

2012 ASSESSMENT REPORT

Property Comprising the Following Claims:

Raven and K55 Claims

Located in the:
Keno Hill Area
Mayo Mining District
Yukon Territory, Canada
N.T.S. 105M/13

Latitude: 63.890° N
Longitude: 135.596° W

PREPARED FOR:

Alexco Keno Hill Mining Corp.
and Elsa Reclamation & Development Company Ltd
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 BETWEEN : May 31 and June 2, 2012

DATE OF REPORT: April 30, 2013

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1.0 SUMMARY

Over the period 31 May to 2 June 2012, surface geological mapping was undertaken on the Raven and K55 claims. This confirmed the area to be underlain by the Sourdough Hill Member of the Keno Hill Quartzite and within the upper part of the sequence that lies stratigraphically above the Basal Quartzite Member, 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 by consulting geologist Dr. P. B. Read (Geotex Consulting Limited) on behalf of Elsa Reclamation and Development Company Ltd and Alexco Keno Hill Mining Corp between May and June 2012.

Planning, supervision, 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 quartz claims on which assessment work has been undertaken are held under the name of Alexco Keno Hill Mining Corp. 100% (K55 Claim), and Elsa Reclamation and Development Company Ltd. 100%, (Raven Claim). The claims are 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/13. The reference datum used is UTM NAD83 Zone 8, unless otherwise noted.

Access to the claims is on foot from the Silver Trail Highway that connects the villages of Mayo and Keno City and lies immediately to the north of the Raven Claim. The K55 Claim lies up to approximately one kilometre south of the highway.

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

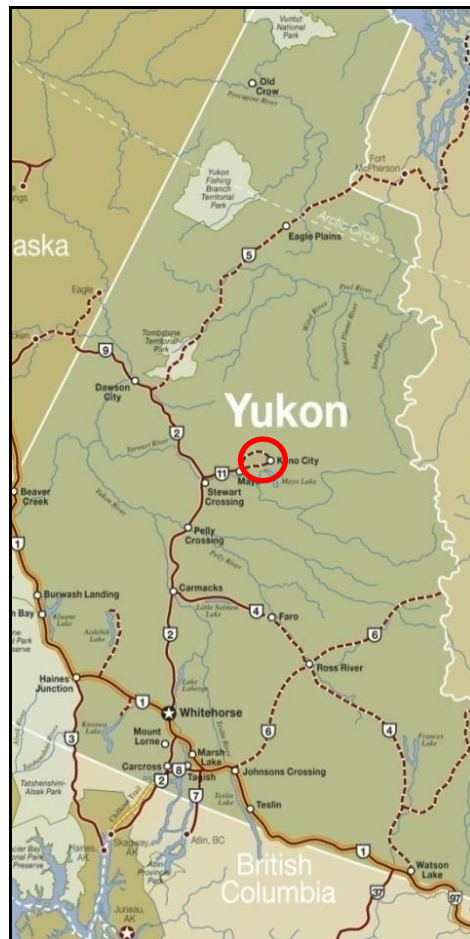


Figure 1 General Location of the Claim Block

4.0 CLAIM STATUS

The quartz mining claims covered by this report are active with details provided in Appendix 1.

The K55 and Raven claims are active having been staked on 5 December 2005 and 18 October 1994 respectively, and prior to the current work had expiry dates of 15 December 2012 and 31 December 2012 respectively.

The locations of the quartz claims are 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.

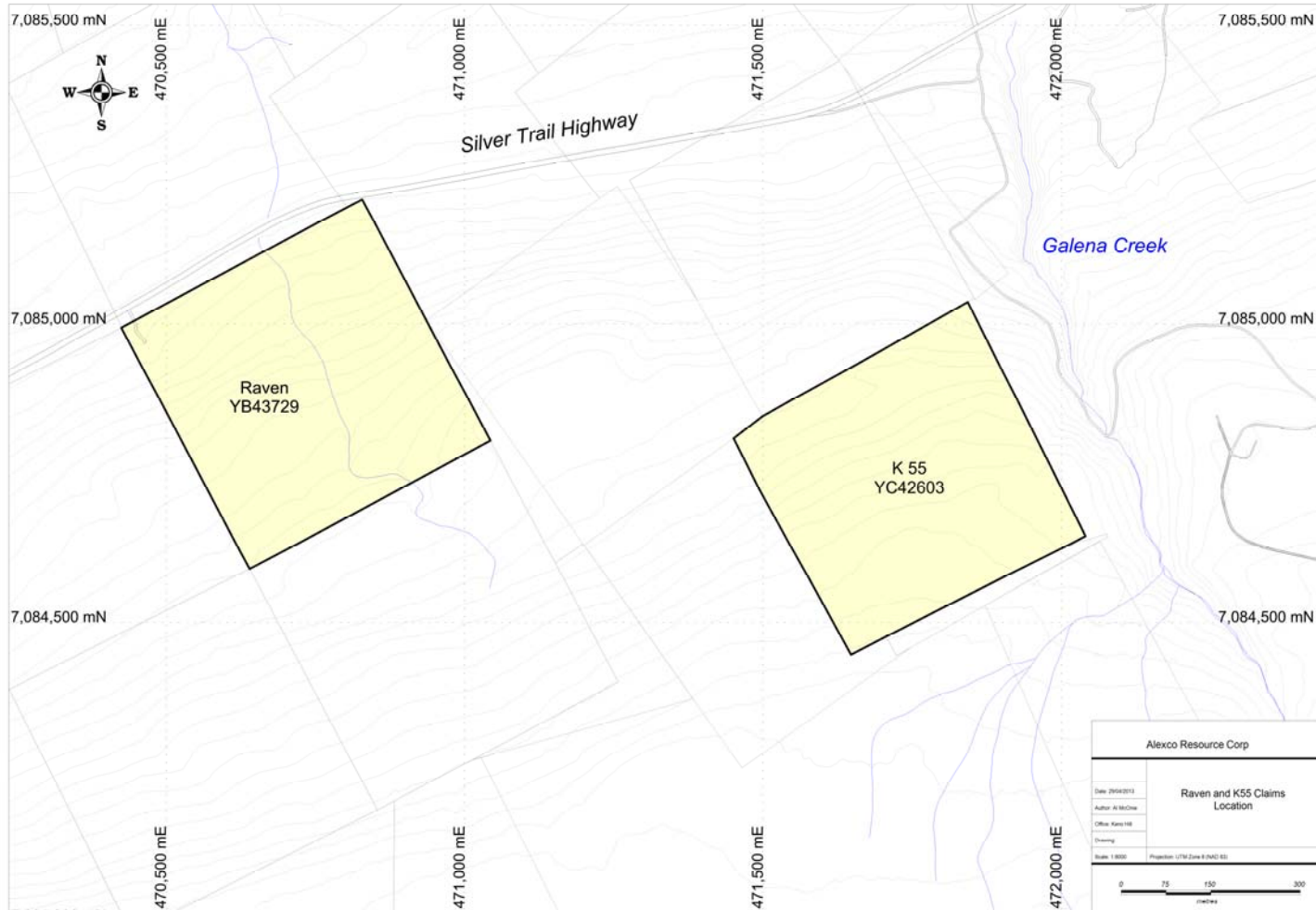


Figure 2 Location of the Claims

5.0 REGIONAL GEOLOGY

The claims are 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 units underlying the claims essentially includes the Keno Hill Quartzite (Mississippian), host to most of the past producing ore bodies in the Keno Hill district.

6.0 PROPERTY GEOLOGY

The claims are significantly covered by Quaternary fluvio-glacial alluvium or colluvium and there is very little outcrop. The underlying rock unit that is exposed is however correlated with the light to dark grey platy quartzite and grey phyllite (schist) of the Upper Quartzite Member (Msq) of the Sourdough Hill Member, within the upper part of the Keno Hill Quartzite Formation

A narrow body of a fine grained aplite sill (LKta/g) of inferred Cretaceous age is also found with these two claims.

The mapped surface geology of the Raven Claim is shown in Figure 3, while that of the K55 Claim is shown in Figure 4. The district stratigraphic column is shown in Figure 5 (McOnie and Read, 2009).

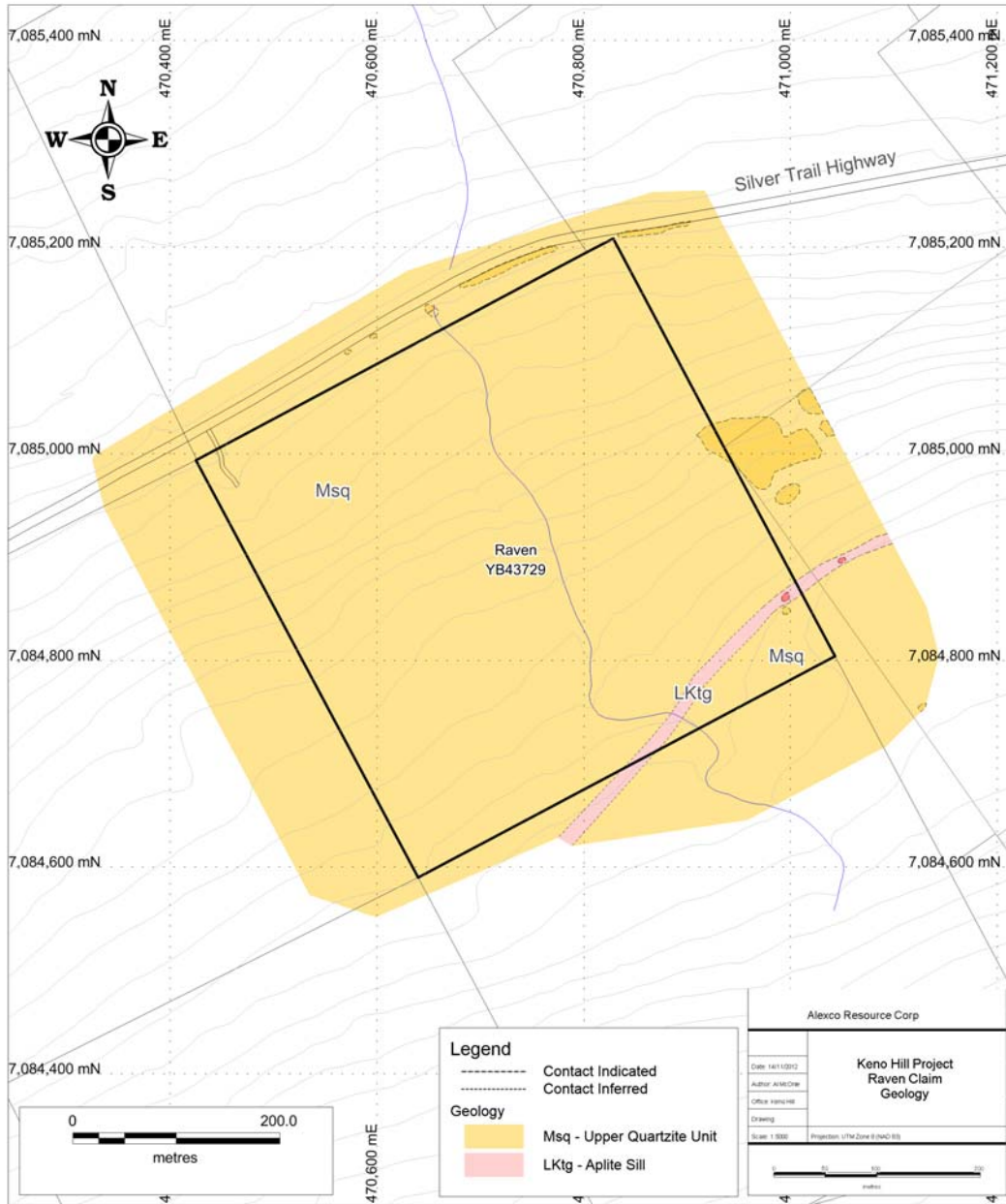


Figure 3 Geology of the Raven Claim

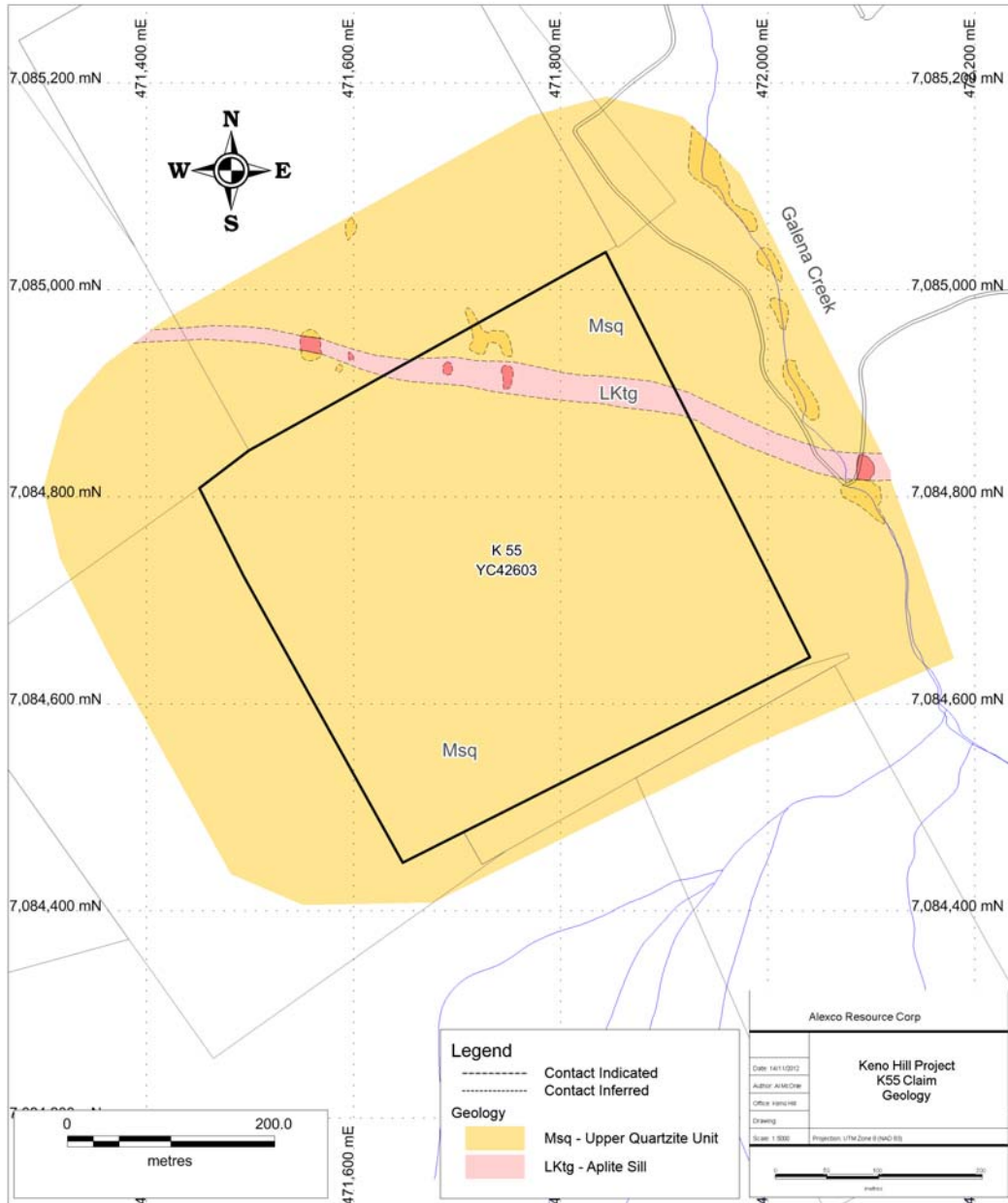


Figure 4 Geology of the K55 Claim

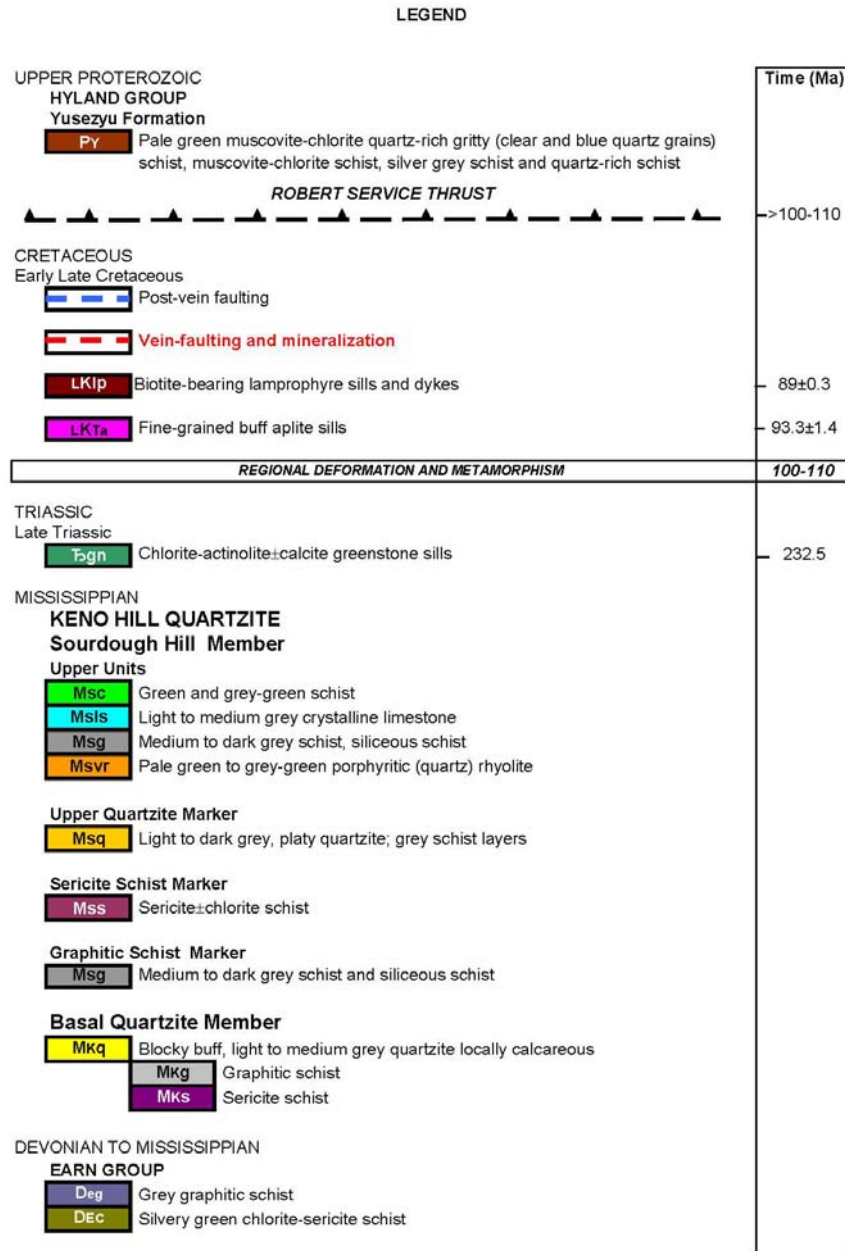


Figure 5 Keno Hill District Stratigraphic Column (McOnie & Read, 2009)

7.0 CONCLUSIONS

The results from the surface geological mapping demonstrates that these claims lie stratigraphically above the Basal Quartzite Member of the Keno Hill Quartzite Formation and that this unit, being the main host to the high grade silver-lead-zinc mineral deposits in the district, lies at depth below the claims.

8.0 LIST OF REFERENCES

McOnie, A and P.B. Read. 2009.
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	Grant Number	Owner	Staking Date	Recorded Date	Expiry Date
K 55	YC42603	Alexco Keno Hill Mining Corp. - 100%	05/12/2005	15/12/2005	15/12/2017
Raven	YB43729	Elsa Reclamation & Development Company Ltd. - 100%	18/10/1994	18/10/1994	31/12/2017

APPENDIX 2

LIST OF PERSONNEL

Al McOnie
694 SH 2, RD1
Katikati
New Zealand
3177

Peter Read
Geotex Consultants
832 – 470 Granville St
Vancouver, BC
V6C 1V5

APPENDIX 3

STATEMENT OF EXPENDITURES

CLAIM NAME	GRANT NO.	<i>Sr Geologist</i>	<i>CAMP</i>	<i>TRUCK, TRAVEL & FREIGHT</i>	<i>PREP/REPORT</i>	EST TOTAL
Raven	YB43729	\$ 375	\$ 114	\$ 75	\$ 325	\$ 889
K55	YC42603	\$ 300	\$ 57	\$ 38	\$ 163	\$ 558

Raven Claim is Elsa Reclamation and Development Company
K55 Claim is held by Alexco Keno Hill Mining Corp.

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 Katikati, New Zealand this 30th day of April, 2013.



Al McOnie