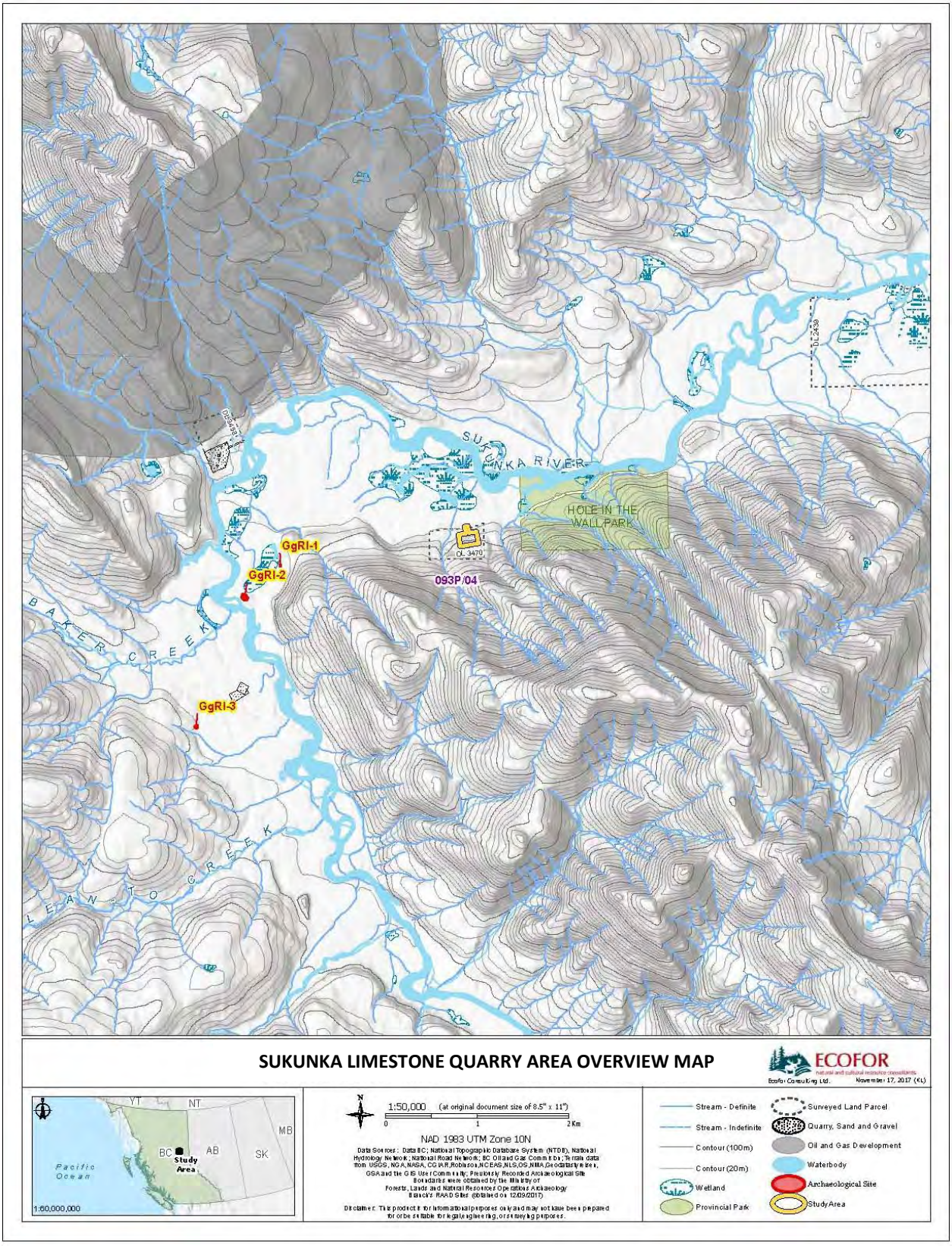


Figure 3 Limestone Quarry Area Overview Map

Figure 4 Google Image, Detail Property

HISTORY

Limestone Sampling

Surface sampling was carried out on the property during June, 1988 by W. McLeod and Mr. R.D. Gilchrist.

Thirty-seven representative chip samples were collected on a nominal fifty metre line spacing perpendicular to strike over most of the quarryable limestone in order to verify and augment previous sampling carried out by Westmin Resources Ltd. in 1983.

The sample locations are presented in Figure No.3 with the earlier Westmin samples referred to as the "A" Series and the 1988 work shown as Series "B".

Individual sample volumetrics are assumed to be constant and representative for the purpose of defining average limestone grades.

The samples were microscopically examined and subsequently forwarded to Loring Labs Ltd. of Calgary for assay. The assay results are discussed in the following section.

Limestone Resources and Production

Two zones of chemical grade limestone have been previously defined on the property.

The "South Zone", by far- the larger of the two, is located along a northwest trending anticlinal axis in the southern portion of the lease. Assuming a quarry floor elevation of 765 metres and a stable quarry wall configuration attainable at sixty degrees, planimeter measurements indicate that some 1.7 million tonnes recoverable chemical grade resources are present without incurring any dilution from the overlying assay-defined low grade limestone.

Sampling results inclusive of both the 1983 Westmin assays and the current survey over the "South Zone" are tabled below (Table I):

Sample #	Assay #	% CaO	% MgO	% SiO_2	% $Fe2O_3$	% Al_2O_3
A-1		53.43	0.68			
A-2		53.94	0.53			
A-3		53.09	1.21			
A-4		54.86	0.45			
A-5		54.77	0.46			
A-6		54.54	0.58			
A-7		54.50	0.56			
A-8		54.42	0.90			
A-9		54.89	0.63			
A-10		54.54	0.65			
A-11	200+00	54.70	0.37	0.35	0.01	0.26
A-12	200+10	55.00	0.43	0.15	trace	0.24
A-13	200+17	54.88	0.52	0.07	trace	0.24
A-14	200+50	54.76	0.50	0.21	trace	0.24
A-15	300+00	55.00	0.48	0.11	trace	0.28
A-16	300+30	54.27	0.59	0.81	0.03	0.31
B-1	33776	55.82	1.07	0.04		
B-2	33777	64.35	0.89	0.04		
B-3	33752	54.92	0.44	0.16		

B-4	33753	54.52	0.63	0.42		
B-5	33754	54.82	0.42	0.28		
B-36	33763	53.21	1.18	1.20		
B-37	33764	53.91	1.31	0.72		
B-6	33501	53.31	0.56	0.76		
B-7	33502	54.12	0.58	0.50		
B-8	33503	54.82	0.74	0.12		
B-9	33504	53.71	0.79	0.68		
B-10	33505	54.32	0.60	0.56		
B-11	33506	53.81	0.48	0.16		
B-12	33507	54.52	0.73	0.38		
B-13	33755	54.82	0.45	0.30		
B-14	33756	53.41	0.96	0.58		
B-15	33757	54.52	0.88	0.20		
B-16	33758	54.54	0.77	0.26		
B-17	33759	54.12	0.79	0.74		
B-18	33509	54.29	0.58	0.28		
B-19	33510	54.62	0.54	0.12		
B-20	33513	54.62	0.58	0.20		

The "South Zone" assays average 54.36% CaO (97.02% $CaC0_3$), MgO, 0.37% $Si0_2$, 0.01% Fe_20_3, and 0.26% $A1_20_3$.

The "North Zone" is also situated along a northwest trending anticlinal axis and is located near the Sukunka Forestry Road in the northern portion of the lease. It is limited to some 440,000 tonnes recoverable resources with a quarry floor elevation of 756 metres and similar development geometry to that proposed for the southern zone.

Sampling results inclusive of the Westmin assays are tabled below (Table II):

Sample #	Assay #	% CaO	% MgO	% SiO_2	% $Fe2O_3$	% Al_2O_3
A-17	200+210	54.92	0.44	0.16	trace	0.31
A-18	300+160	55.04	0.44	0.21	trace	0.26
A-19	300+220	54.92	0.41	0.24	trace	0.24
B-21	33512	54.52	0.58	0.28		
B-22	33765	55.12	0.84	0.10		
B-23	33766	54.02	0.93	0.18		
B-24	33767	54.52	0.89	0.31		
B-25	33768	54.22	0.90	0.22		
B-26	33769	52.51	0.96	1.93		
B-27	33770	54.42	0.87	1.20		

Analysis of t h e "North Zone" sample data indicates average assay values of: 54.42 % CaO (97.13% $CaC0_3$), 0.73% MgO, 0.48% SiO_2, trace Fe_20_3, and 0.27%.$A1_20_3$.

Resources on both deposits are presently classified as “Possible/Inferred” with a diamond drilling and bulk sampling program required to define prove tonnages.

Grade variance is apparent across strike on both zones and appears to be related to either localized diagenesis or the enfolding of the gradationally overlying impure carbonates. In either case, the dolomitic and silicic material has been included within the calculated recoverable reserves to allow for lower grade sections which may be present elsewhere in the deposits.

Sampling of the lower grade silicic and dolomitic carbonates adjacent to the “North” and “South” zones is summarized below (Table III)

Sample #	Assay #	% CaO	% MgO	% SiO_2	% $Fe2O_3$	% Al_2O_3
A-20		54.85	0.49			
A-21	200+80	52.78	1.66	1.17	0.03	0.28
A-22	200+110	54.15	0.63	1.21	trace	0.24
A-23	200+150	54.01	0.53	1.69	0.01	0.31
A-24	300+90	53.14	1.05	2.22	0.03	0.26
A-25	300+123	54.19	0.62	1.20	0.01	0.24
B-28	33508	53.21	1.62	0.73		
B-29	33760	53.21	1.36	2.29		
B-30	33761	53.31	1.35	1.16		
B-31	33762	54.02	0.47	1.71		
B-32	33511	51.00	1.56	2.76		
B-33	33778	53.28	0.63	0.88		
B-34	33751	54.25	0.41	0.14		
B-35	33514	53.11	0.76	2.10		

The low grade material averages 53.47% CaO (95.48 CaC03), 0.94% MgO, 1.38% Si02, 0.02% Fe203, 0.27% A1203.

The Sukunka property has not been developed to date but the good access and relative proximity to the Grande Prairie and Peace River bleached chemical kraft mills clearly enhances the potential economic viability if those markets can be established.

Relatively thin overburden cover coupled with steep outcrop slopes, most notably on the "South Zone", will facilitate ultimate quarry development.

Limestone grades at the Sukunka property compare favourably with material produced from the Peace River Lime Ltd. Quarry located 2.5 kilometres northwest of the Sukunka Deposits (figure 2). Peace River Lime quarry-run samples obtained by McLeod in 1987 (assay numbers: 17013 to 17015 inclusive) averaged 54.65% CaO, 0.51% MgO, 0.39% Al_2O_3, 0.08% Fe_2O_3 and 0.81% SiO_2.

Peace River Lime Ltd. was supplying the Grande Prairie market until early 1988 when it lost the contract because of failure to adequately supply for the Proctor & Gamble Mill. The Peace River Lime operation has subsequently passed into receivership and recently in 2016 resumed local shipments.

The Geological Survey of Canada has been geological mapping and conducting structural/stratigraphic investigations in the Sukunka River area since the mid- 1960’s. Gibson (1972, 1975) produced a comprehensive account of the Triassic strata of the area, although little time was spent mapping the phosphorite within the Sulphur Mountain Member. Previous exploration work on the Sukunka Limestone was work by Westmin Resources Canada Limited (“Esso”) during the period from 1978 to 1980 who after completing reconnaissance style work during 1983 and 1988 focused on the Tunnel area completing detailed sampling to the south of the Tunnel Area.

The deposit lies within a bed of limestone of the Mississippian Rundle Group underlain by shaly carbonates of the Lower Mississippian Banff Formation and overlain by siltstone and shale of the Triassic Sulphur Mountain Formation (Spray River Group). The limestone outcrops as one of several narrow northwestward trending bands along the east limb of an overturned syncline. Locally, the limestone is warped into a pair of closely-spaced anticlines trending west-northwest.

The deposit is comprised of a chemical grade limestone member that passes upward into an overlying impure limestone member. The chemical grade member consists of white speckled micrite and brown to grey-brown, very fine-grained, slightly dolomitic wackestone. The impure member consists of brown-grey to grey, fine to coarse-grained, silty, dolomitic wackestone with minor dolomitic micrite. Veins of white calcite are present in both units. Pyrobitumen is commonly displayed on fractured surfaces.

Two zones of resources have been defined in the chemical grade limestone member along the crest of each of the two anticlines. The two zones are separated by an 80 to 90 metre wide band of impure limestone preserved along the intervening syncline. Indicated and inferred resources (in tonnes) with average grades (in per cent) are given as follows (Industrial Mineral File - W.A. MacLeod, 1988):

Zone	Resources	CaO	MgO	SiO_2	Al_2O_3	Fe_2O_3
South	1,700,000	54.36	0.67	0.37	0.26	0.01
North	440,000	54.42	0.73	0.48	0.27	trace

The South zone outcrops along the crest of the southern anticline over a length of 260 metres with a width of between 80 and 100 metres. The North zone outcrops for up to 160 metres along the crest of the northern anticline with a width of up to 100 metres.

Average grade is calculated at average 54.36% CaO (97.02% $CaC0_3$), 0.37% $Si0_2$, 0.01% Fe_20_3, and 0.26% $A1_20_3$.

2017 Work

The claims were examined in 2017 west of the Hole-In-The-Wall Park and several samples were collected.

Assays were conducted by using an XRF Unit factory calibrated (Cert No. 0154-0557-1) on October 30, 2013, Instrument #540557 Type Olympus DPO-2000 Delta Premium. The instrument was calibrated using Alloy Certified reference materials by ARM1 and NIS5 standards. Only certified operators were employed and that were experienced in XRF assay procedures. Read times were 120 seconds or greater.

Sample #1 (grab sample) a dark grey fragmental limestone assayed 53.05% to 56.19% CaO. Sample #2, a limestone specimen similar to sample #1 assayed 54.59% CaO. Silicon runs between 1.8 to 3.5% along with low P_2O_5 of 0.45%. Iron is also low at 0.12% along with 0.0015% Sr. Sample #3 is a schistose, fine grained silty shale that is very low in CaO, high Si at 24.53% and 8.17% Al. Potassium is 2.7% and Fe 2.3%.

These results confirm the range of carbonate values obtained by previous work in the 1980's.

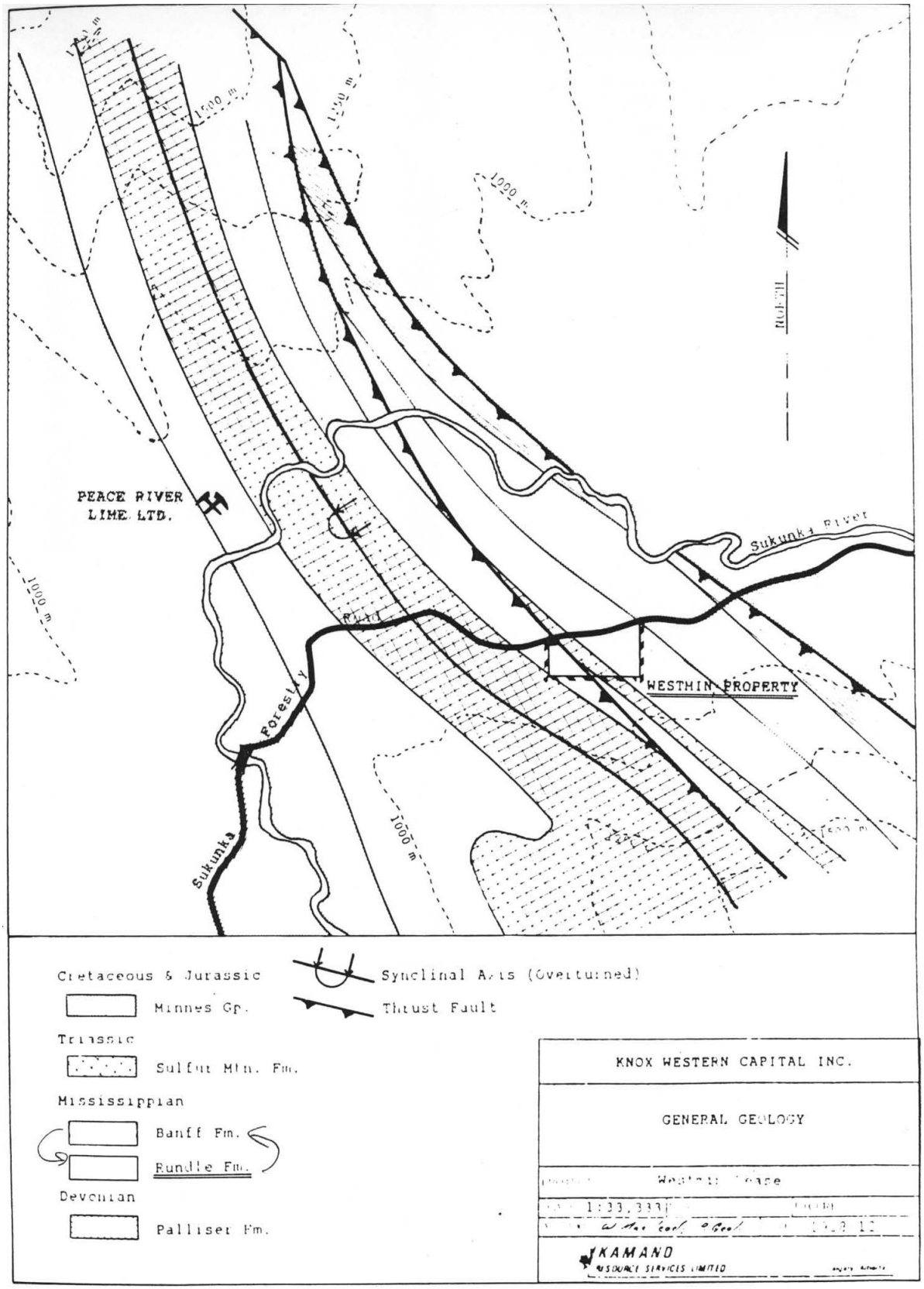


Figure 5 General Geology

GEOLOGY

Published geological maps show the Sukunka Limestone Deposit to be located on the eastern limb of a thrust block syncline in the Rocky Mountain Front Range and underlain by thrusted and folded Triassic and Mississippian aged marine sediments (Figure 2).

Northwest striking Mississippian Rundle Group limestones underlie at least the eastern two-thirds of the lease and host the potential chemical grade limestone quarry resources (Figure 3).

Geological mapping and sampling carried out during 1988 has shown the Rundle carbonate to consist of two gradationally distinct folded limestone lithofacies.

Chemical grade brown to grey-brown carbonates are continuously transitional from a very "clean" white speckled micrite through very fine grained detrital wackestone to a slightly dolomitic and silty courser grained wackestone.

Impure limestones gradationally overlie the chemical grade material and consist of brown-grey to grey fine through course grained detrital (with lessor crinoidal) silty and dolomitic wackestones and minor dolomitic micrite.

White crystalline calcite veins and stringers are present in both limestone units, but are more prevalent in the finer grained chemical grade material. Dolomite crystals in both units are typically very fine grained and appear to represent diagenetic overgrowth whereas the silica component, while equally fine grained, could either be primary or diagenetic and may therefore be indicative of depositional environment.

All limestones are relatively "tight" with only minor fracture porosity being present. Pyrobitumen is commonly observed on many of the fracture surfaces.

In the absence of a clearly defined marker horizon, structural definition is tentative at best and is only supported by opposed sedimentary layering attitudes and rock type distribution as best defined by assay data. Resolution of the detailed structure must await future drill core analyses.

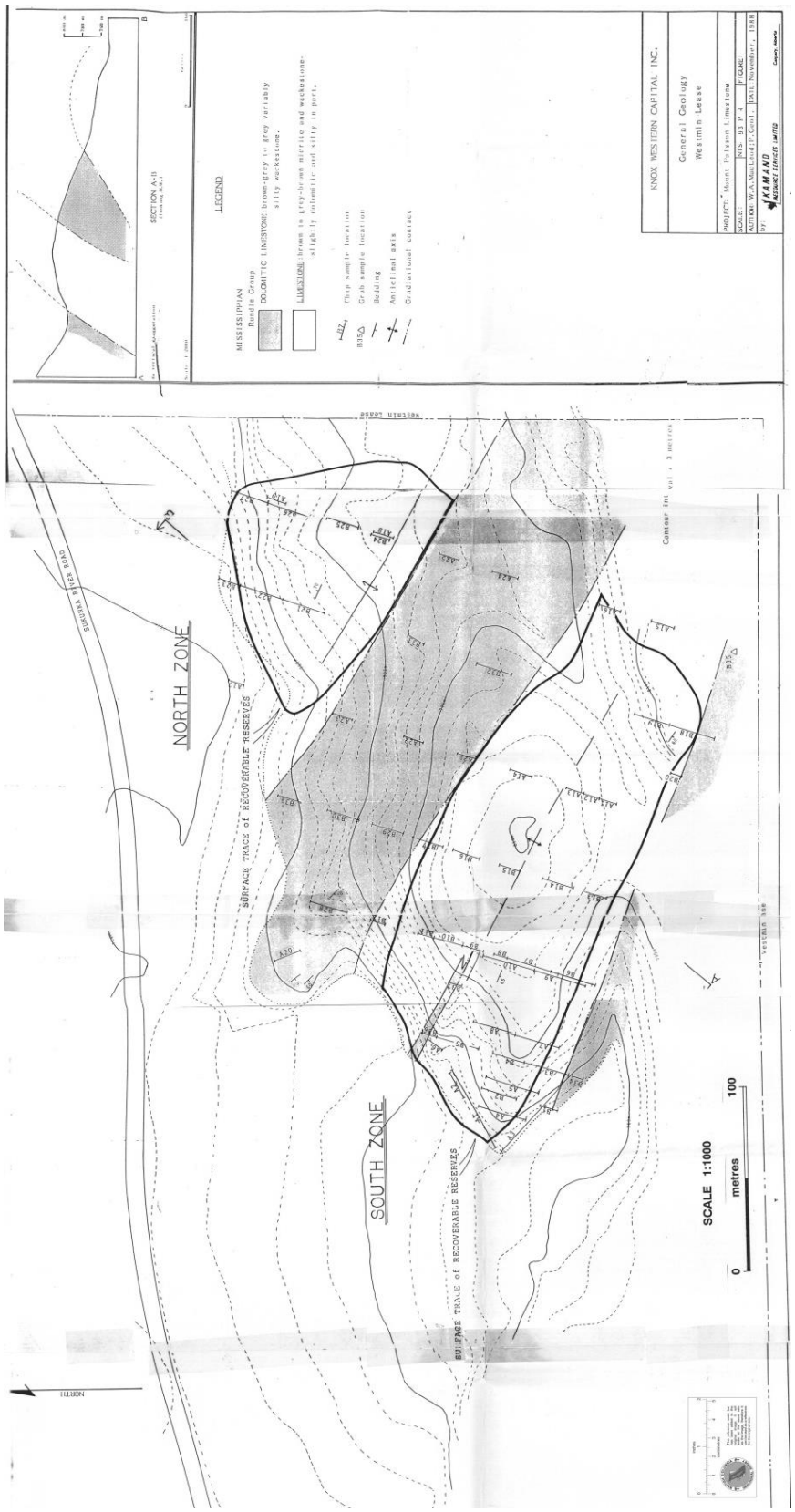


Figure 6 Detail Geology, Sukunka Limestone

EXPLORATION 2018

Work in 2018 focussed on Bulk and geochemical sampling.

Assays were conducted by using an XRF Unit factory calibrated (Cert No. 0154-0557-1) on October 30, 2013, Instrument #540557 Type Olympus DPO-2000 Delta Premium. The instrument was calibrated using Alloy Certified reference materials by ARM1 and NIS5 standards. Only certified operators were employed and that were experienced in XRF assay procedures. Read times were 120 seconds or greater.

The geochemical results are shown in Appendix III and plotted on Figure 7. All samples are high in Ca, ranging from 34.48% to 50.86% Ca.

General land use is restricted to Forestry (logging) and coal mining.

The Sukunka Quarry/ Site is located in an area of high ecological importance and sensitivity. As the Quintette caribou herd is known to live in the area, protecting their habitat and food sources is a high priority. Protecting water bodies on site from hydrocarbon, phosphorus and sediment contamination is also a high priority. Since the Site is located around non fish-bearing waters, risks to fish and fish habitat are reduced. As long as work is conducted using proper erosion and sediment control measures, 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. Refer to Figures 9 and 10 for location of the Quintette Caribou herd.

The Sukunka Limestone exploration project is expected to proceed inside of the least-risk timing window for moose, songbirds, raptors, owls and Trumpeter swans. While portions of the work will proceed in the winter, outside of the least risk timing windows for caribou, all activities will occur in areas that are considered poor caribou habitat. The small scale nature of the project should also reduce any negative effects on wildlife or wildlife habitat.

Potential risks associated with excavator trenching and bulk sampling to extract limestone rock include soil erosion, fuel leaks/spills, invasive species colonization and contamination of nearby water bodies. To minimize soil erosion and invasive species colonization, progressive rehabilitation of the exposed trench should take place. The trench should be filled in with topsoil and replanted with native plant species once limestone rock has been extracted and as soon as the ground thaws if activities are taking place in the winter months. Topsoil and native plant salvage will take place during trenching and bulk sampling activities and used during progressive rehabilitation. Based on the known regional geology, acid rock drainage (ARD Appendix VI) is not expected to be an issue due to background levels of limestone found in the Rundle and Sulfur Mountain Formations.

The quarry has been designed by J. Nilsson, P.Eng., with Minesight ® software using 3D modelling based on standard mining parameters including rock lithology, overburden thickness, topography, environmental issues and Ontario mine regulations. The quarry presentation has an open face quarry design with high walls along the south side. The access ramps are along the north and east sides. The quarry design includes 10m high benches with 10m wide catchment berms. The toe of each bench will extend 3m horizontally from the crest producing an interbench angle of 75° from the horizontal and a resulting overall slope of 46°.

The production total area for 5 years will be 3 benches; the proposed quarry is estimated to be 3.0 ha. The mining operation will apply standard bench method to extract material from the deposit. The construction and mining will use a small tracked excavator approximately 5m wide. The Sukunka Mine Plan has been developed to apply for mining during times outside the spring freshet and to address concerns of the potential for Acid Rock Drainage/Metal Leaching (ARDÉML) expressed by the Reclamation Department of the Ministry of Energy and Mines.

All blasting activities will be conducted by trained, experienced, and competent persons who understand the hazards involved in a blasting operation. All blasts will be conducted under the supervision of an MEMPR certified blaster as required by the Ministry of Mines and Petroleum Resources (see section 8.2.1 of the 2017 Health & Reclamation Code for Mines in British Columbia). All drilling and blasting activities will be conducted by Sukunka employees or contractors. The drilling and blasting plan for each blast will be approved by a certified blaster and be implemented by Sukunka employees or contractors working under the guidance of the certified blaster. See Appendix IV for full blast plan and nitrate loading.

Water Samples - Analytical Results are shown of Figure 8.

From the dissolved and total metals analyses and the anion analyses, the hardness concentrations ($CaCO_3$) were slightly elevated and ranged from 90 to 160 mg/L in the four samples analyzed which includes one duplicate sample. The field pH levels were also found to be at 9.0 to 9.6. Sample SWSK18-1 and its duplicate sample SWSK18-A are at the maximum BC Water Quality Guidelines (WQG) range of between >6.5 to <9. Samples SWSK18-2 and SWSK18-3 have pH values greater than the recommended BCWQG ranges with pHs of 9.6 and 9.3 respectively. These samples were collected from natural, undisturbed streams during the spring Freshet. The hardness and pH levels are likely due to the natural underlying geological formations that may contain limestone units in the immediate area; however, more geological information is required. From the more alkaline pH level to the elevated calcium concentrations, it is likely that carbonate is derived by nearby limestone formations as indicated by total and dissolved calcium concentrations (Tables 1 and 2). Conductivity of the four samples as measured in the field is 0 *u*S. These readings are due to the presence of snow melt water entering the streams during Freshet.

The ABA Sample was collected as a composite of the XRF samples, refer to sample locations and descriptions. (Sukunka #6 to Sukunka #11)

Chemistry (Acid/Base Accounting) (Results in Appendix II)

Acid-Base Accounting analysis of a representative limestone sample from the Sukunka Limestone Quarry suggests there will be no acid rock drainage potential since the primary rock from drillhole samples assays up to 50% CaO. Net Neutralization Potential ran 923 t $CaCO_3$/1kT with sulphur at 0.2% and paste pH at 8.0. Each sample was fresh in-situ rock.

The two representative samples of limestone were submitted to ALS for Acid-Base Accounting (ABA). This was to gain a sense of the likelihood of acid rock drainage.

Essentially, the current results being limestone have very high net neutralizing potential. In summary, the % total sulphur is very low (mainly <0.04% calculated). Presumably, due to the rock being mainly of calcite in the rock, the "Paste pH" is over 10 in every case (Alkaline). The neutralizing Potential (also a reflection of calcite content) is 925 $CaCO_3$/1kt equivalent per metric tonne.

The Bulk Sample is shown on figure 9. A total of 1,000 tonnes was produced by the excavator.

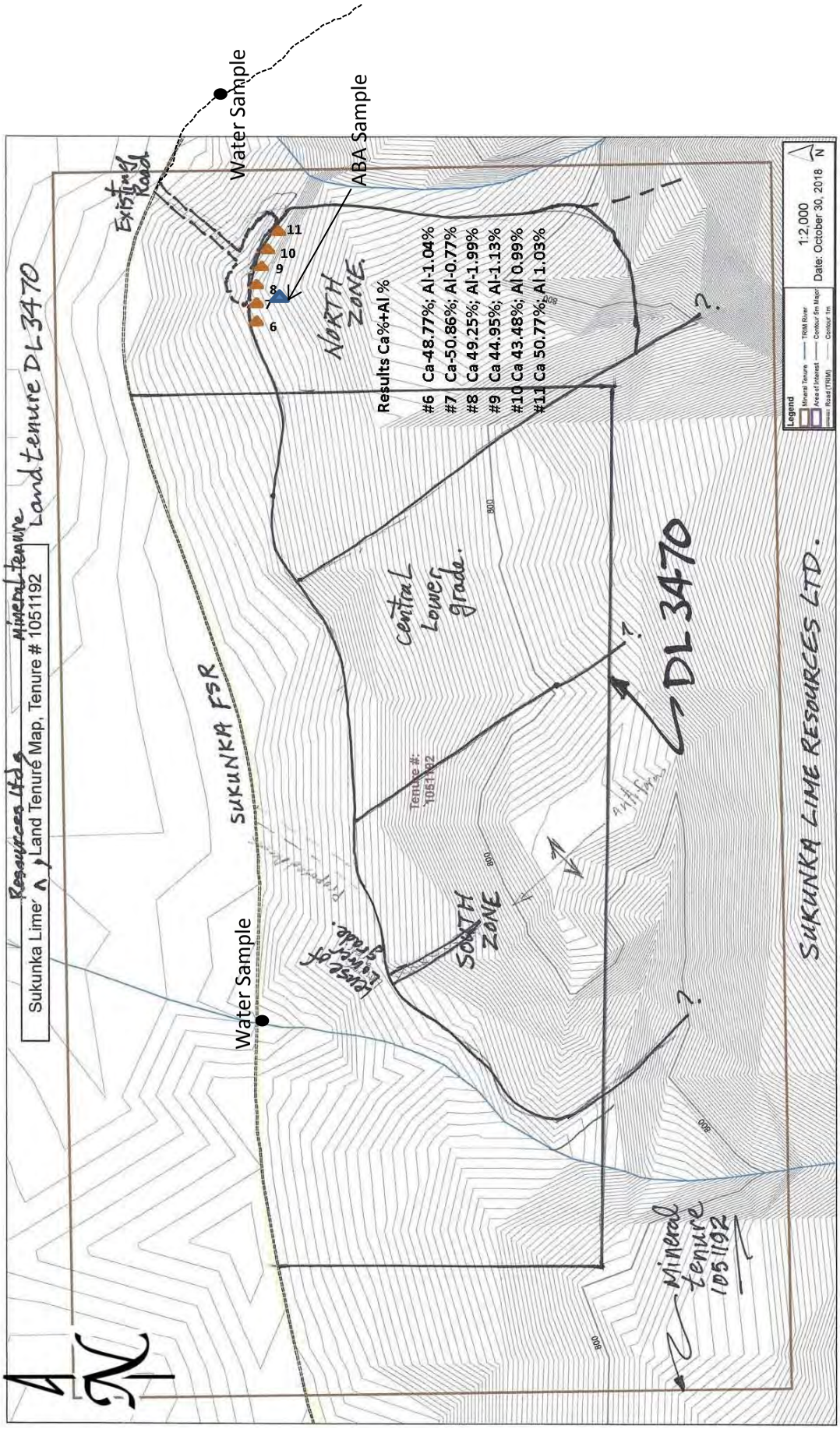


Figure 7 Sample Locations and Results

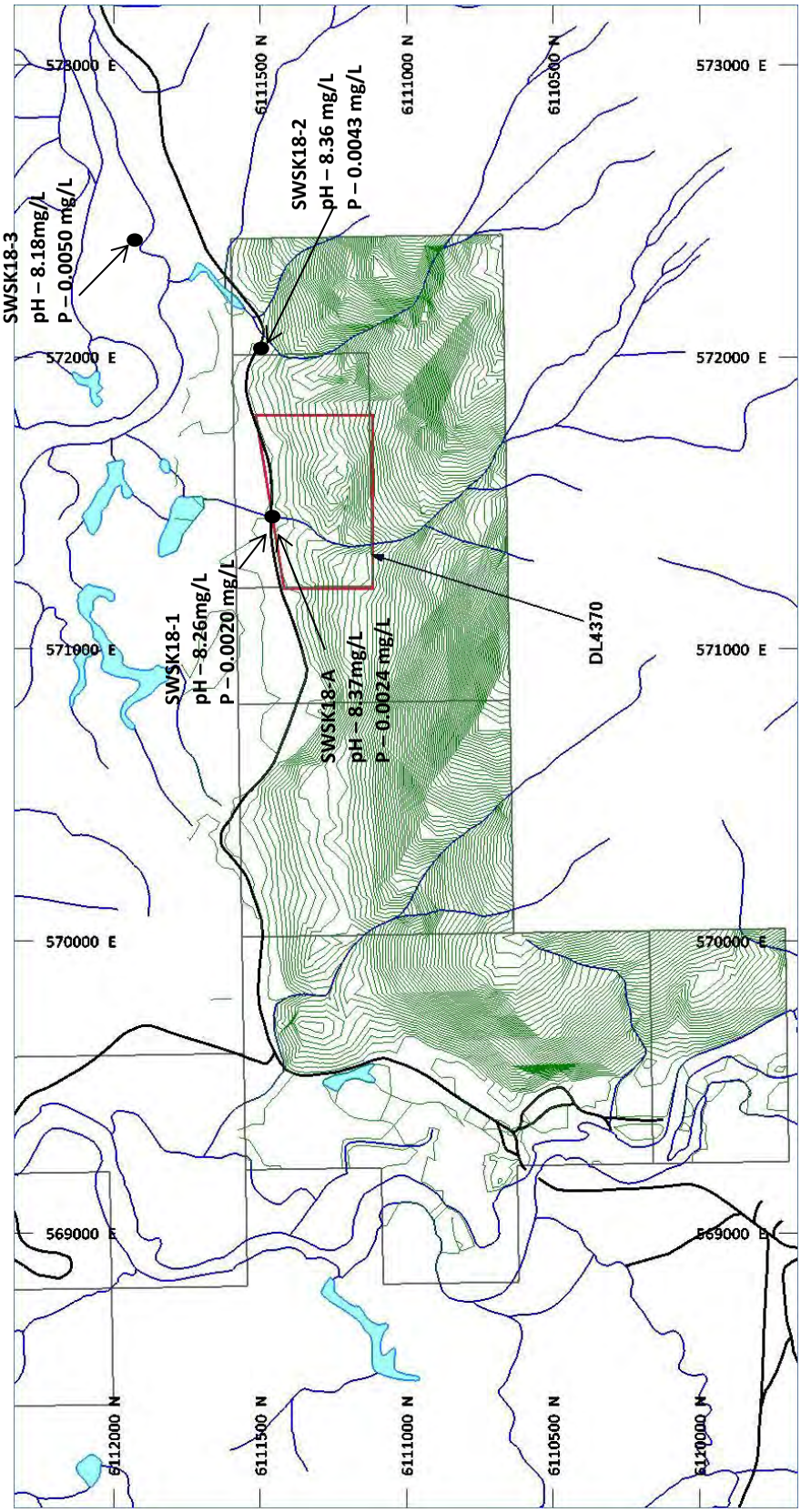


Figure 8 Water Sample Locations and Results

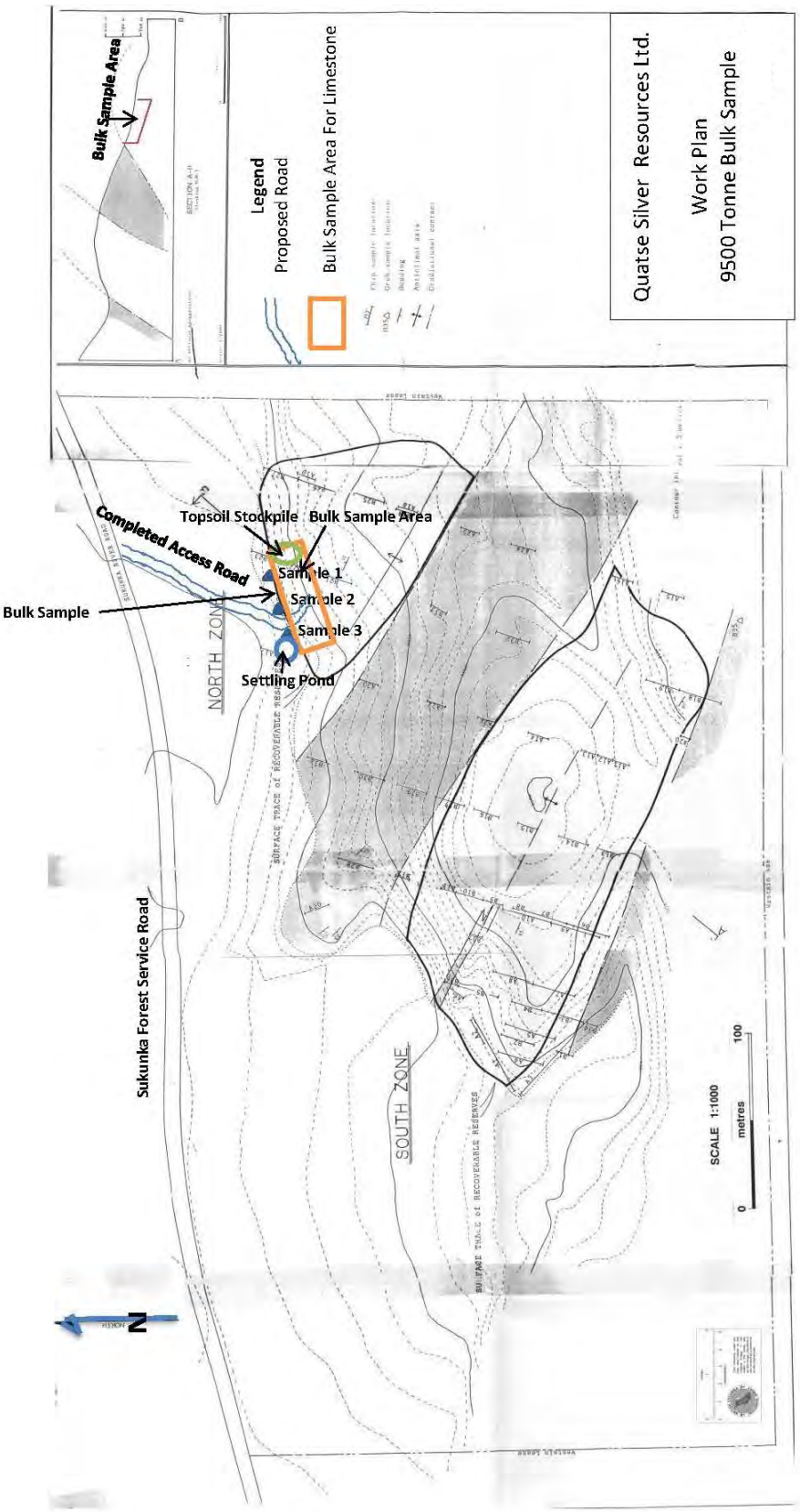


Figure 9 Bulk Sample Location

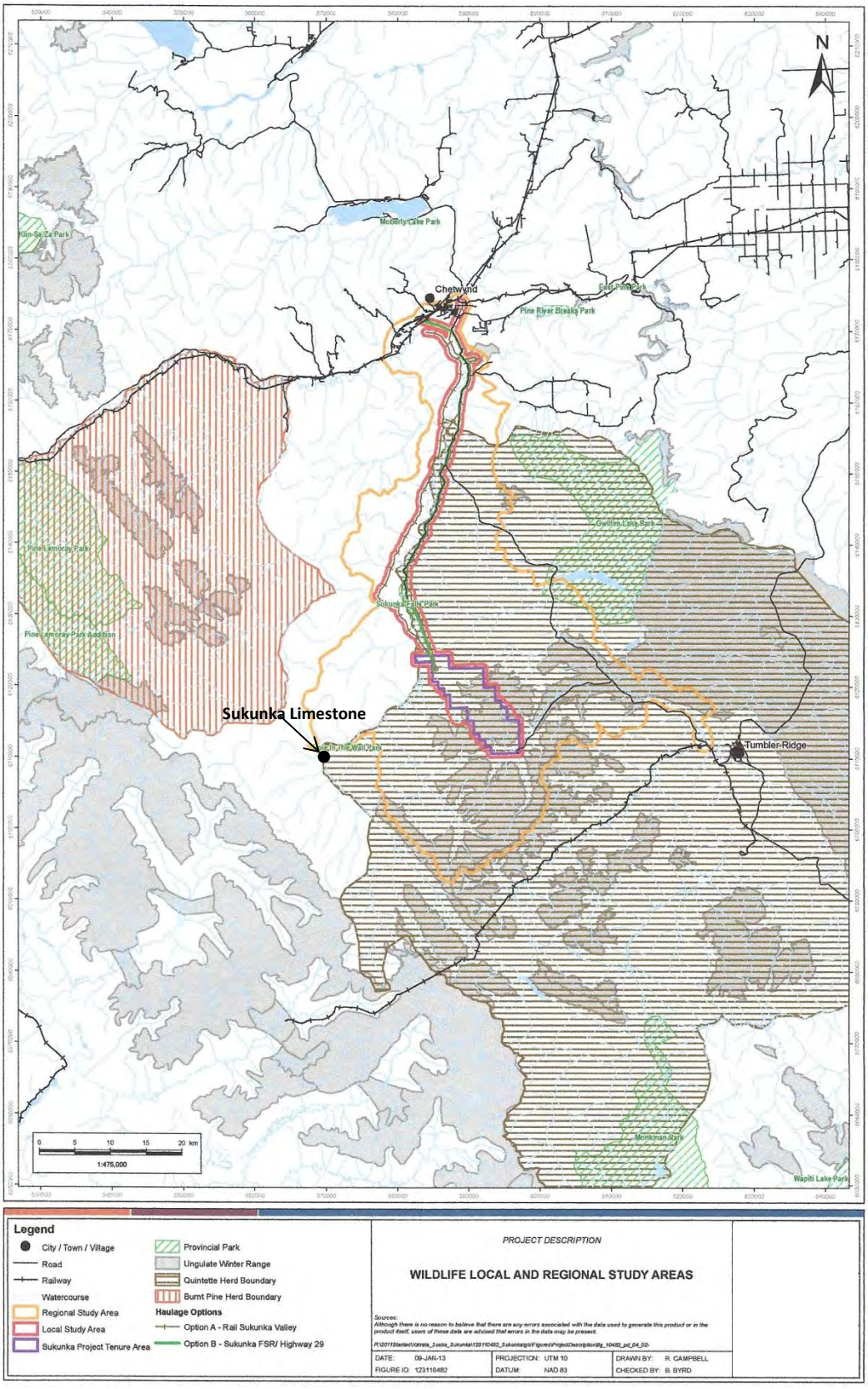


Figure 10 Wildlife Study Areas

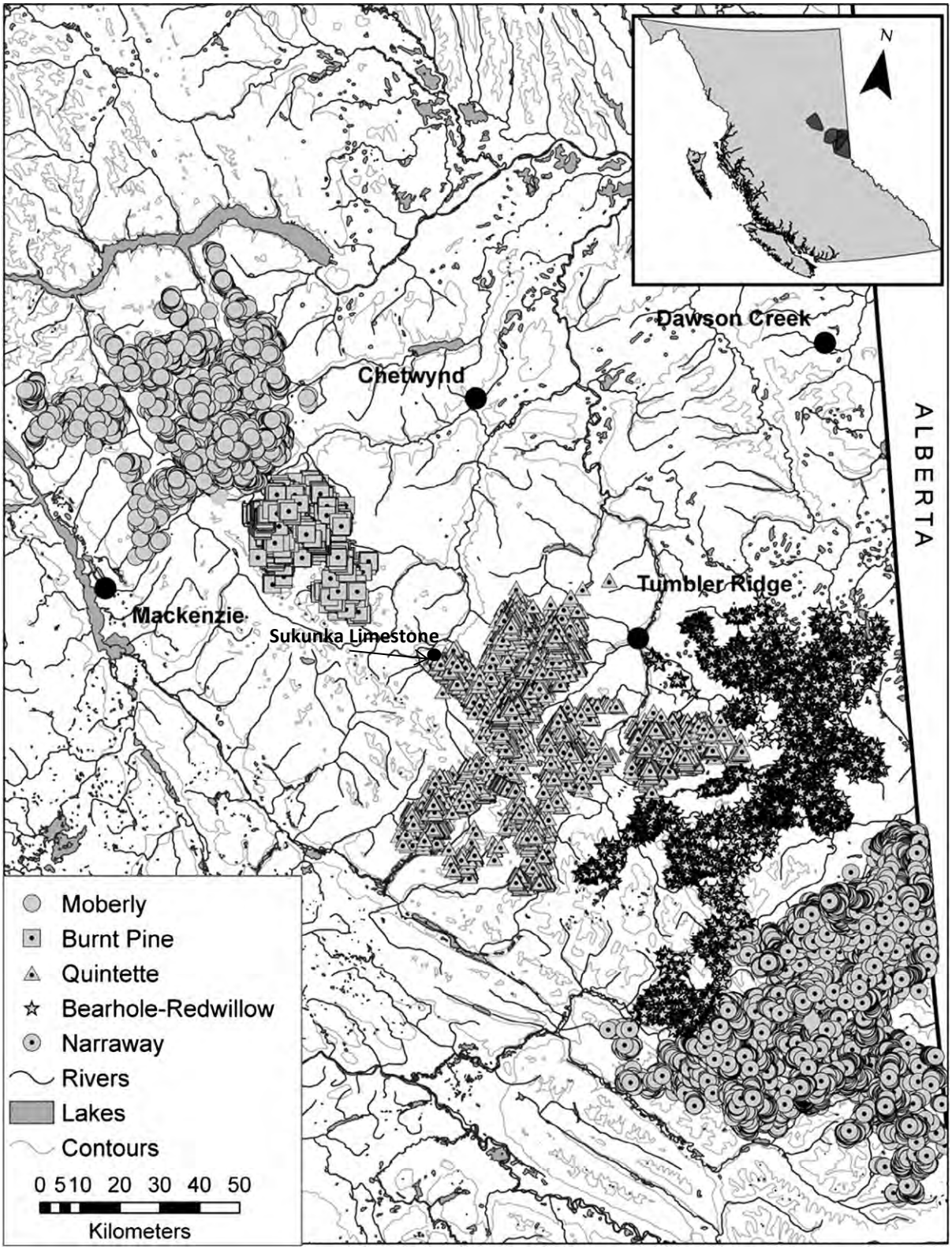


Figure 11 Caribou Ranges in Northeast BC

The caribou ranges in north-east BC. The triangles show the area where the Quintette herd currently inhabits. Crated by Chris Johnson and his team over 11 years

Mitigation strategies related to trenching, bulk sampling and exploration activities include the following:

- As a caribou herd known to live in the area, protecting caribou habitat and food sources (lichen) is a high priority. If possible, least risk timing windows should be observed and cutting old growth Engelmann Spruce - Subalpine Fir and Interior Cedar - Hemlock forests should be avoided at all costs as should working in and around core caribou habitats such as low elevation boreal forests, windswept alpine ridges and adjacent subalpine forests during the winter and alpine and subalpine areas during the summer.
- Ensure appropriate erosion and sediment control measures are in place prior to trenching or bulk sampling near water bodies (i.e. silt fences, hay bales, coco matting).
- Perform all exploration and bulk sampling activities "in the dry", when it is not raining, to avoid sediment run off
- Control dust generated by vehicle traffic and wind erosion with regular water sprinkling during summer months
- Re-fueling should be conducted at least 30 m from water bodies to avoid contamination. Spill kits should be on hand at all times.
- Clean machinery thoroughly prior to work to avoid introducing invasive species
- Ensure all trucks hauling limestone rock are covered to reduce dust

Chemistry (Acid/Base Accounting) (Results in Appendix II)

Acid-Base Accounting analysis suggests there will be no acid rock drainage potential since the primary rock from drillhole samples assays up to 50% CaO. Net Neutralization Potential ranges up to 966 kg $CaCO_3$ (per 1000 kg) with sulphur at 0.2% and paste pH at 8.6.

The three samples of lower grade limestone were submitted to ALS for Acid-Base Accounting (ABA). This was to gain a sense of the likelihood of acid rock drainage generation if any waste generated, however, no waste is expected to be generated during the bulk sample.

Essentially, the current results being limestone have high net neutralizing potential. In summary, the % total sulphur is very low (mainly <0.04% calculated). Presumably, due to the small amount of calcite in the rock, the "Paste pH" is over 10 in every case (Alkaline). The neutralizing Potential (also a reflection of calcite content) varies from 953 to 966 $CaCO_3$/1kt equivalent per metric tonne.

A brief outline of the ALS procedure is as follows:

The acid rock drainage static test has been designed to measure the balance between potentially acid-generating minerals (maximum potential acidity) and acid-neutralizing minerals (neutralization potential) in a sample. This procedure, known as acid-base accounting (ABA), yields a figure known as Net Neutralization Potential, which determines whether a particular sample with theoretically generate acidity over time.

Maximum Potential Acidity (MPA):

This test measures total sulphur using a combustion process and then calculates MPA assuming all sulphur present is in the sulfide form and potentially convertible to sulphuric acid. If part of the total sulphur is present in other forms (e.g. sulphate in barite), the MPA as calculated will be high. The current samples ran 0.7 to 1.3 $CaCO_3$/1kt.

Neutralization Potential (NP):

This test measures the amount of alkaline material available to neutralize acid generated by the oxidation of sulphur. In this test, the alkaline content of a sample is measured by adding an excess of standard acid solution and then determining the amount of unconsumed acid with a standard alkaline solution. The option of a

neutralization potential calculated based on carbonate analysis is also available. The current samples ran 954 to 967.

Net Neutralization Potential (NPP):

The difference between the MPA and NP results yields the Net Neutralization Potential, a figure which may be reported as either positive or negative. A negative result indicates a sample, which can be expected to generate net acidity at some point in time. A positive result should therefore be expected to imply a sample which will not be a net acid generator. However, general experience indicated that NPP values of up to 20 may still be considered to have the potential to generate net acidity. This degree of uncertainty can be attributed to the following factors: the difficulty of defining true potential acidity and true neutralization potential; the variable involved in the conversion of total sulphur to acidity; and analytical uncertainty. The Sukunka samples ran between 953 to 966.

Paste pH:

The paste pH test measures the immediate acidic or basic characteristics of the sample material and could indicate if acid generation has been initiated. Sukunka samples varied from 8.2 to 8.6.

The standard ALS procedure (denoted G2) includes the reporting of total sulphur, maximum potential acidity, neutralization potential, net neutralization potential, paste pH and the ratio of neutralization potential to maximum potential acidity. Two optional ALS packages are available for consideration: the first package (denoted G980) includes the measurement of acid-extractable sulphide and acid-extractable sulphate; the second package (denoted G368) includes these two forms of sulphur as well but also includes a carbonate analysis so as to assist in interpretation.

The trace elements (see Appendix III) are very low for As (<0.6ppm), Cd (<0.15ppm), Cr (<10ppm), Cu (<3.9ppm), Hg (<0.01ppm), Pb (2.5ppm), Se (<0.3ppm) and Zn (<20ppm).

Mine Site

Extent of Area to be Affected

The initial site is 200mx150m (3ha) with quarry area of 24ha for the total quarry with 20-year life, using a 10m average side hill bench. See Production Schedule pages 21 to24.

Type of Mining Operation

The quarry will be mined by open face benches averaging 10m high.

Meteorological Conditions

Tumbler Ridge is the nearest town to the Sukunka prospect (55 km east), and the climate of the town is representative for the Project area.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C	16	16	21.5	26	30	33	34	35.5	35	26.5	18	14	35.5
Average high °C	-4.5	-0.9	3.5	10.6	16.1	20	22.4	21.9	17.1	9.7	0.6	-2.2	9.5
Daily Mean °C	-9.7	-6.9	-2.5	3.9	9	13.1	15.1	14.5	10.3	4.3	-4	-7	3.4
Average low °C	-14.8	-12.8	-8.5	-2.7	1.9	6.2	7.9	7.1	3.4	-1.2	-8.5	-11.7	-2.8
Record low °C	-46	-39.5	-37	-24	-10	-2	-1.5	-4	-8.5	-23.5	-41.5	-42	-46
Average precipitation mm	40.8	24.9	36	22	30.4	78.5	77.7	56.3	39.8	37.8	43.4	34.6	502.3
Average rainfall mm	2.4	1.4	3.1	13.2	26.9	78.5	77.7	56	37.9	14	7.1	3.5	321.5
Average snowfall cm	38.4	23.5	33	8.8	3.6	0	0	0.4	1.9	13.8	36.3	21.1	180.9

Prince George is the nearest town with publicly available storm event data. An Intensity, Duration and Frequency (IDF) Curve for Prince George is appended to this ESC plan.

Access Trail

The access routes proposed for the Project include 52km of pre-existing FSR.

The traffic control plan will include: maximum allowable speeds for vehicles, rules for passing, "stop" and "yield" locations, rules for night operation, maximum operating grades, emergency run-off protection, shoulder barriers, and any other information required by the district inspector (Code 10-6.1.3). According to the regulations a shoulder barrier may also be required where conditions merit. The travel width, where single lane traffic exists, will be not less than 2 times the widest haulage vehicle used on the road. The expected width of the largest vehicle is 2.5m hence the access roads must be at least 5m wide.

SCHEDULE SUKUNKA LIMESTONE DEPOSIT 20 year Schedule John Nilsson, P.Eng.

PIT PRODUCTION SCHEDULE - PIT 1.5% Waste Factor

										Production Yea
	OVB	OVB	BENCH	INSITU	OVERBURDEN	WASTE	INSITU	OVERBURDEN	WASTE	INSITU
AREA	THICKNESS	AREA	TOE	MATERIAL	MATERIAL	MATERIAL	ORE	MATERIAL	MATERIAL	ORE
	METRES	m^2	METRES	(BCMS)	(BCMS)	(BCMS)	(BCMS)	(TONNES)	(TONNES)	(TONNES)
North			855		-	-	-	-	-	-
North			845		-	-	-	-	-	-
North			835	2,787	-	42	2,745	-	114	7,494
North			825	25,329	-	380	24,949	-	1,037	68,111
North			815	69,523	-	1,043	68,480	-	2,847	186,950
North			805	123,223	-	1,848	121,375	-	5,046	331,354
North			795	189,646	-	2,845	186,801	-	7,766	509,967
North			785	294,955	-	4,424	290,531	-	12,078	793,150
North			775	387,284	-	5,809	381,475	-	15,859	1,041,427
North		-	765	410,525	-	6,158	404,367	-	16,811	1,103,922
			Subtotal	**1,503,272**	-	**22,549**	**1,480,723**	-	**61,559**	**4,042,375**
South			855		-	-	-	-	-	-
South			845		-	-	-	-	-	-
South			835		-	-	-	-	-	-
South			825		-	-	-	-	-	-
South			815	423	-	6	417	-	17	1,138
South			805	33,963	-	509	33,454	-	1,391	91,329
South			795	162,798	-	2,442	160,356	-	6,667	437,772
South			785	213,236	-	3,199	210,037	-	8,732	573,401
South			775	239,097	-	3,586	235,511	-	9,791	642,945
South		-	765	265,309	-	3,980	261,329	-	10,864	713,428
			Subtotal	**914,826**	-	**13,722**	**901,104**	-	**37,462**	**2,460,013**
Central			855		-	-	-	-	-	-
Central			845		-	-	-	-	-	-
Central			835	208	-	3	205	-	9	560
Central			825	3,057	-	46	3,011	-	125	8,220
Central			815	9,284	-	139	9,145	-	380	24,966
Central			805	22,073	-	331	21,742	-	904	59,356
Central			795	63,750	-	956	62,794	-	2,611	171,428
Central			785	129,962	-	1,949	128,013	-	5,322	349,475
Central			775	207,007	-	3,105	203,902	-	8,477	556,652
Central			765	228,298	-	3,424	224,874	-	9,349	613,906

		-	Subtotal	663,639	-	9,955	653,686	-	27,176	1,784,563
Spare			855		-		-	-	-	-
Spare			845		-		-	-	-	-
Spare			835		-		-	-	-	-
Spare			825		-		-	-	-	-
Spare			815		-		-	-	-	-
Spare			805		-		-	-	-	-
Spare			795		-		-	-	-	-
Spare			785				-		-	
Spare			775				-		-	
Spare			765		-		-	-	-	-
			Subtotal	-	-	-	-	-	-	-
Spare			855		-		-	-	-	-
Spare			845		-		-	-	-	-
Spare			835		-		-	-	-	-
Spare			825		-		-	-	-	-
Spare			815		-		-	-	-	-
Spare			805		-		-	-	-	-
Spare			795		-		-	-	-	-
Spare			785				-		-	
Spare			775				-		-	
Spare			765		-		-	-	-	-
			Subtotal	-	-	-	-	-	-	-
		-	TOTAL	3,081,737	-	46,226	3,035,513	-	126,197	8,286,951
			Annual Overburden							
			Annual Waste							
			Total Material							
			Cumulative Overburden Placed							

Conversion Factors					2.00	2.73	2.73
	Dump Volume			Width	Length	
	Area	metres	10,000	100	100	
	Height	metres	4.6			
Check Volume						
North	1,503,271	1,503,272	100%			
South	914,837	914,826	100%			
Central	723,640	663,639	92%			

		Actual		39,000	39,000	39,000	39,000	39,000
				Area	Area			
				-	87.7			
				-	2,395			
ır				2019	2020	2021	2022	2023
		BENCH	Balance					
		TOE		tonnes	tonnes	tonnes	tonnes	tonnes
		METRES						
-	-	**250**	-					
-	-	**240**	-					
-	0.0152	**230**	-	7,494				
-	0.0152	**220**	-	31,506	36,605			
-	0.0152	**210**	-		2,395	39,000	39,000	39,000
-	0.0152	**200**	-					
-	0.0152	**190**	-					
-	0.0152	**180**	-					
-	0.0152	**170**	-					
-	0.0152	**160**	647,375					
		Subtotal	**647,375**	**39,000**	**39,000**	**39,000**	**39,000**	**39,000**
-	-	**250**	-					
-	-	**240**	-					
-	-	**230**	-					
-	-	**220**	-					
-	0.0152	**210**	1,138					
-	0.0152	**200**	91,329					
-	0.0152	**190**	437,772					
-	0.0152	**180**	573,401					
-	0.0152	**170**	642,945					
-	0.0152	**160**	713,428					
		Subtotal	**2,460,013**	**-**	**-**	**-**	**-**	**-**
-	-	**250**	-					
-	-	**240**	-					
-	0.0152	**230**	560					
-	0.0152	**220**	8,220					
-	0.0152	**210**	24,966					
-	0.0152	**200**	59,356					
-	0.0152	**190**	171,428					
-	0.0152	**180**	349,475					
-	0.0152	**170**	556,652					
-	0.0152	**160**	613,906					

		Subtotal	1,784,563	-	-	-	-	-
-	-	250	-					
-	-	240	-					
-	-	230	-					
-	-	220	-					
-	-	210	-					
-	-	200	-					
-	-	190	-					
		180						
		170						
-	-	160	-					
		Subtotal	-	-	-	-	-	-
-	-	250	-					
-	-	240	-					
-	-	230	-					
-	-	220	-					
-	-	210	-					
-	-	200	-					
-	-	190	-					
		180						
		170						
-	-	160	-					
		Subtotal	-	-	-	-	-	-
-	0	TOTAL	4,891,951	39,000	39,000	39,000	39,000	39,000
		Annual Overburden		-	-	-	-	-
		Annual Waste		594	594	594	594	594
		Total Material		39,594	39,594	39,594	39,594	39,594
		Cumulative Overburden R		-	-	-	-	-

Conversion Factors

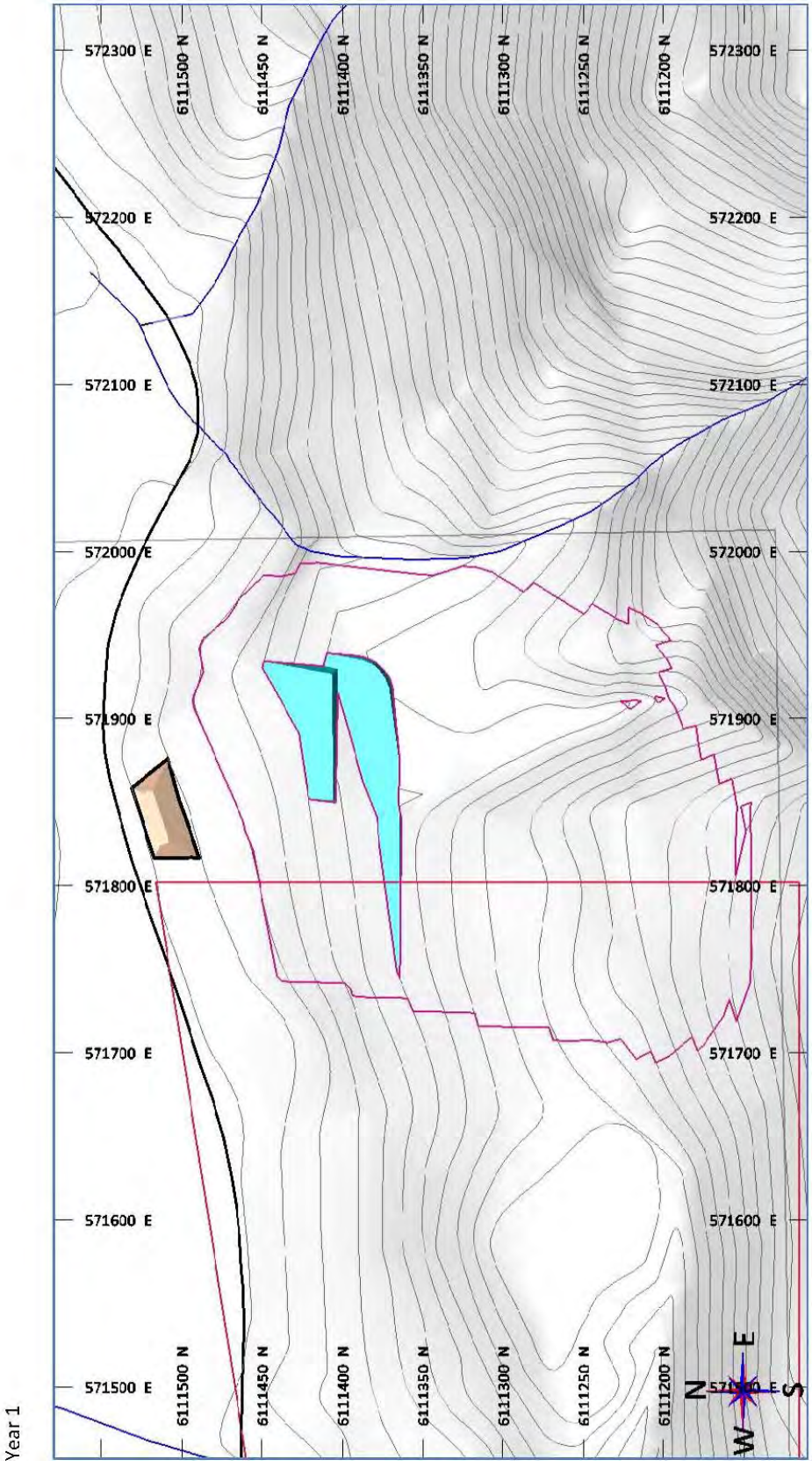


Figure 12 Starter Quarry (Year 1 of 5)

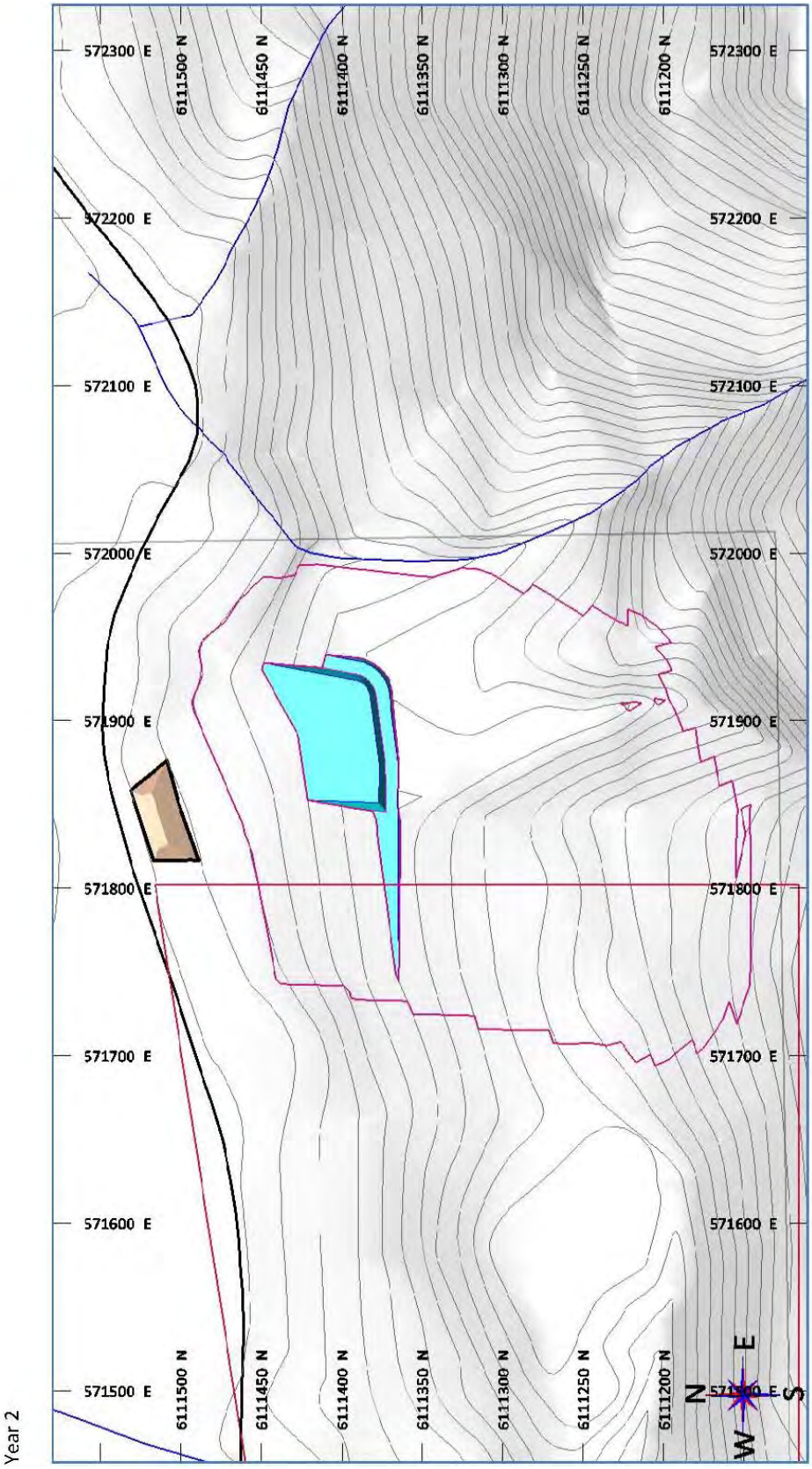


Figure 13 Starter Quarry (Year 2 of 5)

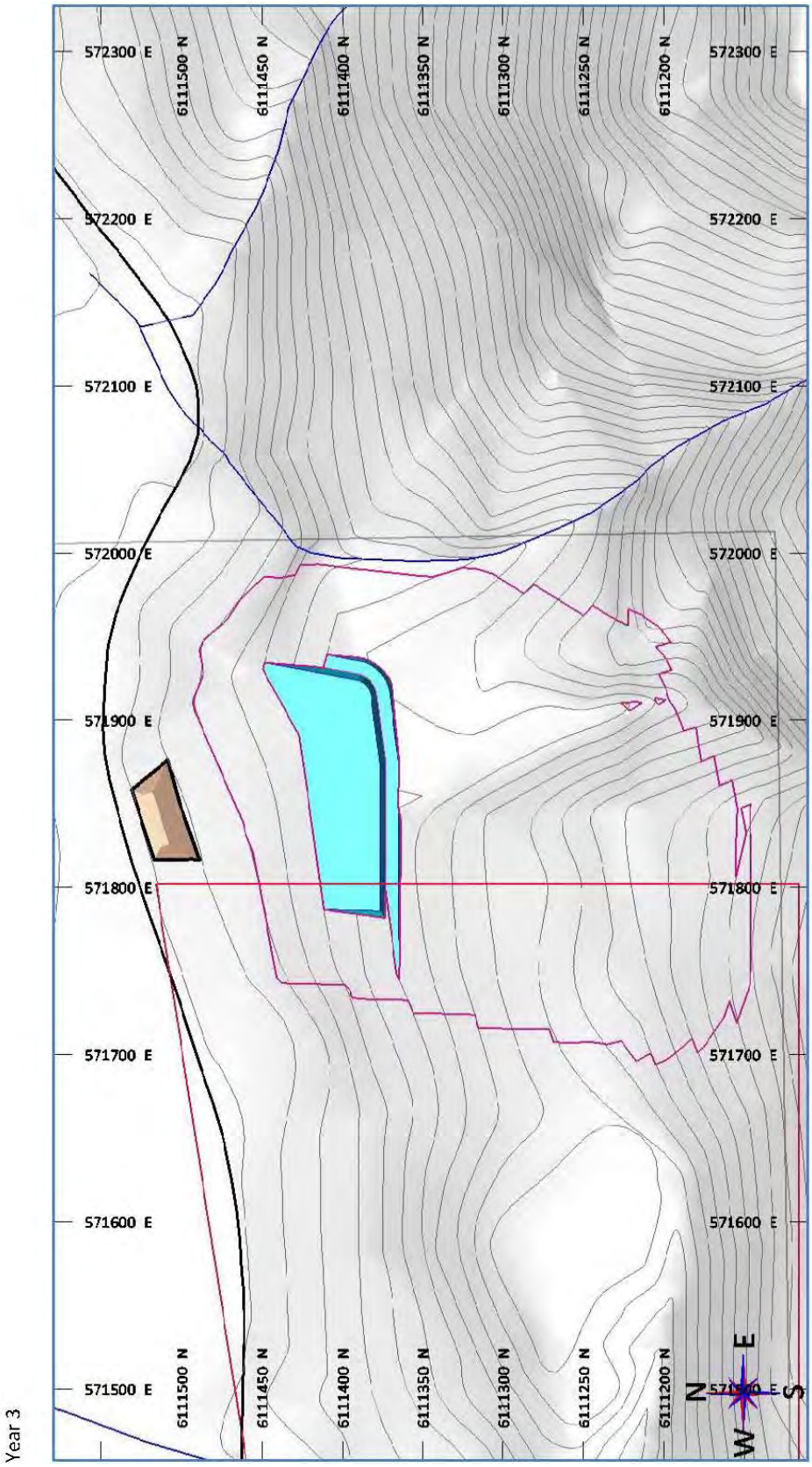


Figure 14 Starter Quarry (Year 3 of 5)

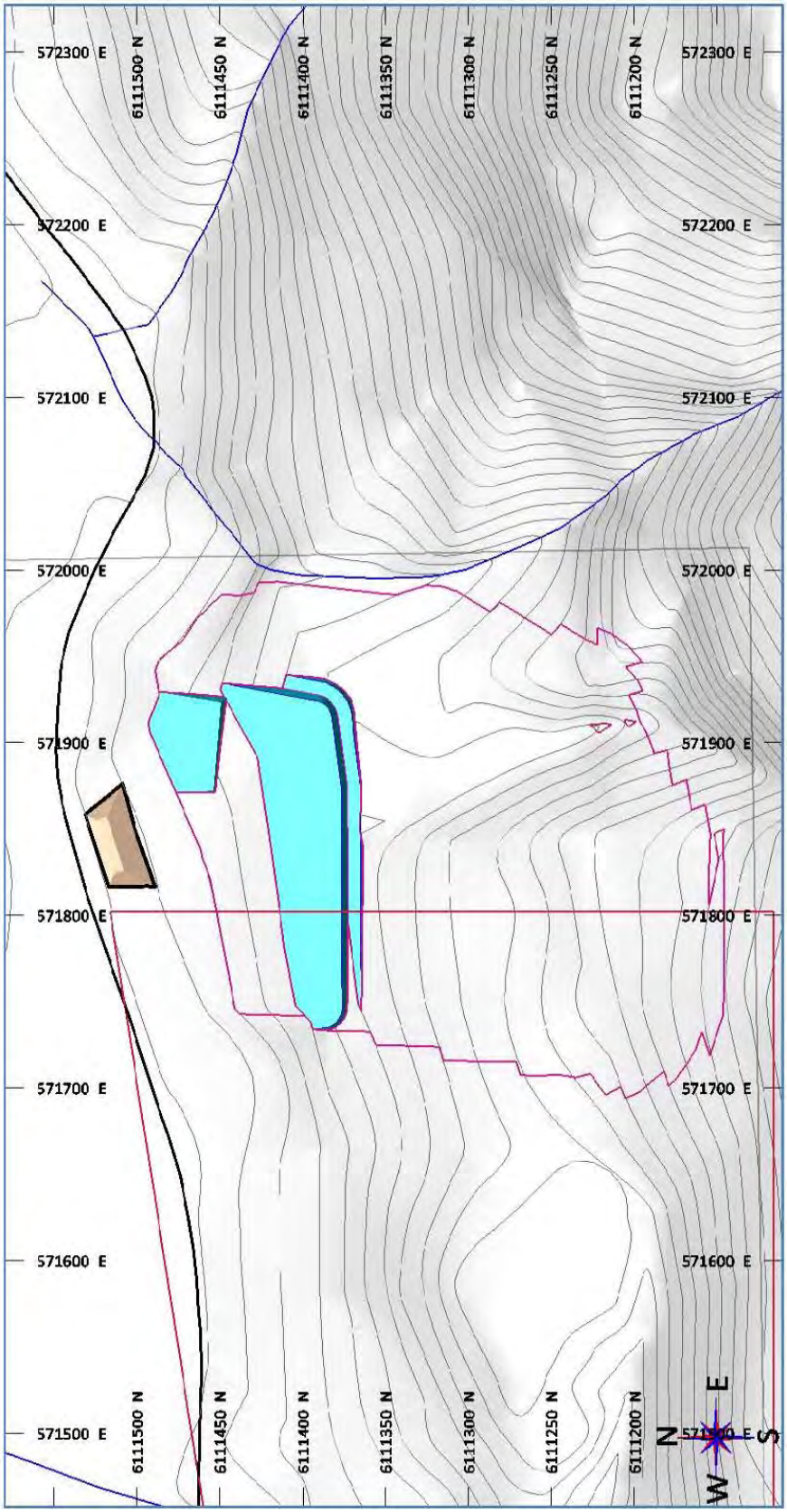


Figure 15 Starter Quarry (Year 4 of 5)

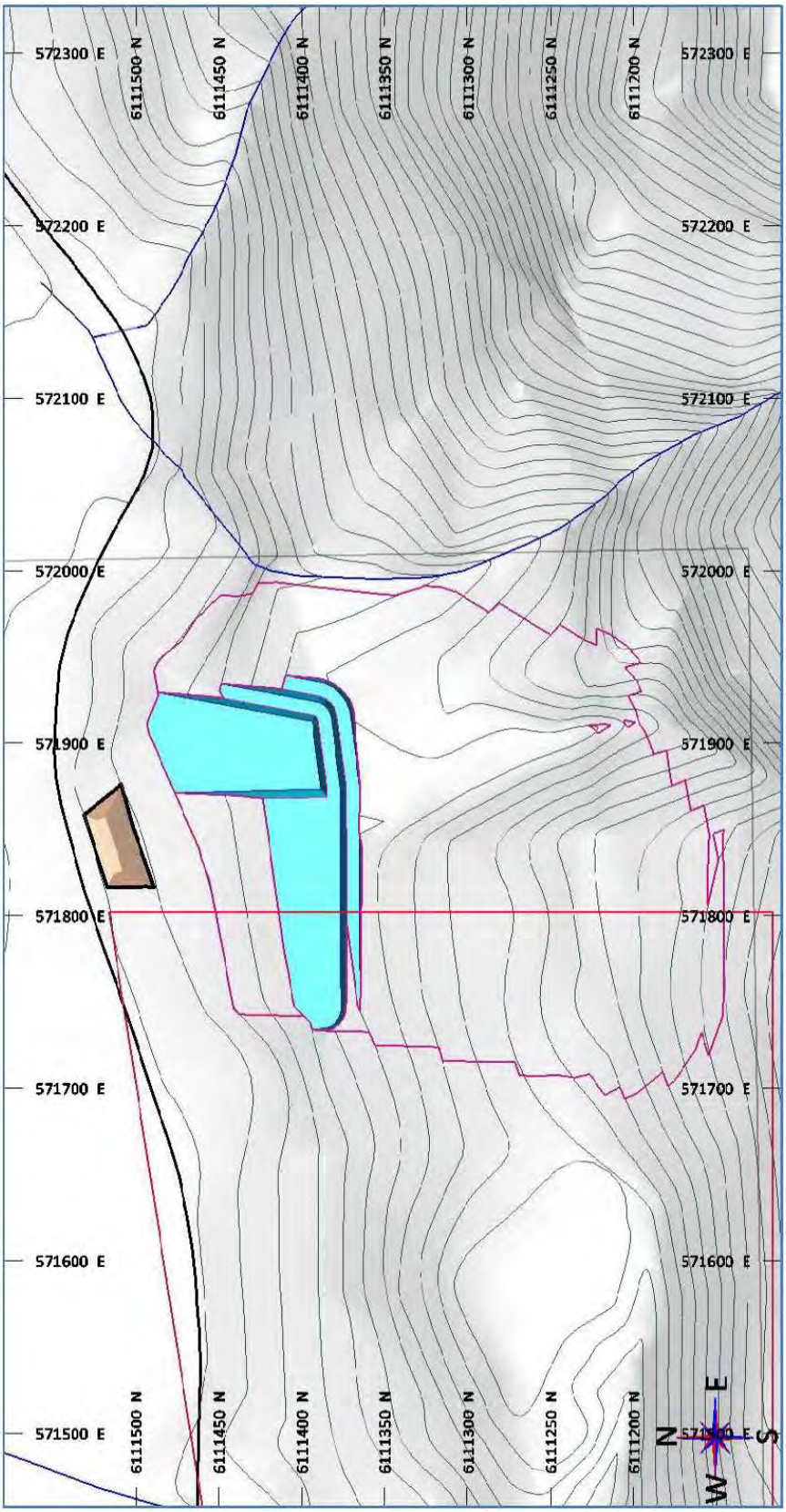


Figure 16 Starter Quarry (Year 5 of 5)

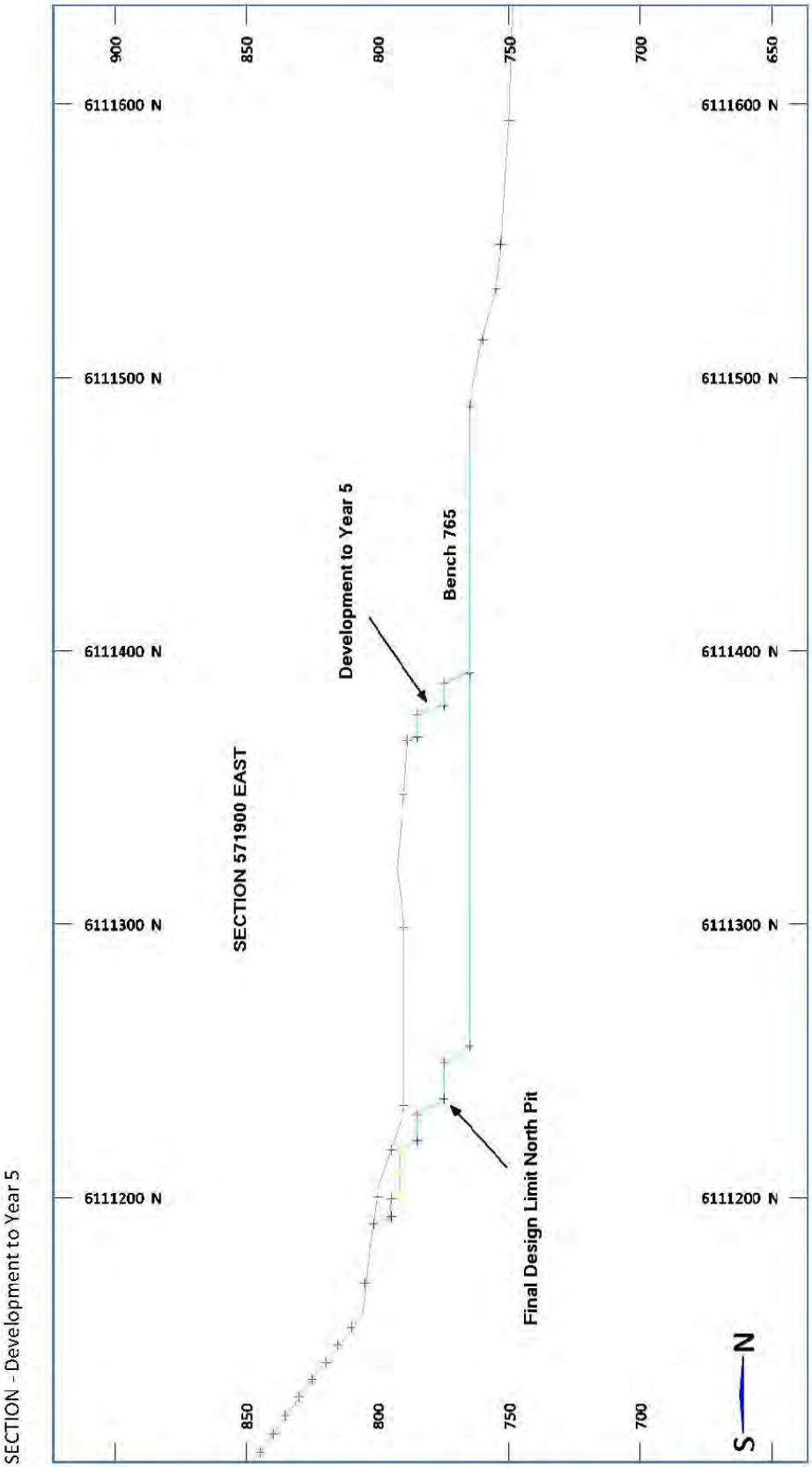


Figure 17 Cross-Section – Development to Year 5

CONCLUSIONS and RECOMMENDATIONS

The subject property is underlain by northwest striking folded and thrusted marine sediments of Triassic and Mississippian age. Rundle Group limestones outcropping on the property host significant potential industrial chemical grade limestone reserves.

Representative chip sampling completed during 1988 in conjunction with an earlier sampling program carried out by Westmin successfully defined two quarryable zones of chemical grade limestone reserves.

The largest zone at, some 1.7 million tonnes of "probable" resources, is located in the southern portion of the Westmin Lease while the second deposit is limited to 440,000 tonnes in the northeastern corner of the property. Average assay grades at both exceed designated limerock specifications for the bleached kraft mill markets located in Grande Prairie and Peace River.

Silicic and dolomitic limestones adjacent to the two high grade deposits will meet agricultural specifications and could therefore be recovered for Peace River aglime market.

The Peace River Lime Ltd. quarry, located near the Sukunka property was in receivership thereby allowing increased access to both the chemical and aglime markets. However this quarry has recently reopened.

RECOMMENDATIONS

The results of the work have been encouraging to date.

Two northeast trending fences of diamond drill holes are proposed for the western end of the "South" zone in order to define sufficient initial "proven" reserves from which to base limited site development, a bulk sampling program, trial marketing, and initial limestone quarrying.

Concurrent trial production (bulk sampling) and test marketing would be contingent upon a successful drill program.

The proposed budget for the drilling and initial quarrying program is presented below:

Proposed Budget

	Amount
Contract Diamond Drilling – 200m @ $110/m	$22,000.00
Mob/Demob/Accommodation/Meals	$10,000.00
Contract Quarrying, 39,000 @ $15.00	$585,000.00
Contract Blasting and Crushing	$39,000.00
Contract Trucking	$42,000.00
Assay and Lab Services	$7,500.00
Equipment Rentals – vehicles/survey equipment/production equipment	$5,000.00
Project Supervision	$12,000.00
Report Preparation and Reproduction	$1,500.00
Subtotal	$ 724,000.00
Contingency 10%	76,000.00
Operating Total	$800,000.00
Less sales revenue on 39,000 tonnes limerock @ $40/tonne	($1,560,000.00)
Possible Net Project Cost	$760,400.00

REFERENCES

MacLeod, W.A., 1989:
Geological Report on the Westmin Lease No. 802015, Mount Palsson Area, for Knox Western Capital Inc. dated February 8, 1989.

Shearer, J. T., 2014:
Geological, Geochemical, Trenching and Prospecting Assessment Report on the Wapiti West Project, for Fertoz International Inc., January 9, 2014

2016:
Geochemical Assessment Report on the Wapiti West Project (formerly Tunnel Project), for Fertoz International Inc. dated March 22, 2016

2017:
Prospecting Assessment Work on the Sukunka Limestone Deposit, Assessment Report MEMPR 2017

APPENDIX 1

STATEMENT of QUALIFICATIONS

December 14, 2018

STATEMENT of QUALIFICATIONS

J. T. Shearer, M.Sc., P.Geo, Homegold Resources Ltd.

I, JOHAN T. SHEARER, of 3572 Hamilton Street, in the City of Port Coquitlam, in the Province of British Columbia, do hereby certify:

1. I am a graduate of the University of British Columbia (B.Sc., 1973) in Honours Geology, and the University of London, Imperial College (M.Sc., 1977).

2. I have over 40 years' experience in exploration for base and precious metals and industrial mineral commodities in the Cordillera of Western North America with such companies as McIntyre Mines Ltd., J.C. Stephen Explorations Ltd., Carolin Mines Ltd. and TRM Engineering Ltd.

3. I am a fellow in good standing of the Geological Association of Canada (Fellow No. F439) and I am a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (Member No. 19,279). I am a fellow of the Society of Economic Geologists.

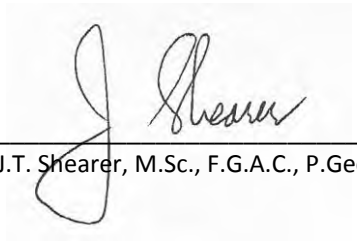
4. I am an independent consulting geologist employed since December 1986 by Homegold Resources Ltd. at #5-2330 Tyner St., Port Coquitlam, B.C.

5. I am the author of a report entitled "Assessment Report on the Sukunka Limestone Deposit" dated December 14, 2018.

6. I have visited the property on April 9 and 10, 2017 and more recently May 27-31, 2018, July 15-17, 2018 and September 4-6, 2018 I have carried out mapping and sample collection and am familiar with the regional geology and geology of nearby properties. I have become familiar with the previous work conducted on the Wapiti claims by examining in detail the available reports and maps and have discussed previous work with persons knowledgeable of the area.

7. I have an Open Pit Supervisor Ticket (#98-3550) for daily supervision duties in the Phosphorite Bulk Sample.

Dated at Port Coquitlam, British Columbia, this 14th day of December, 2018.



J.T. Shearer, M.Sc., F.G.A.C., P.Geo.

APPENDIX II

STATEMENT of COSTS

December 14, 2018

STATEMENT of COSTS
SUKUNKA PROJECT

Wages & Benefits	Without GST
J. T. Shearer, M.Sc., P.Geo; 11 days @ $700/day	$7,700.00
May 27-31, July 15-17, September 4-6, 2018	
J. E. Pellizon, RPF, 4 days @ $600/day	2,400.00
May 27-30, 2018	
Aaron Blom, Fieldman, 2 days @ $350/day	700.00
July 15 + 16, 2018	
Subtotal	$10,800.00
Transportation	
Fully equipped 4x4 truck, 11 days @ $120/day	$1,320.00
Fuel, 750 lt. @ $1.30/lt	975.00
Access Road Building & bulk sample	12,500.00
Analytical; ALS Labs – Rock Samples VA18151470	210.40
Analytical; ALS Labs – Water Samples, ABA	1,464.75
Keystone Environmental	631.31
Planning – J. Nilsson, P.Eng.	3,700.00
Mining Plus – Blast Plan	2,007.00
Data Compilation	1,400.00
Report Preparation	2,100.00
Word Processing	450.00
Subtotal	$26,758.46
Grand total	$37,558.46

Event #	5722994
Filed	December 14, 2018
Amount	$ 26,256.23
PAC	$ 8,743.77 to J. Shearer PA Account
Total Filed	$ 35,000.00

APPENDIX III

ASSAY CERTIFICATES and SAMPLE DESCRIPTIONS

December 14, 2018

Appendix III

Rock Sample Descriptions

Sample #	UTM (Zone 10)	Description
#6	6111455N 571910E	Brown Limestone
#7	6111455N 571910E	Brown Limestone
#8	6111465N 571920E	Brown Limestone
#9	6111465N 571930E	Brown Limestone
#10	6111465N 571940E	Brown Limestone
#11	6111469N 571950E	Brown Limestone

Water Sample Locations

Sample #	UTM (Zone 10)	Description
SWSK18-1	6111399N 571609E	
SWSK18-A (Duplicate)	6111399N 571609E	
SWSK18-2	6111488N 572067E	
SWSK18-3	6111933N 572369E	

VA18151470 - Finalized
CLIENT : "MWE - Homegold Resources Ltd."
# of SAMPLES : 1 (Composite of Sample Sukunka #6 to Sukunka #11 locatiobn and details in the XRF Assays)
DATE RECEIVED : 2018-06-26 DATE FINALIZED : 2018-07-12
PROJECT : "Suknka "
CERTIFICATE COMMENTS : "ME-MS41:Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g). "
PO NUMBER : " "

	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
SAMPLE	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe	
DESCRIPTION	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	
Sukunka Bulk 1	0.04	0.04	0.4	<0.02	<10	10	<0.05	0.01	>25.0	0.12	1.52	0.6	5	0.05	1.9	0.06	

ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb
ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
0.11	<0.05	<0.02	0.01	<0.005	0.01	2.3	0.9	0.57	18	0.24	0.02	<0.05	1.7	30	2.7	0.7

ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	
ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	
0.003	0.03	0.07	0.2	0.2	<0.2	647	<0.01	<0.01	<0.2	<0.005	<0.02	1.19	6	<0.05	4.85	17	

ME-MS41	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	ME-ICP06	OA-GRA05	TOT-ICP06
Zr	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
ppm	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
<0.5	6.43	0.17	0.07	51.9	1.05	0.02	0.07	<0.002	0.01	<0.01	0.01	0.07	<0.01	41.3	101.1

VA18174912 - Finalized
CLIENT : "MWE - Homegold Resources Ltd."
# of SAMPLES : 1 (ABA Results on Composite of XRF Samples Sukunka #6 to Sukunka #11 locations as per the XRF Assays)
DATE RECEIVED : 2018-07-19 DATE FINALIZED : 2018-07-31
PROJECT : " "
CERTIFICATE COMMENTS : ""
PO NUMBER : " "

	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
SAMPLE	MPA	FIZZ RATING	NNP	NP	pH	Ratio (NP:MPA)	S	S	S	S	C	CO2
DESCRIPTION	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
Sukunka Bulk 1	1.6	4	923	925	8	592	0.05	<0.01	0.01	0.05	10.6	38.9

HOMEGOLD RESOURCES LTD
ATTN: Jo Shearer
UNIT #5 - 2330 TYNER STREET
PORT COQUITLAM BC V3C 2Z1

Date Received: 22-MAY-18
Report Date: 30-MAY-18 15:46 (MT)
Version: FINAL

Client Phone: 604-970-6402

Certificate of Analysis

Lab Work Order #: L2097962

Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers: 17-686926
Legal Site Desc:

Heather McKenzie
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2097962-1	L2097962-2	L2097962-3	L2097962-4	
Description	WATER	WATER	WATER	WATER	
Sampled Date	20-MAY-18	20-MAY-18	20-MAY-18	20-MAY-18	
Sampled Time	14:00	14:30	15:00	15:30	
Client ID	SWSK 18-1	SWSK 18-2	SWSK 18-3	SWSK 18-A	
Grouping / **Analyte**					
WATER					
Physical Tests					
Hardness (as CaCO3) (mg/L)	157	144	90.3	160	
pH (pH)	8.26	8.36	8.18	8.37	
Anions and Nutrients					
Acidity (as CaCO3) (mg/L)	2.7	<1.0	1.1	2.8	
Alkalinity, Bicarbonate (as CaCO3) (mg/L)	148	125	87.8	141	
Alkalinity, Carbonate (as CaCO3) (mg/L)	<1.0	3.4	<1.0	4.8	
Alkalinity, Hydroxide (as CaCO3) (mg/L)	<1.0	<1.0	<1.0	<1.0	
Alkalinity, Total (as CaCO3) (mg/L)	148	128	87.8	146	
Ammonia, Total (as N) (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	
Ammonia, Total Dissolved (as N) (mg/L)	<0.0050	<0.0050	0.0084	<0.0050	
Bromide (Br) (mg/L)	<0.050	<0.050	<0.050	<0.050	
Chloride (Cl) (mg/L)	<0.50	<0.50	<0.50	<0.50	
Fluoride (F) (mg/L)	0.179	0.041	0.040	0.179	
Nitrate (as N) (mg/L)	0.0680	0.846	0.0384	0.0647	
Nitrite (as N) (mg/L)	<0.0010	0.0012	<0.0010	<0.0010	
Orthophosphate-Dissolved (as P) (mg/L)	0.0012	0.0029	0.0027	0.0014	
Phosphorus (P)-Total Dissolved (mg/L)	<0.0020	0.0043	0.0050	0.0024	
Phosphorus (P)-Total (mg/L)	0.0043	0.0056	0.0224	0.0077	
Sulfate (SO4) (mg/L)	6.70	12.9	3.12	6.74	
Total Metals					
Aluminum (Al)-Total (mg/L)	0.0420	0.0275	0.248	0.0441	
Antimony (Sb)-Total (mg/L)	<0.00010	0.00023	0.00012	<0.00010	
Arsenic (As)-Total (mg/L)	<0.00010	0.00015	0.00021	<0.00010	
Barium (Ba)-Total (mg/L)	0.0509	0.0287	0.0682	0.0504	
Beryllium (Be)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Bismuth (Bi)-Total (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	
Boron (B)-Total (mg/L)	<0.010	<0.010	<0.010	<0.010	
Cadmium (Cd)-Total (mg/L)	0.0000212	0.0000569	0.0000492	0.0000195	
Calcium (Ca)-Total (mg/L)	51.7	43.5	28.3	54.0	
Cesium (Cs)-Total (mg/L)	0.000011	<0.000010	0.000046	0.000011	
Chromium (Cr)-Total (mg/L)	0.00023	0.00017	0.00053	0.00027	
Cobalt (Co)-Total (mg/L)	<0.00010	<0.00010	0.00013	<0.00010	
Copper (Cu)-Total (mg/L)	<0.00050	<0.00050	0.00105	<0.00050	
Iron (Fe)-Total (mg/L)	0.039	0.047	0.254	0.036	
Lead (Pb)-Total (mg/L)	<0.000050	<0.000050	0.000152	<0.000050	
Lithium (Li)-Total (mg/L)	0.0011	<0.0010	0.0014	0.0011	
Magnesium (Mg)-Total (mg/L)	5.84	8.18	5.07	5.72	
Manganese (Mn)-Total (mg/L)	0.00070	0.00112	0.00594	0.00055	
Mercury (Hg)-Total (mg/L)	<0.0000050	<0.0000050	0.0000059	<0.0000050	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2097962-1	L2097962-2	L2097962-3	L2097962-4	
Description	WATER	WATER	WATER	WATER	
Sampled Date	20-MAY-18	20-MAY-18	20-MAY-18	20-MAY-18	
Sampled Time	14:00	14:30	15:00	15:30	
Client ID	SWSK 18-1	SWSK 18-2	SWSK 18-3	SWSK 18-A	
Grouping / **Analyte**					
WATER					
Total Metals Molybdenum (Mo)-Total (mg/L)	0.00295	0.00915	0.000831	0.00300	
Nickel (Ni)-Total (mg/L)	0.00081	0.00175	0.00106	0.00079	
Phosphorus (P)-Total (mg/L)	<0.050	<0.050	<0.050	<0.050	
Potassium (K)-Total (mg/L)	0.278	0.361	0.374	0.283	
Rubidium (Rb)-Total (mg/L)	0.00024	<0.00020	0.00062	0.00025	
Selenium (Se)-Total (mg/L)	0.000577	0.00105	0.000270	0.000590	
Silicon (Si)-Total (mg/L)	1.45	1.53	1.53	1.43	
Silver (Ag)-Total (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
Sodium (Na)-Total (mg/L)	0.397	0.409	0.503	0.393	
Strontium (Sr)-Total (mg/L)	0.124	0.0809	0.0615	0.126	
Sulfur (S)-Total (mg/L)	2.20	4.43	1.01	2.32	
Tellurium (Te)-Total (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	
Thallium (Tl)-Total (mg/L)	0.000012	0.000030	0.000014	0.000012	
Thorium (Th)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Tin (Sn)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Titanium (Ti)-Total (mg/L)	0.00046	<0.00030	<0.0033 DLM	0.00053	
Tungsten (W)-Total (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Uranium (U)-Total (mg/L)	0.000593	0.000804	0.000150	0.000584	
Vanadium (V)-Total (mg/L)	0.00068	0.00173	0.00191	0.00065	
Zinc (Zn)-Total (mg/L)	0.0034	<0.0030	0.0034	0.0035	
Zirconium (Zr)-Total (mg/L)	<0.000060	<0.000060	0.000116	0.00138	
Dissolved Metals Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	
Aluminum (Al)-Dissolved (mg/L)	0.0077	0.0025	0.0180	0.0079	
Antimony (Sb)-Dissolved (mg/L)	0.00011	0.00020	<0.00010	<0.00010	
Arsenic (As)-Dissolved (mg/L)	<0.00010	0.00012	0.00012	<0.00010	
Barium (Ba)-Dissolved (mg/L)	0.0521	0.0301	0.0643	0.0517	
Beryllium (Be)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	<0.010	<0.010	
Cadmium (Cd)-Dissolved (mg/L)	0.0000191	0.0000460	0.0000278	0.0000181	
Calcium (Ca)-Dissolved (mg/L)	52.9	43.7	27.3	54.3	
Cesium (Cs)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
Chromium (Cr)-Dissolved (mg/L)	0.00018	0.00010	0.00013	0.00018	
Cobalt (Co)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Copper (Cu)-Dissolved (mg/L)	0.00024	0.00026	0.00057	0.00025	
Iron (Fe)-Dissolved (mg/L)	<0.010	<0.010	0.029	<0.010	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L2097962-1	L2097962-2	L2097962-3	L2097962-4	
Description	WATER	WATER	WATER	WATER	
Sampled Date	20-MAY-18	20-MAY-18	20-MAY-18	20-MAY-18	
Sampled Time	14:00	14:30	15:00	15:30	
Client ID	SWSK 18-1	SWSK 18-2	SWSK 18-3	SWSK 18-A	
Grouping **Analyte**					
WATER					
Dissolved Metals Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	
Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	0.0011	<0.0010	
Magnesium (Mg)-Dissolved (mg/L)	5.99	8.54	5.35	6.00	
Manganese (Mn)-Dissolved (mg/L)	0.00021	0.00014	0.00207	0.00020	
Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	
Molybdenum (Mo)-Dissolved (mg/L)	0.00291	0.00856	0.000747	0.00299	
Nickel (Ni)-Dissolved (mg/L)	0.00078	0.00136	0.00066	0.00078	
Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	
Potassium (K)-Dissolved (mg/L)	0.281	0.348	0.271	0.290	
Rubidium (Rb)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	
Selenium (Se)-Dissolved (mg/L)	0.000558	0.000963	0.000238	0.000592	
Silicon (Si)-Dissolved (mg/L)	1.31	1.38	1.07	1.31	
Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000010	<0.000010	
Sodium (Na)-Dissolved (mg/L)	0.385	0.396	0.475	0.382	
Strontium (Sr)-Dissolved (mg/L)	0.126	0.0798	0.0600	0.128	
Sulfur (S)-Dissolved (mg/L)	2.02	3.94	1.13	2.31	
Tellurium (Te)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	
Thallium (Tl)-Dissolved (mg/L)	0.000012	0.000021	<0.000010	0.000012	
Thorium (Th)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	0.00039	<0.00030	
Tungsten (W)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00010	<0.00010	
Uranium (U)-Dissolved (mg/L)	0.000596	0.000821	0.000140	0.000619	
Vanadium (V)-Dissolved (mg/L)	<0.00050	0.00106	<0.00050	<0.00050	
Zinc (Zn)-Dissolved (mg/L)	0.0028	0.0011	<0.0010	0.0028	
Zirconium (Zr)-Dissolved (mg/L)	<0.000060	<0.000060	0.000094	<0.000060	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Manganese (Mn)-Total	B	L2097962-1, -2, -3, -4
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Barium (Ba)-Total	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Calcium (Ca)-Total	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Magnesium (Mg)-Total	MS-B	L2097962-1, -2, -3, -4
Matrix Spike	Strontium (Sr)-Total	MS-B	L2097962-1, -2, -3, -4

Qualifiers for Individual Parameters Listed:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ACY-PCT-VA	Water	Acidity by Automatic Titration	APHA 2310 Acidity

This analysis is carried out using procedures adapted from APHA Method 2310 "Acidity". Acidity is determined by potentiometric titration to a specified endpoint.

Samples of industrial wastes, acid mine drainage, or other solutions that contain appreciable amounts of hydrolyzable metal ions such as aluminum, iron, and manganese may require hot peroxide treatment to ensure oxidation and hydrolysis of reduced forms of polyvalent cations. Acidity results may be highly variable if this procedure is not followed. Results in this report for 'Acidity (as CaCO3)' have not been peroxide treated.

ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CL-IC-N-VA	Water	Chloride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

EC-SCREEN-VA	Water	Conductivity Screen (Internal Use Only)	APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA	Water	Hardness	APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA	Water	Diss. Mercury in Water by CVAAS or CVAFS	APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

HG-T-CVAA-VA	Water	Total Mercury in Water by CVAAS or CVAFS	EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-VA	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Reference Information

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-D-F-VA	Water	Dissolved Ammonia by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out on filtered, sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NH3-F-VA	Water	Ammonia in Water by Fluorescence	J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NO2-L-IC-N-VA	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-PRES-COL-VA	Water	Total P in Water by Colour	APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is determined colourimetrically after persulphate digestion of the sample.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

P-TD-COL-VA	Water	Total Dissolved P in Water by Colour	APHA 4500-P Phosphorous

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Dissolved Phosphorus is determined colourimetrically after persulphate digestion of a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

PO4-DO-COL-VA	Water	Diss. Orthophosphate in Water by Colour	APHA 4500-P Phosphorus

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.
Samples with very high dissolved solids (i.e. seawaters, brackish waters) may produce a negative bias by this method. Alternate methods are available for these types of samples.

Arsenic (5+), at elevated levels, is a positive interference on colourimetric phosphate analysis.

SO4-IC-N-VA	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

17-686926

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2097962-COFC

COC Number: 17 - 686926

Page of

Report To	Contact and company name below will appear on the final report
Company:	HOMEGOLD RESOURCES LTD
Contact:	JO SHEARER
Phone:	604-970-6402
	Company address below will appear on the final report
Street:	UNIT 5-2330 TYNER STREET
City/Province:	PORT COQUITLAM BC
Postal Code:	V3C 2Z1
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	AS Above
Contact:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☑ YES ☐ NO
☑ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☐ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	Jo@homegoldresources.com
Email 2	cjlennan@shaw.ca
Email 3	

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Email 1 or Fax	Jo@homegoldresources.com
Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E-100%] ☐ | Same Day, Weekend or Statutory holiday [E2-200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs:

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	TOTAL METALS	DISSOLVED METALS	TOTAL MERCURY	DISSOLVED MERCURY	ANIONS / PH	SPECIATED ALKALINITY	ACIDITY	ORTHOPHOSPHATE	TOTAL NUTRIENTS	DISSOLVED NUTRIENTS	TOTAL PHOSPHORUS	DISSOLVED PHOSPHORUS	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	SWSK12-1	20/05/18	2:00pm	water	X	X	X	X	X	X	X	X	X	X	X	X			7
	SWSK18-2	↓	2:30 "	↓	X	X	X	X	X	X	X	X	X	X	X	X			7
	SWSK18-3		3:00 "		X	X	X	X	X	X	X	X	X	X	X	X			7
	SWSK18-A		3:30 "		X	X	X	X	X	X	X	X	X	X	X	X			7

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☒ NO	BC Water quality guidelines BC CSR Aquatic life (freshwater)
Are samples for human consumption/ use? ☒ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				7.6			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: W. Brandenman	Date: May 22/18	Time:	Received by:	Date:	Time:	Received by:	Date: May 22	Time: 12:45

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY JULY 2017 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

Sukunka XRF 2018 All Samples are %

Date	Sample	Mg	Mg +/-	Al	Al +/-	Si	Si +/-	P	P +/-	S	S +/-	Cl	Cl +/-	K	K +/-	Ca	Ca +/-	Ti
26/06/2018	Sukunka #6	ND		1.04	0.05	3.8018	0.0369	0.3666	0.0294	0.1402	0.0033	ND		0.1715	0.0032	48.77	0.36	0.0945
26/06/2018	Sukunka #7	ND		0.7752	0.0477	3.1867	0.0301	0.3065	0.0271	0.1238	0.0029	ND		0.0594	0.0024	50.86	0.34	0.0659
26/06/2018	Sukunka #8	ND		1.99	0.06	5.5875	0.045	0.5725	0.029	0.2084	0.0035	ND		0.4739	0.0046	49.25	0.32	0.1211
26/06/2018	Sukunka #9	ND		1.13	0.05	2.7624	0.0299	0.5031	0.0286	0.1772	0.0034	ND		0.137	0.003	44.95	0.34	0.0617
26/06/2018	Sukunka #10	ND		0.9915	0.0487	2.8955	0.0288	0.2794	0.0254	0.2452	0.0035	ND		0.1841	0.0029	43.48	0.3	0.1074
26/06/2018	Sukunka #11	ND		1.0287	0.05	5.966	0.0478	0.3747	0.0286	0.1393	0.0032	ND		0.1118	0.0028	50.77	0.33	0.0736

Ti	+/-	V	V +/-	Cr	Cr +/-	Mn	Mn +/-	Fe	Fe +/-	Co	Co +/-	Ni	Ni +/-	Cu	Cu +/-	Zn	Zn +/-	As	As +/-	Se
0.0223		ND		ND		0.0141	0.0042	0.2956	0.01	ND		ND		0.009	0.0012	0.0047	0.0007	ND		ND
0.0193		ND		ND		ND		0.1884	0.0074	ND		ND		0.0079	0.0011	0.0017	0.0005	ND		ND
0.0217		ND		ND		ND		0.4748	0.0118	ND		ND		0.0094	0.0012	0.0053	0.0007	ND		ND
0.0204		ND		ND		ND		0.2164	0.0083	ND		ND		0.009	0.0012	0.0074	0.0008	ND		ND
0.02		ND		ND		0.0212	0.004	0.5484	0.0122	ND		ND		0.0082	0.001	0.0056	0.0007	ND		ND
0.0205		ND		ND		0.021	0.0043	0.2639	0.009	ND		ND		0.0095	0.0012	0.0023	0.0006	ND		ND

Se +/-	Rb	Rb +/-	Sr	Sr +/-	Y	Y +/-	Zr	Zr +/-	Mo	Mo +/-	Ag	Ag +/-	Cd	Cd +/-	Sn	Sn +/-	Sb	Sb +/-	W
	ND		0.0632	0.0009	0.0007	0.0002	ND		ND		ND		ND		ND		ND		ND
	ND		0.0616	0.0008	ND		ND		ND		ND		ND		ND		ND		ND
	0.0008	0.0002	0.0667	0.0008	0.0006	0.0002	ND		ND		ND		ND		ND		ND		ND
	ND		0.0442	0.0007	0.0011	0.0002	ND		ND		ND		ND		ND		ND		ND
	0.0005	0.0002	0.0796	0.0009	0.0009	0.0002	ND		ND		ND		ND		ND		ND		ND
	ND		0.0836	0.001	0.0007	0.0002	ND		ND		ND		ND		ND		ND		ND

W +/-	Hg	Hg +/-	Pb	Pb +/-	Bi	Bi +/-	Th	Th +/-	U	U +/-	LE	LE +/-
	ND		0.0025	0.0005	ND		ND		ND		45.23	0.3
	ND		0.0015	0.0004	ND		ND		ND		44.36	0.27
	ND		0.0024	0.0004	ND		ND		ND		41.24	0.29
	ND		0.0016	0.0004	ND		0.0026	0.0009	ND		49.99	0.28
	ND		0.0023	0.0004	ND		ND		ND		51.15	0.26
	ND		0.0022	0.0004	ND		ND		ND		41.15	0.29

APPENDIX IV

BLAST PLAN

December 14, 2018

MINING PLUS

+1 604 558 2221
info@mining-plus.com
www.mining-plus.com

February 5th, 2018

Blast Plan (Bulk Sample)
Sukunka Limestone Project
(Quatse Silver Resources Inc.)

All blasting activities will be conducted by trained, experienced, and competent persons who understand the hazards involved in a blasting operation. All blasts will be conducted under the supervision of an MEMPR certified blaster as required by the Ministry of Mines and Petroleum Resources (see section 8.2.1 of the 2017 Health & Reclamation Code for Mines in British Columbia). All drilling and blasting activities will be conducted by Quatse employees or contractors. The drilling and blasting plan for each blast will be approved by a certified blaster and be implemented by Falcon employees or contractors working under the guidance of the certified blaster.

Prior to blasting, all the access roads within the vicinity of the blast area will be posted with blast warning signs. Within the bulk sample area where blasting will occur, all mining activities will cease, all mobile equipment will be removed to a safe distance from the blasting area (Code Section 8.5.9 and 8.5.10), and the access ramp to the area being blasted will be blocked until the blast area has been cleared. Prior to detonating the blast, audible warning signals will be sounded. The sound is a follows:

Pre-Blast Warning: A 1-minute (60 seconds) steady siren warning 5 min prior to the blast;

Blast Warning: A 1-minute (60 seconds) wailing siren will sound prior to final detonation to notify all personal of the pending blast; and

All Clear Signal: Following the blast, the blast site will be inspected for misfires and once the blast site is cleared, a steady siren signal for 1 minute (60 seconds) will sound after the blast area has been cleared.

Explosives will be used to fracture and fragment ore to facilitate material handling. Blast holes will be drilled using a rotary drill, with the size and blasting pattern designed to assure a safe working buffer from other activities. The weight of explosives for each drill hole will be based on the desired size fraction of ore necessary to haul. Explosives (ammonium nitrate/fuel oil - ANFO), and primers/boosters will be stored and handled according to the local contractor (certified magazine) using 50kg bags of ANFO is expected to be used almost exclusively for blasting, as wet holes are not expected to be encountered as there was no static groundwater observed. However, if water is encountered due to precipitation, emulsion may be used in addition to ANFO for blasting.

Once blasted, ore material will be removed with loaders and trucks and will be hauled to the customer project.

The blast hole pattern will likely include holes 2 to 3 metres equidistant to a depth of 5 metres to create a bulk sample excavation 60mx15m in area.

Signature

The Blast Plan has been prepared with reference to and in accordance with the 2017 Health & Reclamation Code for Mines in British Columbia.

Neil Schunke, P.Eng
Principal Mining Consultant
Mining Plus Canada Consulting

Keystone Environmental

TECHNICAL MEMORANDUM

PROJECT NO.: Sukunka **DATE:** January 31, 2018

TO: Jo Shearer, M.Sc., P.Geo., Fertoz International

cc:

FROM: Jason Christensen, P.Eng. Senior Engineer, Keystone Environmental Ltd

Re: Nitrogen Compound Loading Estimate, Sukunka Lime Project, Tumbler Ridge, BC

This technical memorandum has been prepared by Keystone Environmental Ltd. for Fertoz International Inc. (Fertoz) regarding the Sukunka Project, located near Tumbler Ridge, BC, (the Site).

BACKGROUND

Fertoz has submitted an application for a permit to mine limestone-containing rock from their Wapiti Project located near Tumbler Ridge, B.C. The ore is intended to be marketed as direct-application fertilizer once crushed at an offsite facility.

The Mine Development Review Committee (MDRC) has requested a plan for blasting. As part of the blasting plan, an estimate of the anticipated concentrations of nitrogen compounds in storm water infiltrating from the excavation area from leaching of blasting residues was requested. This technical memorandum presents our estimate of nitrogen compounds loadings from the excavation based on the proposed spacing and mass of explosives provided by the blasting contractor (McCaw's Drilling and Blasting Ltd.), literature values of typical residue mass and proportion nitrogen compounds, and local climate data.

Nitrogen Compound Loading Estimate

The nitrogen loading calculations and results are presented in the attached spreadsheet. The following information and assumptions were used:

- The explosive to be used is ammonium nitrate fuel oil (ANFO)\
- Blast holes will be 3" diameter at a spacing of 1.5 m, 6 m depth along 100 m trench segments resulting 65 holes per 100 m trench section.

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Canada V5G 4E5

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Environmental Consulting
Construction Solutions
Assessment & Protection

- The mass of ANFO used is 1482 kg for each trench segment (McCaw's Drilling and Blasting Ltd.)
- The mass of nitrogen in the blast residue is 542 kg for each trench segment (Morin et Hutt, Leaching of Nitrogen during Underground Mining, 2008)
- The trench will be excavated in 2 phases each 100 m long by 1.5 m wide
- A 0.5 m apron was applied around the trench for catchment area of precipitation entering the trench excavation
- An annual precipitation of 605 mm was used with quarterly weighting values obtained from Ferguson and Leask (1998)
- It is assumed that all of the blasting residue remains in the excavation (is not removed with ore)
- The relative proportion of nitrogen compounds at 95 % nitrate, 1% nitrite, 4% Ammonia (Ferguson and Leask, 1998)
- It is assumed all water in the excavation will infiltrate to groundwater

Result

The estimated concentrations of nitrogen compounds in water discharging from the excavation and infiltrating to groundwater are:

- Nitrate at 8.3 mg/L
- Nitrite at 0.087 mg/L
- Ammonia/ammonium at 0.35 mg/L

These values are at a concentration less than the BC Approved Water Quality Guidelines for the protection of freshwater aquatic life.

Limitations

Keystone Environmental has prepared this document in good faith and has relied upon information provided by others. Keystone Environmental has assumed that the information provided by third parties is both complete and accurate. This Work was completed in a manner consistent with that level of care and skill normally exercised by other environmental professionals, practicing under similar circumstances in the same locale at the time of the performance of the work.

This Work has been prepared for the sole use of Fertoz International Inc. and the review by the Ministry of Energy and Mines & Petroleum Resources (MEM), pursuant to the agreement between Keystone Environmental and Fertoz International Inc. This Work must be read as a whole and sections thereof cannot be read out of such context. By using this Work, Fertoz International Inc. and MEM agree(s) to review this Work in its entirety. Keystone Environmental accepts no responsibility, and denies any liability whatsoever, to parties other than Fertoz International Inc., who may obtain access to this report for any injury, loss or damage suffered by such parties arising out of, reliance upon, or decisions or actions based on this report, except

to the extent those parties have obtained a prior written consent of Keystone Environmental to use and rely upon this report and the information contained herein. Any use, reliance or decisions made based on this report by other parties without prior written approval by Keystone Environmental are the responsibility of such parties and Keystone Environmental accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this Work. The findings presented herein should be considered within the context of the scope of work and project terms of reference.

If you have any questions, please do not hesitate to contact the undersigned.

We trust this information meets your requirements at this time.

Sincerely,

January 31 2018

Jason Christensen, P.Eng.
Senior Engineer

I:\11700-11799\11764\MoE Permit Application\Nitrogen Loading\11764 180131 N Load Tech Memo.docx

Attachments:
• Blast Plan – Nitrogen Loading Estimate Calculations

Keystone Environmental
Knowledge-Driven Results

Blast Plan - Nitrogen Loading Estimate

Stage 1

65 holes Depth to 6 m ANFO load of 1482 kg Total Stoichiometric Nitrogen 542.41 kg

Annual leached-nitrogen loading for the entire minesite, based on annual explosive usage Assuming up to 1% of explosive as a slurry
= 0.2% of ANFO as N

Total N = 2.964 kg/yr

Stage 2

65 holes Depth to 6 m ANFO load of 1482 kg Total Stoichiometric Nitrogen 542.41 kg

Total N = 2.964 kg/yr

The annual site-wide leached-nitrogen loading among the minesite components and catchments, based on some proportion like size or lateral area
Lateral Area = 102 m x 5.5 m = 561 m^2 for each stage area Catchment includes distance of 2m laterally around blast area.

Annual Precipitation for Tumbler Ridge = 605 mm Catcment volume for each stage = 339.405 m^3 / year

Total Annual Average Nitrogen Predicted Concentration at e 8.7329 mg/L

Component-specific annual leached-nitrogen loading into loadings of nitrate, nitrite, and ammonia

95% Nitrate, 1% Nitrite and 4% Ammonia
Nitrate = 8.30 mg/L Nitrite = 0.087 mg/L Ammonia = 0.35 mg/L

Average and weighted quarterly loadings of the leached nitrogen species for both stages (kg)

	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
Effluents	0.30	4.59	0.44	0.59
Receiving Water	0.74	2.67	1.48	1.04

Ferguson, K.D., and Leask, S.M. 1988. The Export of Nutrients from Surface Coal Mines, Environment Canada Regional Program Report 87-12, dated March, 1988, 127 p.
This study mentioned that previous work had shown that 1-6% of nitrogen used in blasting was leached into drainages.
However, case studies of open-pit coal minesites in British Columbia indicated only 0.2% was leached at drier minesites, and 2-5% at wetter sites.
Assumed all nitrogen was released within the calendar year of its usage

APPENDIX V

WATER SAMPLING REPORT
W.B. LENNAN

December 14, 2018

Report on the Sukunka Limestone Property surface water samples collected on May 20, 2018

Analytical Results

From the dissolved and total metals analyses and the anion analyses, the hardness concentrations ($CaCO_3$) were slightly elevated and ranged from 90 to 160 mg/L in the four samples analyzed which includes one duplicate sample. The field pH levels were also found to be at 9.0 to 9.6. Sample SWSK18-1 and its duplicate sample SWSK18-A are at the maximum BC Water Quality Guidelines (WQG) range of between >6.5 to <9. Samples SWSK18-2 and SWSK18-3 have pH values greater than the recommended BCWQG ranges with pHs of 9.6 and 9.3 respectively. These samples were collected from natural, undisturbed streams during the spring Freshet. The hardness and pH levels are likely due to the natural underlying geological formations that may contain limestone units in the immediate area; however, more geological information is required. From the more alkaline pH level to the elevated calcium concentrations, it is likely that carbonate is derived by nearby limestone formations as indicated by total and dissolved calcium concentrations (Tables 1 and 2). Conductivity of the four samples as measured in the field is 0 *u*S. These readings are due to the presence of snow melt water entering the streams during Freshet.

Total Metals

The total metals parameters presented on Table 1 have concentrations less than the applicable BC Approved and Working Water Quality Guidelines (WQG) for freshwater aquatic life (AW_{FW}) and the BC Contaminated Sites Regulation (CSR) drinking water (DW) standards for the four surface water samples (SWSK18-1 to SWSK18-3 and duplicate sample SWSK18-A

In general, WQG are applied to total metals and hardness concentrations are generally applied to individual metal parameter concentrations to calculate the Guideline allowable limits. pH is also applied to calculate the Guideline allowable limits but in a smaller number of metals. For Total Aluminum, there is no Guideline; however, there is a BCWQG for Dissolved Aluminum as shown on Table 2.

For aluminum and cadmium, the WQG applies to the dissolved aluminum and dissolved cadmium (Table 2) results only. For comparison, the results for Total Aluminum for the four water samples are also less than the dissolved aluminum BCWQG of 100ug/L. CSR DW standards are also presented on Table 1 for comparison purposes only as they apply primarily

to groundwater and not surface water. Standards for drinking water (DW) in Schedule 3.2 of the BC Contaminated Sites Regulation (CSR), which are typically 10 times higher than the BC WQG

Dissolved Metals

The dissolved metals parameters presented on Table 2 have concentrations less than the applicable WQG AW_{FW} and CSR DW. For the most part, the concentrations of dissolved metals are similar to the total metals concentration. As with total metals concentrations, the application of hardness and pH to certain dissolved metal concentrations using the specified WQG equations has also increased the concentration limits before exceedances occur. For the most part the BCWQG are based on Total Metals analyses and the BCWQG AW_{FW} column presented on Table 1 is repeated on Table 2 with the exception of dissolved Aluminum and dissolved Cadmium.

The BC CSR DW standards apply to Dissolved metals concentrations rather than Total Metals and adjustments are made by applying adjustments for Hardness and pH.

The concentrations of total and dissolved selenium and cadmium in the four samples (SWSK18-1 to SWSK 3 and duplicate sample SWSK18-A) were less than the BCWQG and CSR guidelines and standards.

Conventional Parameters

Total Alkalinity concentrations for samples SWSK18 1 to SWSK18 3 and duplicate sample SWSK18 A reflects the elevated hardness and calcium concentrations found in these three samples along with pH levels of 9.0 to 9.6 (towards the alkaline side of the neutral range of pH from 6.5 to 9). From Table 3 the total alkalinity of these three samples exceeds the WQG AW_{FW} range of 20 mg/L; however, in the natural environment of this area, it is likely that the area has low sensitivity to acid inputs. In low sensitivity environments, total alkalinity concentrations are permitted to exceed 20 mg/L. There are no guidelines under the WQG or CSR standards for PP Alkalinity ($CaCO_3$), Bicarbonate Alkalinity (HCO_3), Carbonate Alkalinity (CO_3) nor for Hydroxide Alkalinity (OH).

For Anions such as Fluoride (total) the range of concentrations to exceed the WQG is between 1.29 and 1.52 based on the application of hardness ranging from 90 to 160 mg/L for samples SWSK18 1 to SWSK18 3 and duplicate sample SWSK18 A. The Fluoride concentration of these four samples is, therefore, less than the BCWQG guidelines and CSR DW standard.

Dissolved Chloride ion (CL) concentrations for the four samples previously noted less than the reported laboratory detection limit and are; therefore, well below the WQG guidelines and CSR DW standard.

Dissolved Sulphate ion (SO_4^{2-}) concentrations for the four samples previously noted are significantly less than the BCWQG that range from 128 to 429 mg/L. The guideline range is dependent on water hardness and the water from the four samples is considered to be in the Moderately Soft/Hard to Hard range of 76 to 180 mg/L. The hardness of the four samples ranges from 90 to 160 mg/L so the Freshwater Long-Term Average for these samples is 309 mg/L. The samples range from 3.13 to 12.9 mg/L as shown on Table 3.

Concentrations of Nitrate (N), Nitrite (N) and Nitrate plus Nitrite (N) are also less than the applicable WQG guidelines and CSR DW standards.

As previously noted, pH levels were found to be between 9.0 and 9.6 for the four water samples are at or just above the BC Water Quality Guidelines (WQG) which has a range of >6.5 to <9. The laboratory measurements of pH for the four samples range from 8.18 to 8.37.

Conclusions

Elevated hardness and pH levels in the drainages at Sukunka project site have a buffering or neutralizing effect on total and dissolved metals concentrations that may be exposed to the natural environment. The elevated hardness and pH levels also appear to be derived from the natural underlying geologic strata as it undergoes weathering and releases several species of alkalinity to the other strata and overlying soil. To date sulphides have been not observed in the field. The current surface water sample results for total and dissolved metals provide some support for these findings.

The surface water sampling program conducted in May 2018 indicated generally low concentrations of total metals and dissolved metals. It is also noted that in the Sukunka property area that total and dissolved selenium, total and dissolved cadmium and total and dissolved mercury concentrations were less than the BCWQG limits.

Respectfully Submitted

W. Brian Lennan. P.Geo., Environmental Scientist

APPENDIX VI

TECHNICAL MEMO
Evaluation of the Potential for Acid Rock Drainage and Metal Leaching for Limestone Located at the Sukunka Limestone Quarry

December 14, 2018

Technical Memo

Evaluation of the Potential for Acid Rock Drainage and Metal Leaching for Limestone Located at the Sukunka Limestone Quarry

QUARRY PERMIT Q-9-055,
DISTRICT LOT 3470
LIARD MINING DIVISION
N.T.S. 93P/04 (93P.011)
LONGITUDE 121.880/ LATITUDE 55.135

For

Sukunka Lime Resources Ltd.
#5-2330 Tyner St.
Port Coquitlam, B.C. V3C 2Z1
Phone: 604-970-6402/Fax: 604-944-6102

By

W. B. Lennan, P.Geo.
Phone: 604-944-0620/Fax: 604-944-6102
E-mail: jo@HomegoldResourcesLtd.com
Consulting Geoscientist

Dated October 31, 2018

TABLE of CONTENTS

LIST of ILLUSTRATIONS

SUMMARY

Limestone has been exposed in the normal course of bulk sample quarry operations at the Sukunka Limestone Deposit.

Limestone is used in a variety purposes and is available for other than mineral uses. The present study considered the acid generating and metal leaching potential of this limestone.

The limestone is now well exposed. The limestone is a gently dipping 15° lens, dipping to the southwest and exposed for200m along the 875m elevation. Two zones (North zone and South zone) are known. Average grade of the limestone is...

This limestone was carefully sampled and analyzed according to the recommendations of "Technical Circular T-04/13" for ML/ARD evaluation.

This evaluation is prepared as an ML/ARD prediction report. The sample results using ABA methods (Acid Base Accounting Analysis) clearly show that the limestone unit is suitable in controlling ML/ARD in rip-rap (armour stone) applications or fill situations.

The NP (Neutralization Potential) gave results of 925t $CaCO_3$/1kT. The NNP (Net Neutralization Potential) ran 923 t $CaCO_3$/1kT. Selenium content is 0.2ppm (detection limit)

Respectfully submitted,

W. B. Lennan, P.Geo.
October 1, 2018

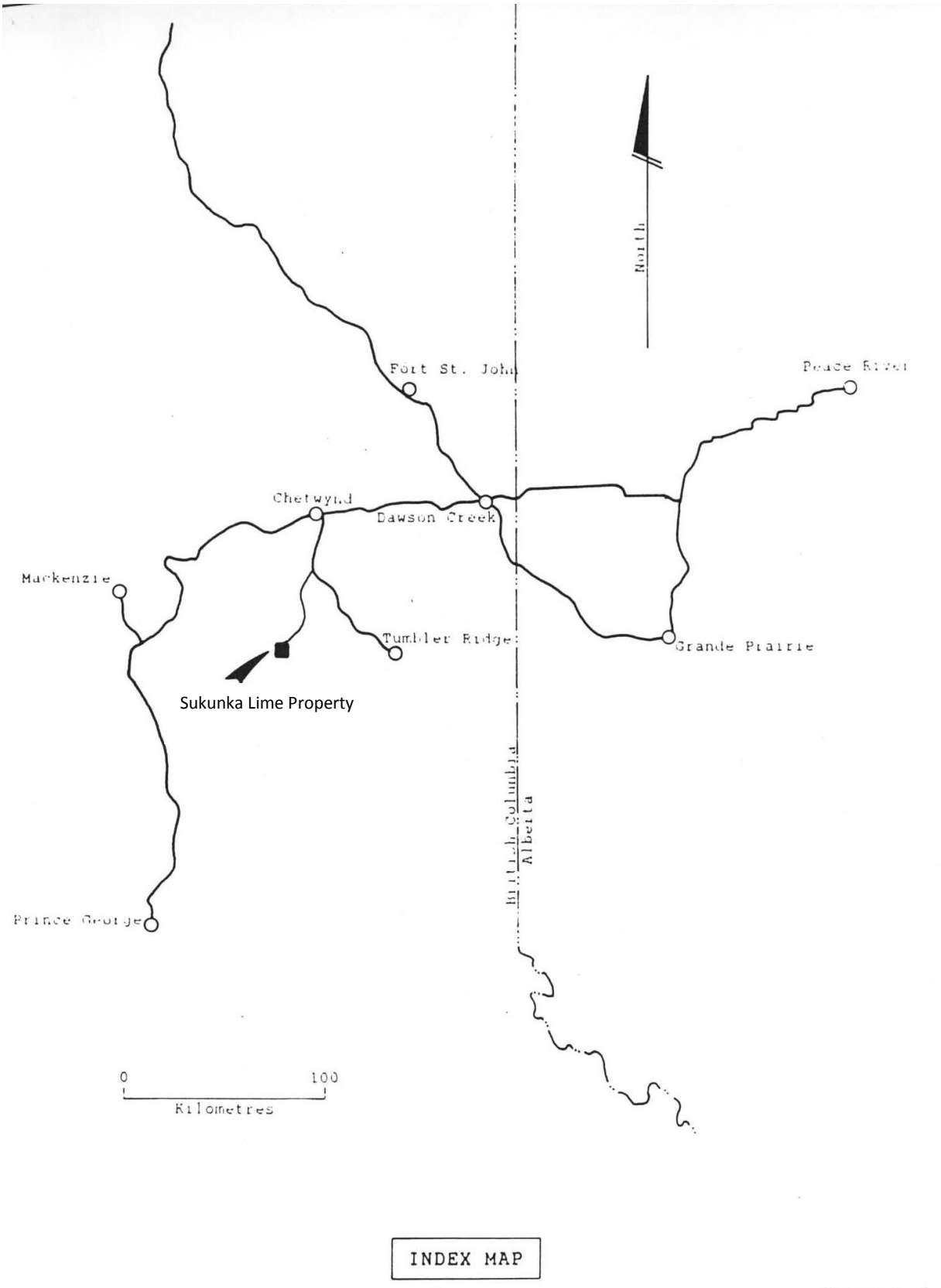

Figure 1 Location Map

INTRODUCTION

The Sukunka Lime Resources Ltd. limestone started production in August 2018 as a bulk sample.

An application for a permit for the initial Bulk Sample Plan and Reclamation Program pursuant to the Mines Act RSBC 2018 C.293, dated August 12, 2017 was approved by the Ministry of Energy and Mines in early 2018. A production scale permit Notice of Work for 39,000 tonnes per annum was submitted on November 12, 21018

A more comprehensive Mine Plan 2018 was dated November 15, 2018 by J. T. Shearer, P.Geo. was submitted to document plans for 2019.

Since September 2018, the Company has refined company proprietary techniques to produce a variety of limestone products and have paid special attention to the monitoring of the placement and compaction of the stockpile portions.

Reclamation was initiated in 2018, reseeding the overburden and topsoil stockpiles, weed management and growing of native plants in the Twin Sisters nursery. Ongoing reclamation will be continued.

In the normal course of quarry production, the limestone zone has been exposed. The present study considers the acid generating and metal leaching potential for this limestone unit as outlined in the MOTI recommendations (see flow chart).

In summary, the MOTI recommends that the QP's ML/ARD evaluation follows the flowchart below:

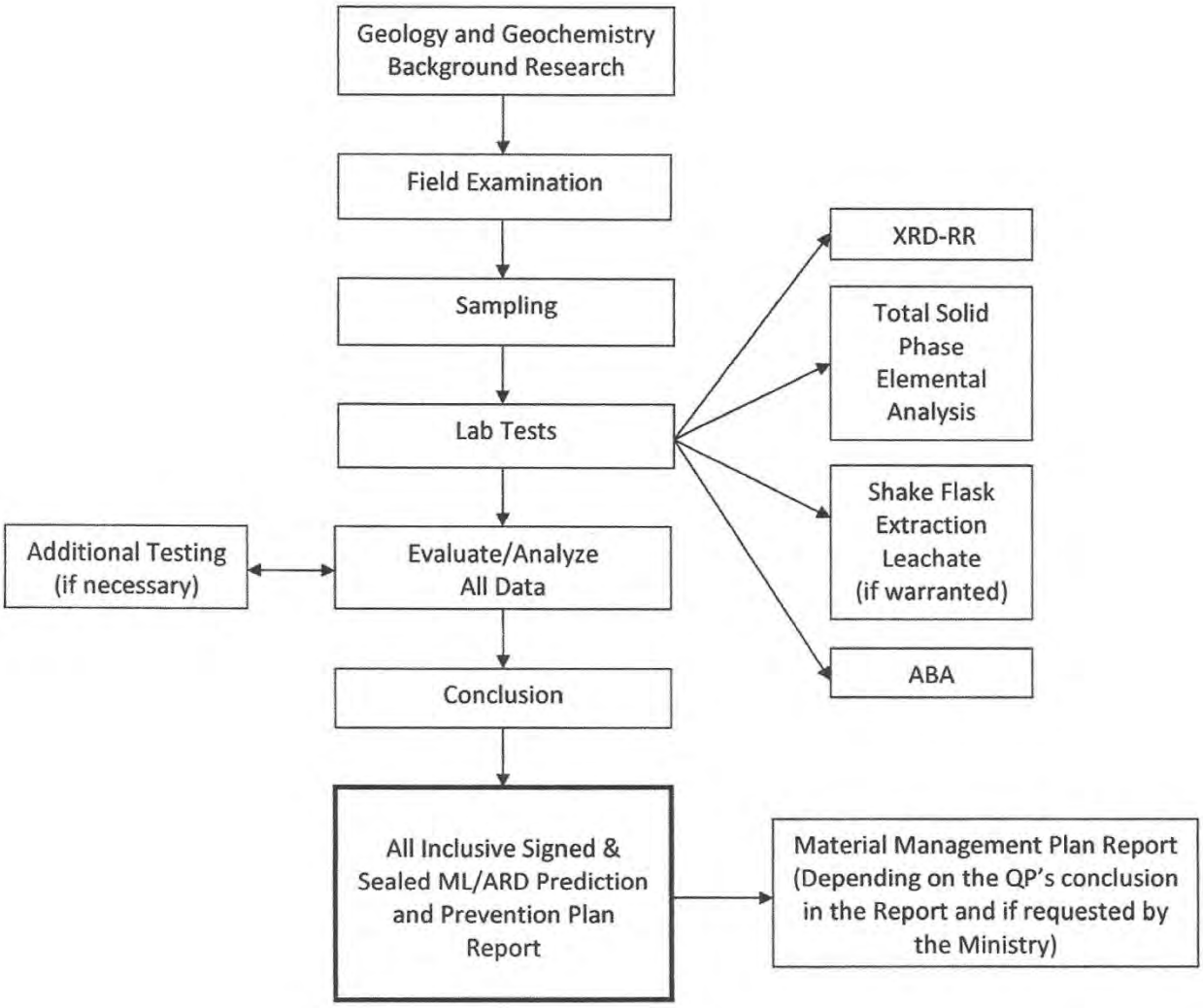

Figure 2 Flowchart as recommended by MOTI

PROPERTY GEOLOGY and GEOCHEMISTRY

Geology

Shearer, 2017 and 2018 give a detailed account of the geology of the quarry site based on surface observations and the information from chip samples. From a mining and milling perspective there are only two types of rock in this quarry: rock suitable chemical grade limestone averaging and lower grade rock unsuitable for chemical grade.

Published geological maps show the Sukunka Limestone Deposit to be located on the eastern limb of a thrust block syncline in the Rocky Mountain Front Range and underlain by thrusted and folded Triassic and Mississippian aged marine sediments (Figure 2).

Northwest striking Mississippian Rundle Group limestones underlie at least the eastern two-thirds of the lease and host the potential chemical grade limestone quarry reserves (Figure 3).

Geological mapping and sampling carried out during 1982 has shown the Rundle carbonate to consist of two gradationally distinct folded limestone lithofacies.

Chemical grade brown to grey-brown carbonates are continuously transitional from a very "clean" white speckled micrite through very fine grained detrital wackestone to a slightly dolomitic and silty courser grained wackestone.

Impure limestones gradationally overlie the chemical grade material and consist of brown-grey to grey fine through course grained detrital (with lessor crinoidal) silty and dolomitic wackestones and minor dolomitic micrite.

White crystalline calcite veins and stringers are present in both limestone units, but are more prevalent in the finer grained chemical grade material. Dolomite crystals in both units are typically very fine grained and appear to represent diagenetic overgrowth whereas the silica component, while equally fine grained, could either be primary or diagenetic and may therefore be indicative of depositional environment.

All limestones are relatively "tight" with only minor fracture porosity being present. Pyrobitumen is commonly observed on some of the fracture surfaces.

In the absence of a clearly defined marker horizon, structural definition is tentative at best and is only supported by opposed sedimentary layering attitudes and rock type distribution as best defined by assay data. Resolution of the detailed structure must await future drill core and quarry analyses.

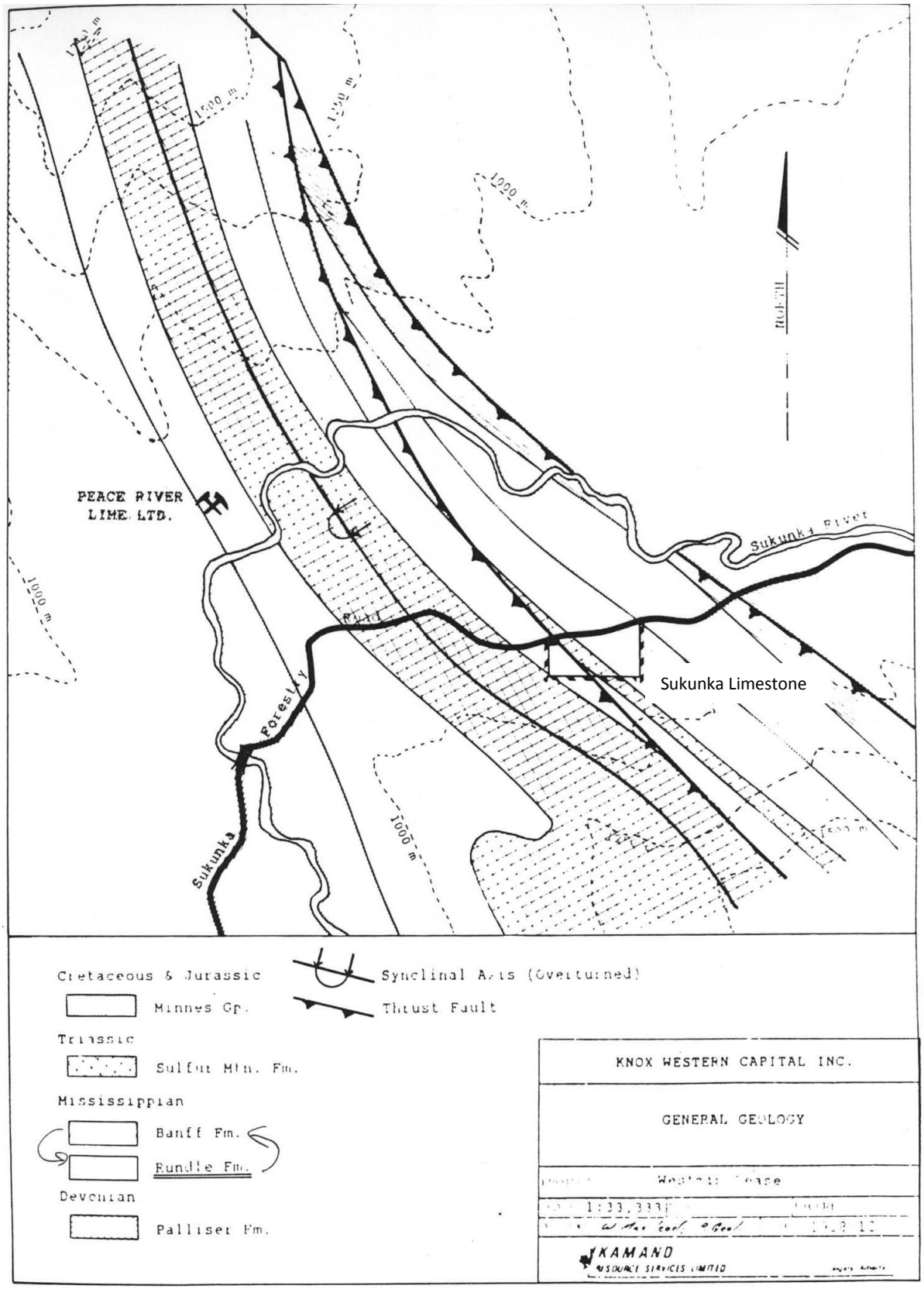

Figure 3 General Geology

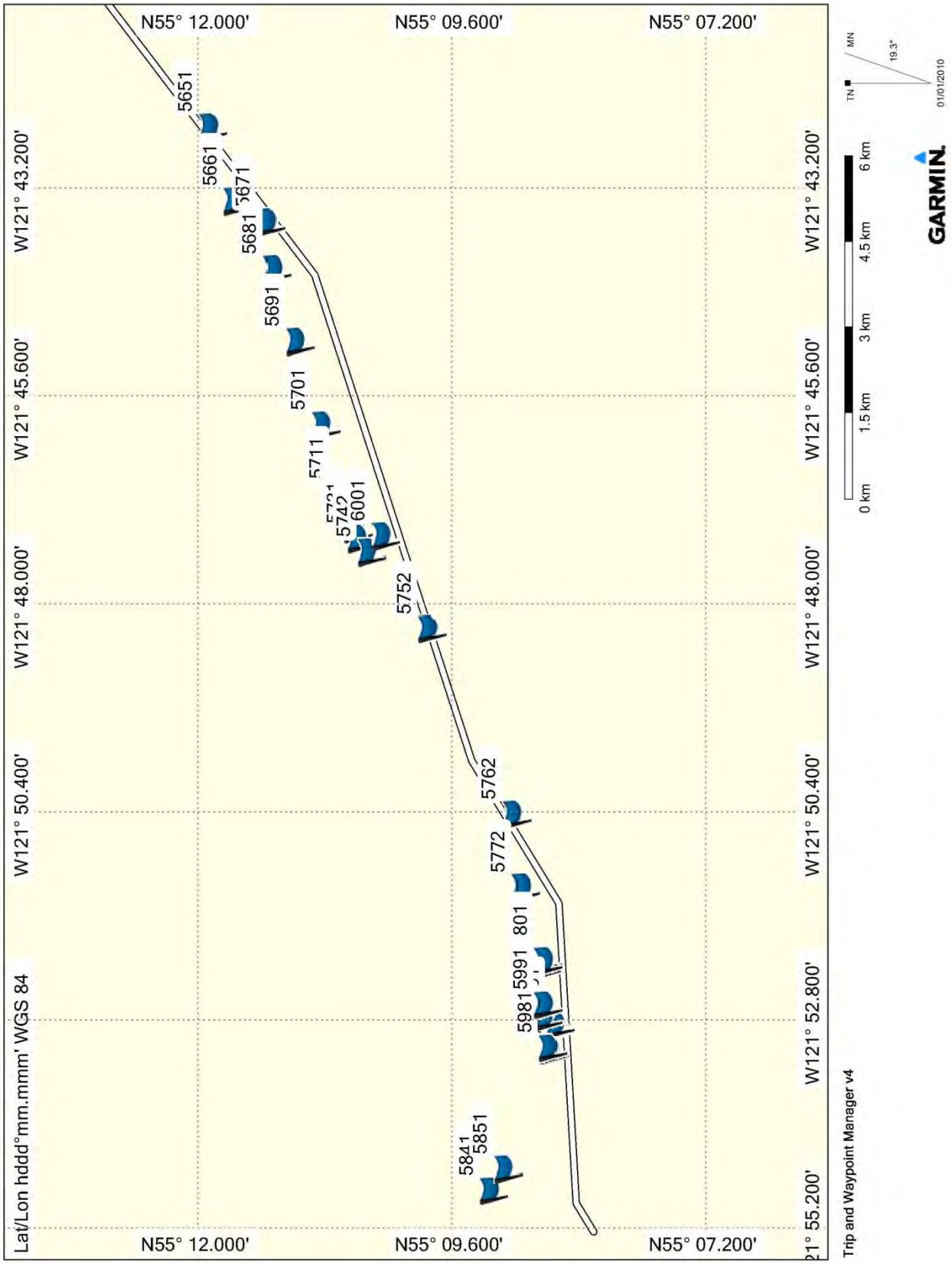

Figure 4 Garmin Waypoints

ANALYSIS of ABA RESULTS

Chemistry (Acid/Base Accounting) (Results in Appendix II)

Acid-Base Accounting analysis of a representative limestone sample from the Sukunka Limestone Quarry suggests there will be no acid rock drainage potential since the primary rock from drillhole samples assays up to 50% CaO. Net Neutralization Potential ran 923 t $CaCO_3$/1kT with sulphur at 0.2% and paste pH at 8.0. Each sample was fresh in-situ rock.

The two representative samples of limestone were submitted to ALS for Acid-Base Accounting (ABA). This was to gain a sense of the likelihood of acid rock drainage.

Essentially, the current results being limestone have very high high net neutralizing potential. In summary, the % total sulphur is very low (mainly <0.04% calculated). Presumably, due to the rock being mainly of calcite in the rock, the "Paste pH" is over 10 in every case (Alkaline). The neutralizing Potential (also a reflection of calcite content) is 925 $CaCO_3$/1kt equivalent per metric tonne.

A brief outline of the ALS procedure is as follows:

The acid rock drainage static test has been designed to measure the balance between potentially acid-generating minerals (maximum potential acidity) and acid-neutralizing minerals (neutralization potential) in a sample. This procedure, known as acid-base accounting (ABA), yields a figure known as Net Neutralization Potential, which determines whether a particular sample with theoretically generate acidity over time.

Maximum Potential Acidity (MPA):

This test measures total sulphur using a combustion process and then calculates MPA assuming all sulphur present is in the sulfide form and potentially convertible to sulphuric acid. If part of the total sulphur is present in other forms (e.g. sulphate in barite), the MPA as calculated will be high. The current sample ran 1.6 $CaCO_3$/1kt.

Neutralization Potential (NP):

This test measures the amount of alkaline material available to neutralize acid generated by the oxidation of sulphur. In this test, the alkaline content of a sample is measured by adding an excess of standard acid solution and then determining the amount of unconsumed acid with a standard alkaline solution. The option of a neutralization potential calculated based on carbonate analysis is also available. The current sample ran 925 t $CaCO_3$/1kT

Net Neutralization Potential (NNP):

The difference between the MPA and NP results yields the Net Neutralization Potential, a figure which may be reported as either positive or negative. A negative result indicates a sample, which can be expected to generate net acidity at some point in time. A positive result should therefore be expected to imply a sample which will not be a net acid generator. However, general experience indicated that NPP values of up to 20 may still be considered to have the potential to generate net acidity. This degree of uncertainty can be attributed to the following factors: the difficulty of defining true potential acidity

and true neutralization potential; the variable involved in the conversion of total sulphur to acidity; and analytical uncertainty. The Sukunka sample ran 923 t $CaCO_3$/1kT.

Paste pH:

The paste pH test measures the immediate acidic or basic characteristics of the sample material and could indicate if acid generation has been initiated. Sukunka samples ran 8.0.

The standard ALS procedure (denoted G2) includes the reporting of total sulphur, maximum potential acidity, neutralization potential, net neutralization potential, paste pH and the ratio of neutralization potential to maximum potential acidity. Two optional ALS packages are available for consideration: the first package (denoted G980) includes the measurement of acid-extractable sulphide and acid-extractable sulphate; the second package (denoted G368) includes these two forms of sulphur as well but also includes a carbonate analysis so as to assist in interpretation.

The trace elements (see Appendix II) are very low for As (0.4ppm), Cd (0.12ppm), Cr (5ppm), Cu (1.9ppm), Hg (0.01ppm), Pb (2.7ppm), Se (<0.2ppm) and Zn (17ppm).

In summary, the % total sulphur is very low (mainly <0.01%). Presumably, due to the large amount of calcite in the rock, the “Paste pH” is over 8 in every case (Alkaline). The neutralizing Potential (also a reflection of calcite content) is 925 kg $CaCO_3$ equivalent per metric tonne.

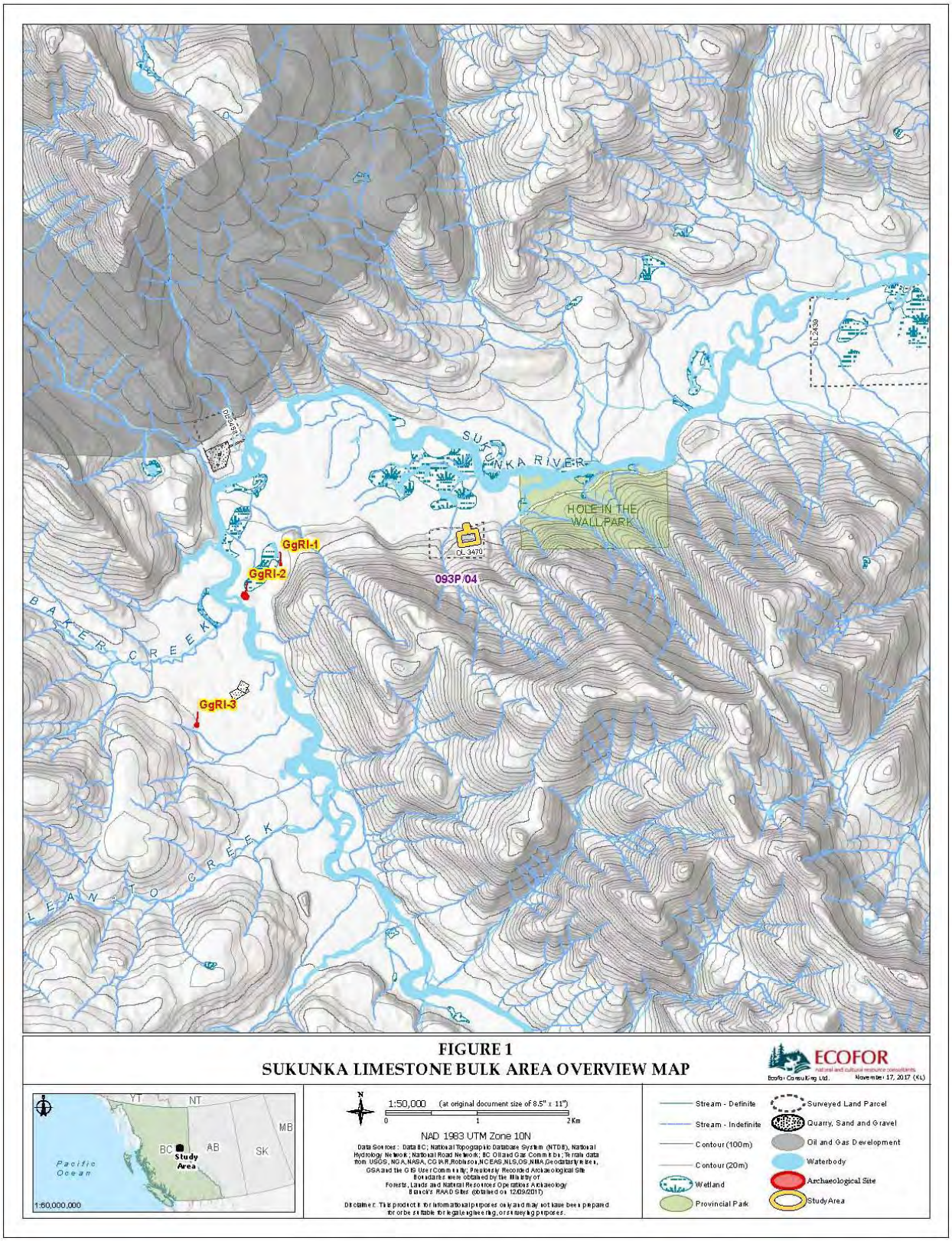

Figure 5 Limestone Quarry Area Overview Map

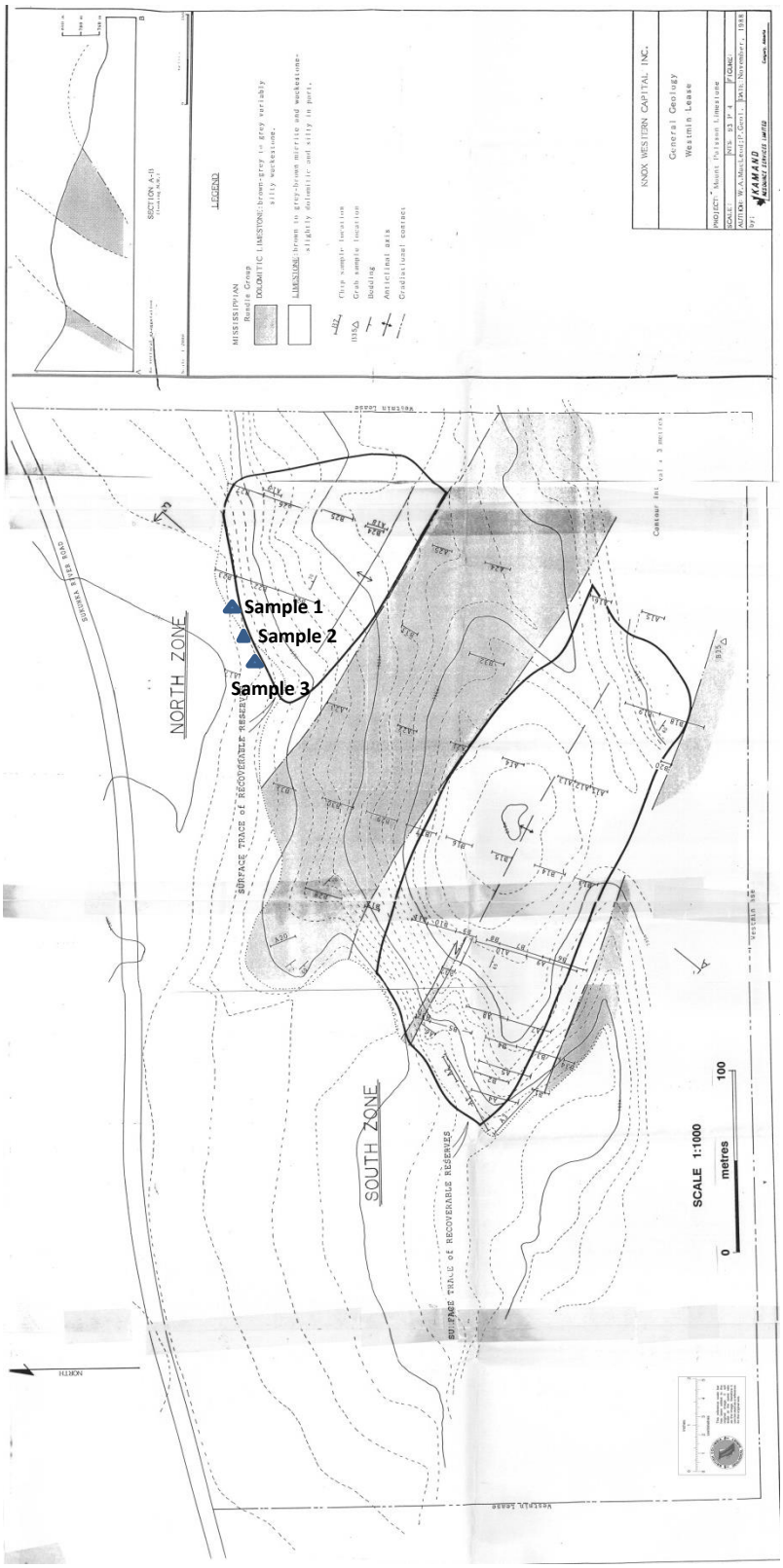

Figure 6 Detail Geology, Sukunka Limestone

Figure 7 Access Road 2018

Figure 8 Access Road 2018

Figure 9 Limestone Exposed 2018

Figure 10 Access Road 2018

CONCLUSIONS and RECOMMENDATIONS

A unit of limestone was encountered during the normal course of mining at the Sukunka Limestone Quarry. This limestone was carefully sampled and analyzed according to the recommendations of "Technical Circular T-04/13" for ML/ARD evaluation.

This evaluation is prepared as an ML/ARD prediction report. The sample results using ABA methods (Acid Base Accounting Analysis) clearly show that the limestone unit is suitable in controlling ML/ARD in rip-rap (armour stone) applications or fill situations.

The NP (Neutralization Potential) gave results of 925 t $CaCO_3$/1kT. The NNP (Net Neutralization Potential) ran 923 t $CaCO_3$/1kT.

Respectfully submitted,

W. B. Lennan, P.Geo.
October 31, 2018

REFERENCES

British Columbia Mine Waste Rock Pile Research Committee, 1991:
Mined Rock and Overburden Piles Investigation and Design Manual – Interim Guidelines, May 1991.

Buchanan, Robert G., 2004:
BC Ministry of Transportation and Infrastructure – Technical Circular T-10/04 – ARD Testing at Quarry and Rock Cut Sites

Price, William A., 2009:
Prediction Manual for Drainage Chemistry from sulphidic geologic Materials: http://www.mend-nedem.org/reports/details-e.aspx?pub_id=1.20.1

Shearer, J. T., 2018:
Assessment Report on the Sukunka Limestone Deposit

Shearer, J. T., 2017:
Assessment Report on the Sukunka Limestone Deposit

APPENDIX 1
STATEMENT of QUALIFICATIONS
W. B. Lennan, P.Geo.

Appendix I
STATEMENT of QUALIFICATIONS

I, W. B. (Brian) Lennan, B.Sc., P.Geo do hereby certify that:

1. I am an independent consulting geologist, with an office at 876 Lynwood Avenue, Port Coquitlam, BC.

2. This certificate applies to the "Technical Memo – Evaluation of the Potential for Acid Rock Drainage and Metal Leaching for Limestone Located at the Sukunka Limestone Quarry" dated October 31, 2018.

3. My academic qualifications are: Bachelor of Science, Majors Geology from the University of British Columbia, 1973

4. My professional associations are:
    a. Member of the Association of Professional Engineers and Geoscientist in the Province of British Columbia, Member #19,150
    b. Fellow of the Geological Association of Canada, Fellow # 3445
    c. Fellow of the Canadian Institute of Mining and Metallurgy, Fellow #94375

5. I have been professionally active in the mining industry continuously for over 40 years since initial graduation from university.

6. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

7. I am responsible for all sections of the technical geological report entitled "Technical Memo – Evaluation of the Potential for Acid Rock Drainage and Metal Leaching for Limestone Located at the Sukunka Limestone Quarry" dated October 31, 2018" for Sukunka Lime Resources Ltd. I visited the property June 26, 2018.

8. I have wide experience in environmental work since 2007 with clean-up jobs and ARD/ML.

9. I am not aware of any material fact or material change with respect to the subject matter of the technical report, which is not reflected in the technical report, the omission of which makes the technical report misleading.

Signed at Vancouver BC this 31st day of October, 2018

W. B. (Brian) Lennan, B.Sc., P.Geo.
Qualified Person
Environmental Scientist

APPENDIX II
ALS RESULTS; ABA AND ICP

VA18174912 - Finalized
CLIENT : "MWE - Homegold Resources Ltd."
# of SAMPLES : 1
DATE RECEIVED : 2018-07-19 DATE FINALIZED : 2018-07-31
PROJECT : " "
CERTIFICATE COMMENTS : ""
PO NUMBER : " "

	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
SAMPLE	MPA	FIZZ RATING	NNP	NP	pH	Ratio (NP:MPA)	S	S	S	S	C	CO2
DESCRIPTION	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
Sukunka Bulk 1	1.6	4	923	925	8	592	0.05	<0.01	0.01	0.05	10.6	38.9

VA18174912 - Finalized
CLIENT : "MWE - Homegold Resources Ltd."
# of SAMPLES : 1
DATE RECEIVED : 2018-07-19 DATE FINALIZED : 2018-07-31
PROJECT : " "
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	OA-VOL08	OA-VOL08	OA-VOL08	OA-VOL08	OA-ELE07	OA-VOL08	S-IR08	S-GRA06	S-GRA06a	S-CAL06	C-GAS05	C-GAS05
SAMPLE	MPA	FIZZ RATING	NNP	NP	pH	Ratio (NP:MPA)	S	S	S	S	C	CO2
DESCRIPTION	tCaCO3/1Kt	Unity	tCaCO3/1Kt	tCaCO3/1Kt	Unity	Unity	%	%	%	%	%	%
Sukunka Bulk 1	1.6	4	923	925	8	592	0.05	<0.01	0.01	0.05	10.6	38.9

APPENDIX III
XRF RESULTS

Sukunka XRF 2018

Date	Reading	Mode	Mg	Mg +/-	Al	Al +/-	Si	Si +/-	P	P +/-	S	S +/-	Cl	Cl +/-	K	K +/-	Ca	Ca +/-
26/06/2018	#6	Geochem	ND		1.04	0.05	3.8018	0.0369	0.3666	0.0294	0.1402	0.0033	ND		0.1715	0.0032	48.77	0.36
26/06/2018	#7	Geochem	ND		0.7752	0.0477	3.1867	0.0301	0.3065	0.0271	0.1238	0.0029	ND		0.0594	0.0024	50.86	0.34
26/06/2018	#8	Geochem	ND		1.99	0.06	5.5875	0.045	0.5725	0.029	0.2084	0.0035	ND		0.4739	0.0046	49.25	0.32
26/06/2018	#9	Geochem	ND		1.13	0.05	2.7624	0.0299	0.5031	0.0286	0.1772	0.0034	ND		0.137	0.003	44.95	0.34
26/06/2018	#10	Geochem	ND		0.9915	0.0487	2.8955	0.0288	0.2794	0.0254	0.2452	0.0035	ND		0.1841	0.0029	43.48	0.3
26/06/2018	#11	Geochem	ND		1.0287	0.05	5.966	0.0478	0.3747	0.0286	0.1393	0.0032	ND		0.1118	0.0028	50.77	0.33

Ti	Ti +/-	V	V +/-	Cr	Cr +/-	Mn	Mn +/-	Fe	Fe +/-	Co	Co +/-	Ni	Ni +/-	Cu	Cu +/-	Zn	Zn +/-	As	As +/-
0.0945	0.0223	ND		ND		0.0141	0.0042	0.2956	0.01	ND		ND		0.009	0.0012	0.0047	0.0007	ND	
0.0659	0.0193	ND		ND		ND		0.1884	0.0074	ND		ND		0.0079	0.0011	0.0017	0.0005	ND	
0.1211	0.0217	ND		ND		ND		0.4748	0.0118	ND		ND		0.0094	0.0012	0.0053	0.0007	ND	
0.0617	0.0204	ND		ND		ND		0.2164	0.0083	ND		ND		0.009	0.0012	0.0074	0.0008	ND	
0.1074	0.02	ND		ND		0.0212	0.004	0.5484	0.0122	ND		ND		0.0082	0.001	0.0056	0.0007	ND	
0.0736	0.0205	ND		ND		0.021	0.0043	0.2639	0.009	ND		ND		0.0095	0.0012	0.0023	0.0006	ND	

Se	Se +/-	Rb	Rb +/-	Sr	Sr +/-	Y	Y +/-	Zr	Zr +/-	Mo	Mo +/-	Ag	Ag +/-	Cd	Cd +/-	Sn	Sn +/-	Sb	Sb +/-
ND		ND		0.0632	0.0009	0.0007	0.0002	ND		ND		ND		ND		ND		ND	
ND		ND		0.0616	0.0008	ND		ND		ND		ND		ND		ND		ND	
ND		0.0008	0.0002	0.0667	0.0008	0.0006	0.0002	ND		ND		ND		ND		ND		ND	
ND		ND		0.0442	0.0007	0.0011	0.0002	ND		ND		ND		ND		ND		ND	
ND		0.0005	0.0002	0.0796	0.0009	0.0009	0.0002	ND		ND		ND		ND		ND		ND	
ND		ND		0.0836	0.001	0.0007	0.0002	ND		ND		ND		ND		ND		ND	

W	W +/-	Hg	Hg +/-	Pb	Pb +/-	Bi	Bi +/-	Th	Th +/-	U	U +/-	LE	LE +/-
ND		ND		0.0025	0.0005	ND		ND		ND		45.23	0.3
ND		ND		0.0015	0.0004	ND		ND		ND		44.36	0.27
ND		ND		0.0024	0.0004	ND		ND		ND		41.24	0.29
ND		ND		0.0016	0.0004	ND		0.0026	0.0009	ND		49.99	0.28
ND		ND		0.0023	0.0004	ND		ND		ND		51.15	0.26
ND		ND		0.0022	0.0004	ND		ND		ND		41.15	0.29

Sukunka

1	Ca	48.77	48.77
	Si	3.8	
	Fe	2956ppm	
	Al	1.04%	
2	Ca	50.86	50.86
	Si	3.19	
	Fe	1884	
	Al	7752	
3	Ca		49.35
	Si	5.59	
	Fe	2164	
	Al	1.99	
4	Ca		44.95
	Si	2.76	
	Fe	2164	
	Al	1.13	
5	Ca		43.48
	Si	2.90	
	Fe	5484	
	Al	9915	
6	Ca		50.77
	Si	5.97	
	Fe	?low	
	Al	1.03	