

2012 ASSESSMENT REPORT

Property Comprising the Following Claims:

K86 Claim

Located in the:
Keno Hill Area
Mayo Mining District
Yukon Territory, Canada
N.T.S. 105M/14

Latitude: 63.918° N
Longitude: 135.474° W

PREPARED FOR:

Alexco Keno Hill Mining Corp.
1150-200 Granville Street
Vancouver, B.C. V6C 1S4

and

PREPARED BY:

Al McOnie

Alexco Resource Corp.
1150-200 Granville St.
Vancouver, B.C. V6C 1S4

DATES WORK PERFORMED : September 12, 2012

DATE OF REPORT: May 28, 2013

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1.0 SUMMARY

In September 2012, surface geological mapping was undertaken on the K86 claim. This confirmed the area to be underlain by the Earn Group Formation that is stratigraphically below the Keno Hill Quartzite, the host to the majority of the high grade silver (- lead – zinc) mineralization of the Keno Hill district.

2.0 INTRODUCTION

This report summarizes surface geologic mapping conducted on the K86 claim on 12 September 2012.

Planning, field work, and reporting of this work were performed by Alexco Resource Corp. staff.

The work was conducted as part of a broader program of re-mapping the Keno Hill district, an exercise that has developed a revised stratigraphy for the mineral hosting sequence.

3.0 LOCATION AND ACCESS

The K86 quartz claim on which assessment work has been undertaken is held under the name of Alexco Keno Hill Mining Corp. 100%. The claim is located in the Keno Hill district, Mayo Mining District approximately 350 km north of Whitehorse (Figure 1). The area is covered by NTS map sheet 105M/14. The reference datum used is UTM NAD83 Zone 8, unless otherwise noted.

The claim is located at between 775m and 950m elevation on the northern slopes of Galena Hill. The vegetation is generally relatively open spruce forest.

Access to the claim is on foot from the Silver Trail Highway that connects the villages of Mayo and Keno City and passes through the claim.

The base of operations for Alexco is the abandoned company town of Elsa which contains camp and office facilities.

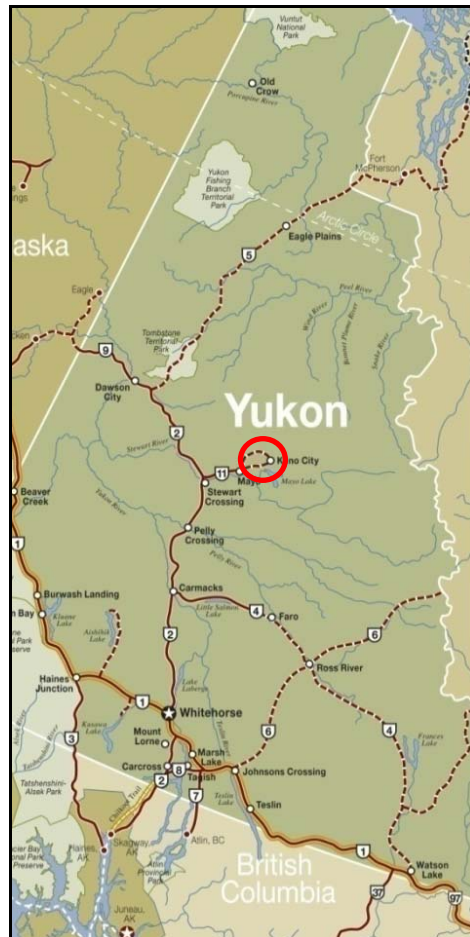


Figure 1 General Location of the Claim Block

4.0 CLAIM STATUS

The K86 claim is active having been staked on 26 May 2007, and prior to the current work had an expiry date of 31 December 2012 (Appendix 1).

The location of the quartz claim is shown in Figure 2. A list of personnel and cost statement related to the application of Certificates of Work are included as Appendices 2 and 3.

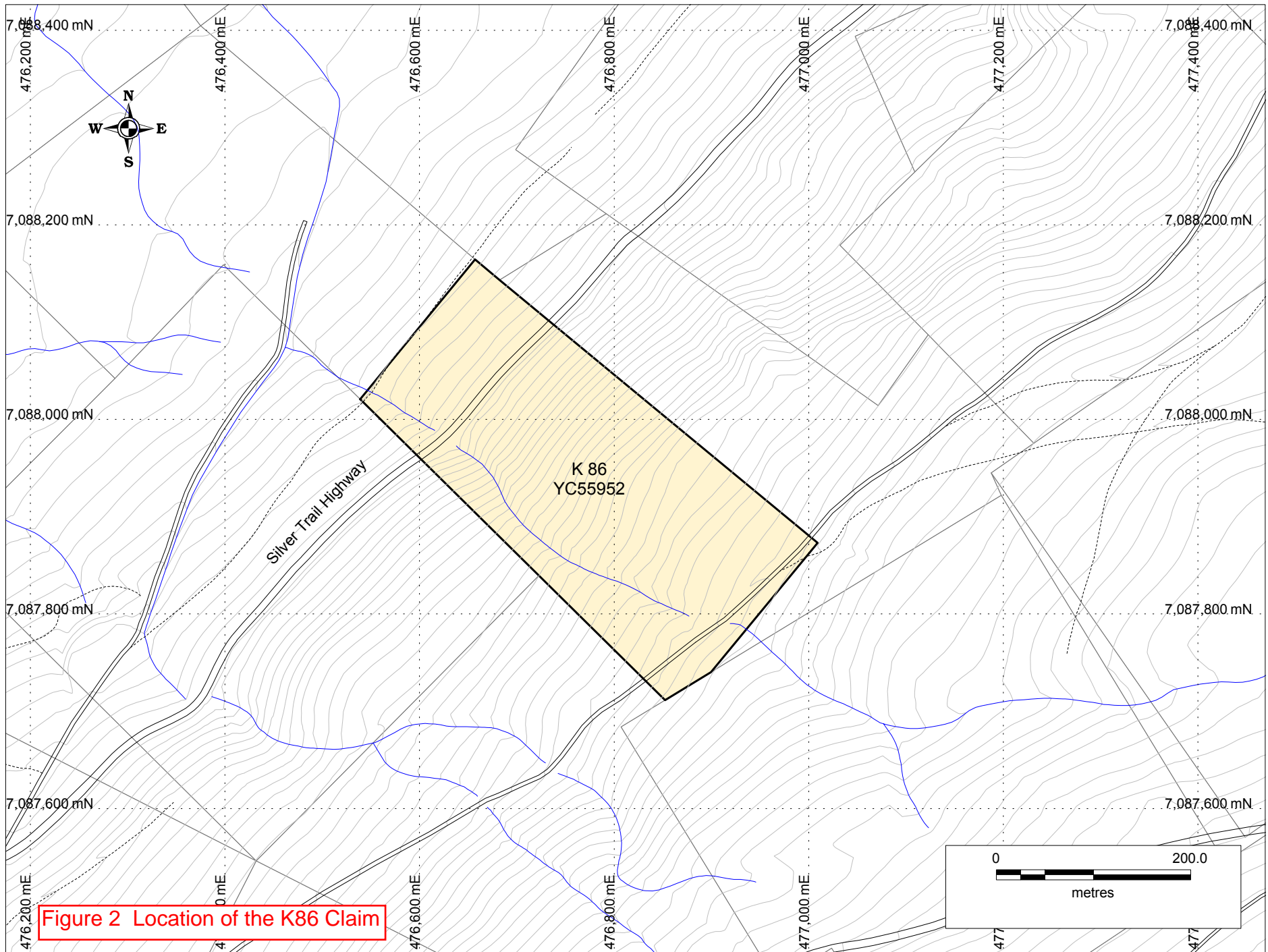


Figure 2 Location of the K86 Claim

5.0 REGIONAL GEOLOGY

The claim is situated within the western part of the Selwyn Basin in an area dominated by deformed and metamorphosed sediments accumulated at the edge of the Neoproterozoic to Paleozoic continental margin. During the Jurassic and Cretaceous, the area was subjected to compressional tectonic forces producing imbricate thrust sheets and widespread folding. In the mid-Cretaceous, renewed tectonism resulted in extensive brittle deformation and the emplacement of intrusive plutons.

The rock unit underlying the claims essentially includes the Earn Group (Devonian - Mississippian) that underlies the Keno Hill Formation, host to most of the past producing ore bodies in the Keno Hill district.

6.0 PROPERTY GEOLOGY

The claim is significantly covered by Quaternary fluvio-glacial alluvium or colluvium and there is very little outcrop. The underlying rock that is exposed, is correlated with the silvery green chlorite – sericite unit from the top of the Devonian to Mississippian Earn Group (Dec). To the southeast of the claim, this unit is overlain by the Basal Quartzite Member of the Keno Hill Formation and Triassic Greenstone that is seen as locally derived float boulders (Figure 3).

The stratigraphic position of the claim area is shown highlighted in Figure 4.

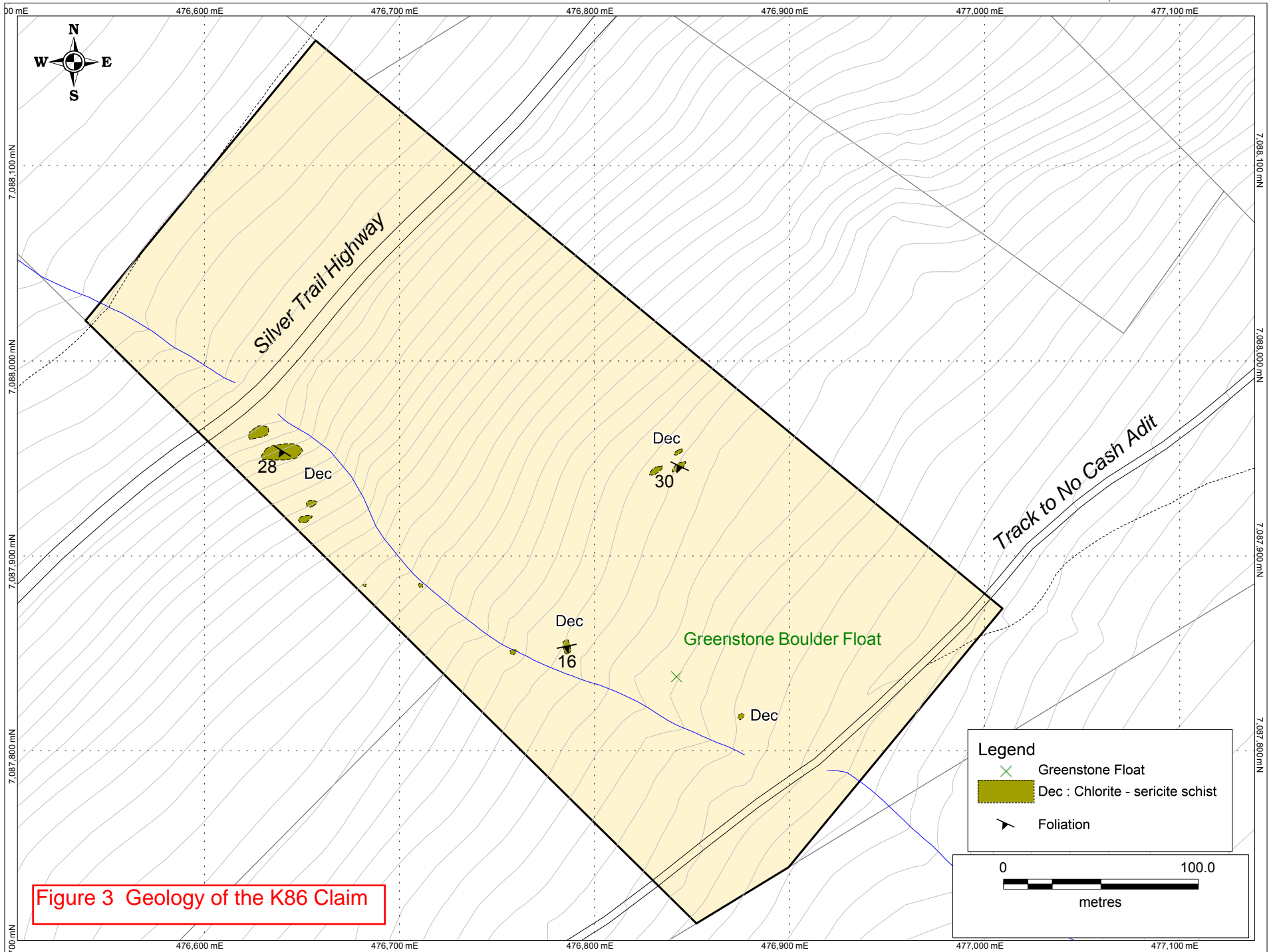


Figure 3 Geology of the K86 Claim

LEGEND

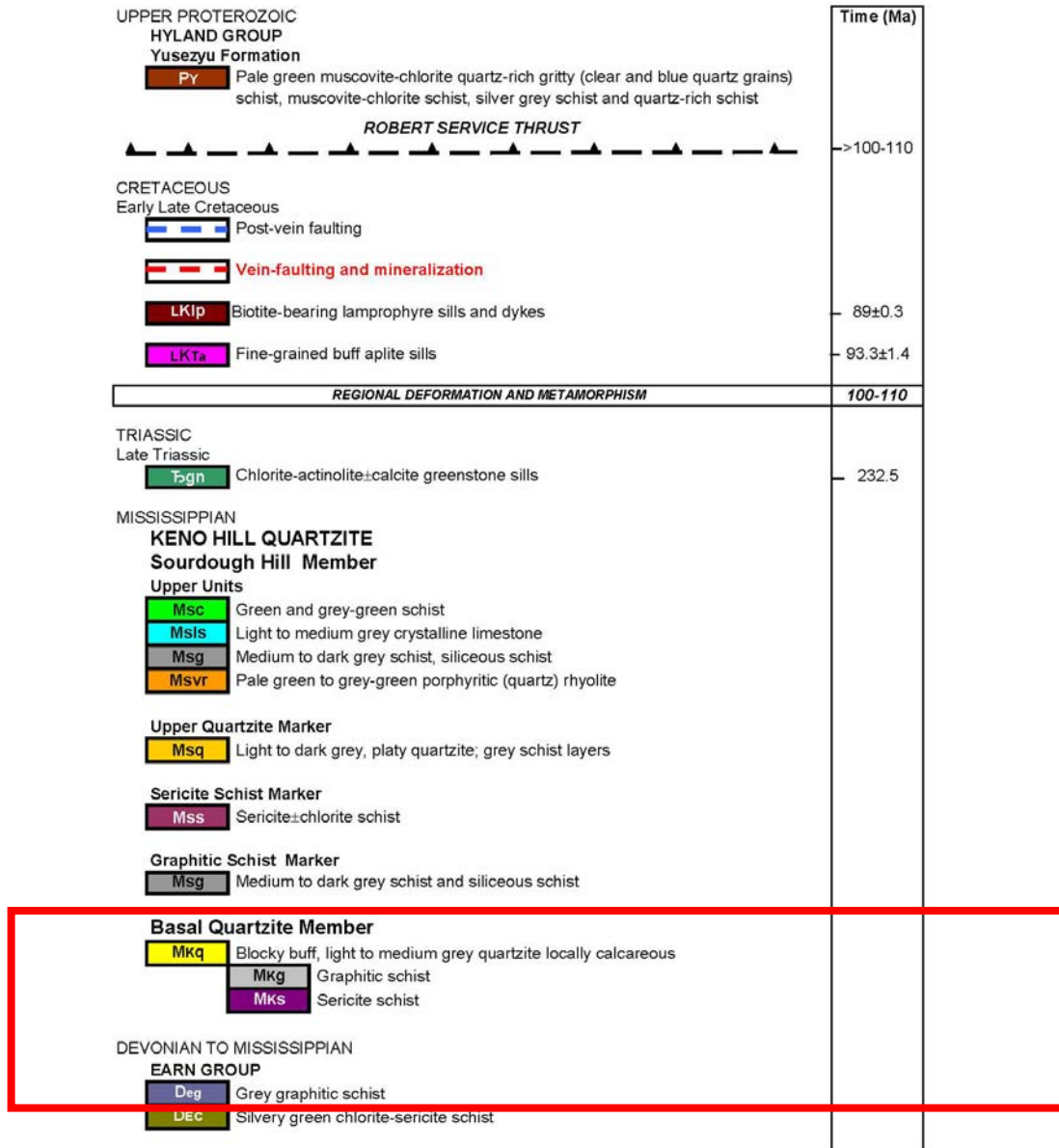


Figure 4 Stratigraphic Position of the K86 Claim (McOnie & Read, 2010)

7.0 CONCLUSIONS

The results from the surface geological mapping demonstrates that these claims lie stratigraphically just below the Basal Quartzite Member of the Keno Hill Quartzite Formation.

8.0 LIST OF REFERENCES

McOnie, A., and Read P.B. 2010.
Stratigraphy, Structure and Exploration Opportunities Sourdough, Galena and part of Keno Hills, Keno Hill Mining Camp, Central Yukon.
Internal Report Alexco Resource Corp.

APPENDIX 1**LIST OF CLAIMS**

Claim	Quartz Claim	Grant	Owner	Staking Date	Recorded Date	Expiry Date
K 86	97250849	YC55952	Alexco Keno Hill Mining Corp. - 100%	26/05/2007	28/05/2007	31/12/2012

APPENDIX 2

LIST OF PERSONNEL

Al McOnie
694 SH 2, RD1
Katikati
New Zealand
3177

APPENDIX 3

STATEMENT OF EXPENDITURES

COST STATEMENT – Alexco Keno Hill Mining Corp						
CLAIM NAME	GRANT NO.	GEOLOGIST	CAMP	TRUCK, TRAVEL & FREIGHT	PREP/REPORT	EST TOTAL
K 86	YC55952	\$ 325.00	\$ 114.00	\$ 75.00	\$ 325.00	\$ 839.00

APPENDIX 4

STATEMENT OF QUALIFICATIONS

Al McOnie

I, Alan McOnie of 694 SH2, RD1, Katikati, New Zealand
DO HEREBY CERTIFY:

- 1 THAT, I am a VP Exploration and Qualified Person with Alexco Resource Corp., 1150-200 Granville Street, Vancouver, BC, V6C 1S4.
- 2 THAT, I have practiced my profession with various mining companies in the Canada, New Zealand, Australia, United States, Mexico, and China for over 35 years.
- 3 THAT, I am graduate in geology holding a BSc (Hons) from the University of Otago, New Zealand and a MSc from the University of Toronto, Canada.
- 4 THAT, I am a member of the Society of Economic Geologists.
- 5 THAT, I am a Fellow of the Australasian Institute of Mining and Metallurgy.
- 6 THAT, this report is based on work which I personally managed during the year 2011.
- 7 THAT, I have no interest in the property described herein, nor do I expect to receive any such interest.

DATED at Elsa, Yukon this 28th day of May, 2013.



Al McOnie