

## **2012 ASSESSMENT REPORT**

Property Comprising the Following Claim:

K 88 Claim

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

Latitude: 63.90° N  
Longitude: 135.26° 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 13, 2012

**DATE OF REPORT:** February 20, 2013

## **TABLE OF CONTENTS**

1.0	SUMMARY .....	4
2.0	INTRODUCTION .....	4
3.0	LOCATION AND ACCESS .....	4
4.0	CLAIM STATUS .....	5
5.0	REGIONAL GEOLOGY .....	7
6.0	PROPERTY GEOLOGY .....	7
7.0	SOIL SAMPLING WORK PROGRAM .....	10
8.0	CONCLUSIONS AND RECOMMENDATIONS .....	10
9.0	LIST OF REFERENCES .....	12

## **LIST OF FIGURES**

Figure 1:	Yukon Location map .....	5
Figure 2:	Location of Claim .....	6
Figure 3:	Geology of the Claim .....	8
Figure 4:	Geological Legend .....	9
Figure 5:	Soil Sample Locations .....	11

## **LIST OF APPENDICES**

- Appendix 1: List of Claim
- Appendix 2: Personnel
- Appendix 3: Statement of Expenditures
- Appendix 4: Soil Sample Descriptions
- Appendix 5: Soil Sample Analyses
- Appendix 6: Statement of Qualifications

## **1.0 SUMMARY**

During September 2012, seven soil samples were collected within the claim boundaries of the K 88 quartz claim.

None of the soil samples displayed anomalous concentrations of metals commonly associated with the silver-lead-zinc mineralization found in the Keno Hill mining district.

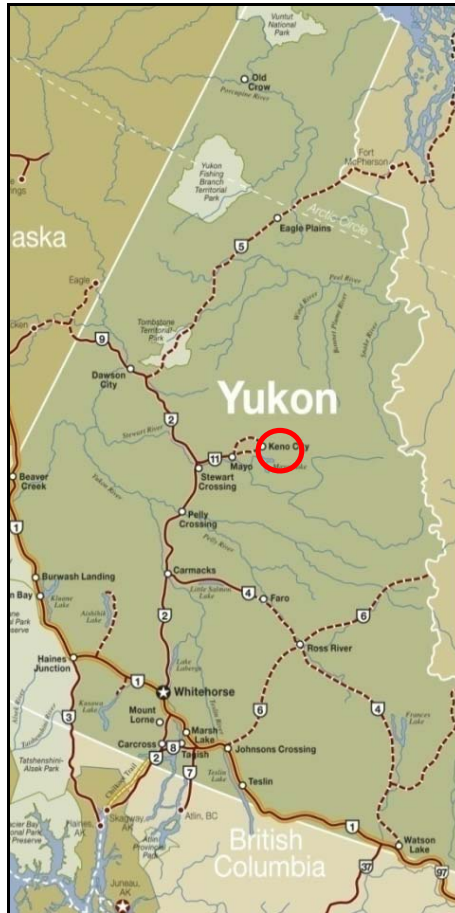
## **2.0 INTRODUCTION**

This report summarizes soil sampling as carried out for assessment purposes for Alexco Keno Hill Mining Corp on 13 September 2012 over the K 88 claim. Planning, supervision, implementation and reporting of this work were performed by Alexco Resource Corp. staff.

## **3.0 LOCATION AND ACCESS**

The quartz claim on which assessment work was conducted is held under the name of Alexco Keno Hill Mining Corp. 100%. The property is located in the Sourdough 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.

Access to the district is via the Silver Trail Highway connecting the villages of Mayo and Keno City, with the property accessible by a road that extends to Mt Hinton. The base of operations for Alexco is the abandoned company town of Elsa which contains camp and office facilities.

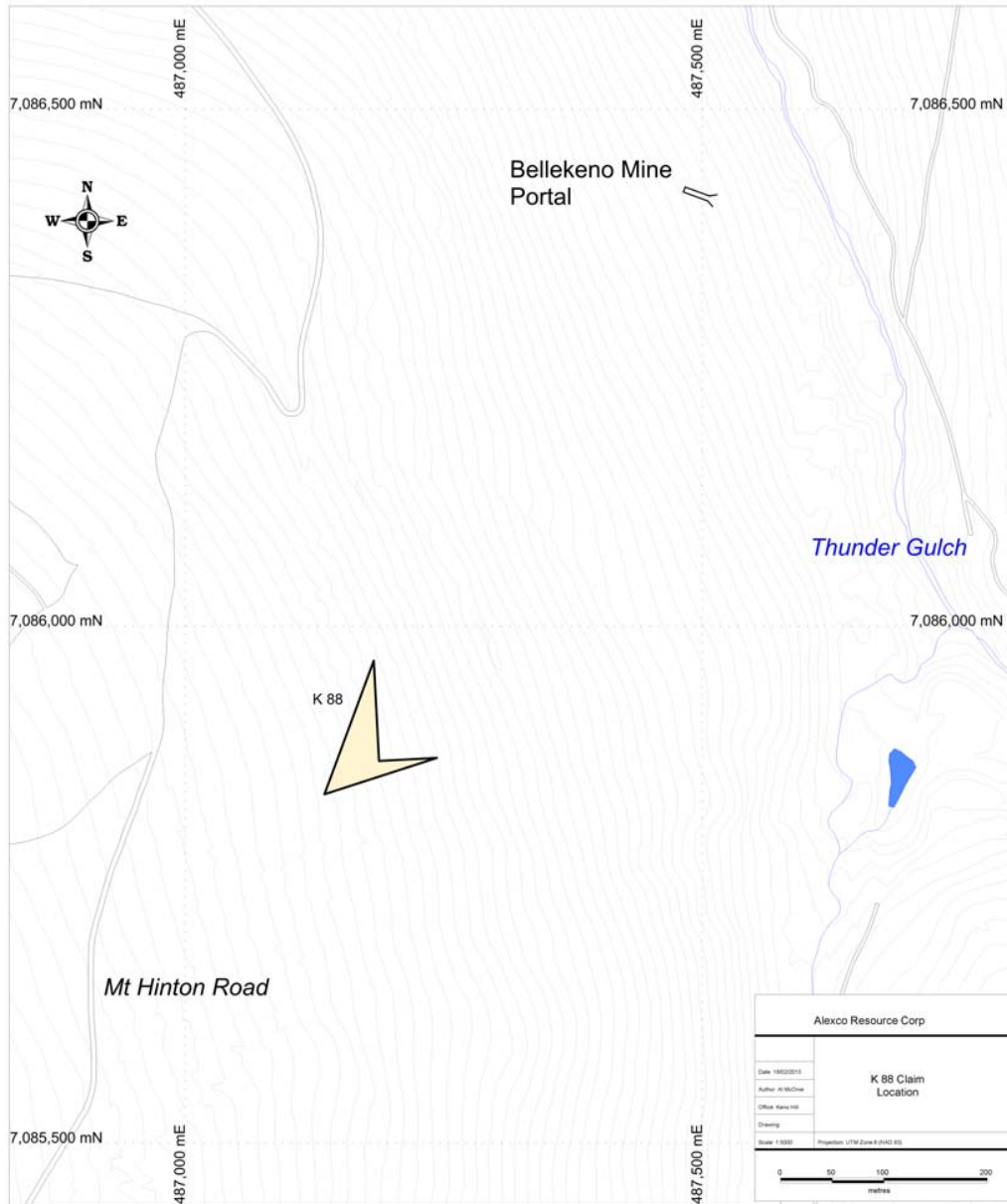


**Figure 1 General Location of the Claim**

#### **4.0 CLAIM STATUS**

The K 88 quartz mining claim is active having been originally staked in 2007, and prior to the current work had an expiry date in December 2012.

Detail of the claim is included in Appendix 1. The location of the quartz claims 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 Claim**

## **5.0 REGIONAL GEOLOGY**

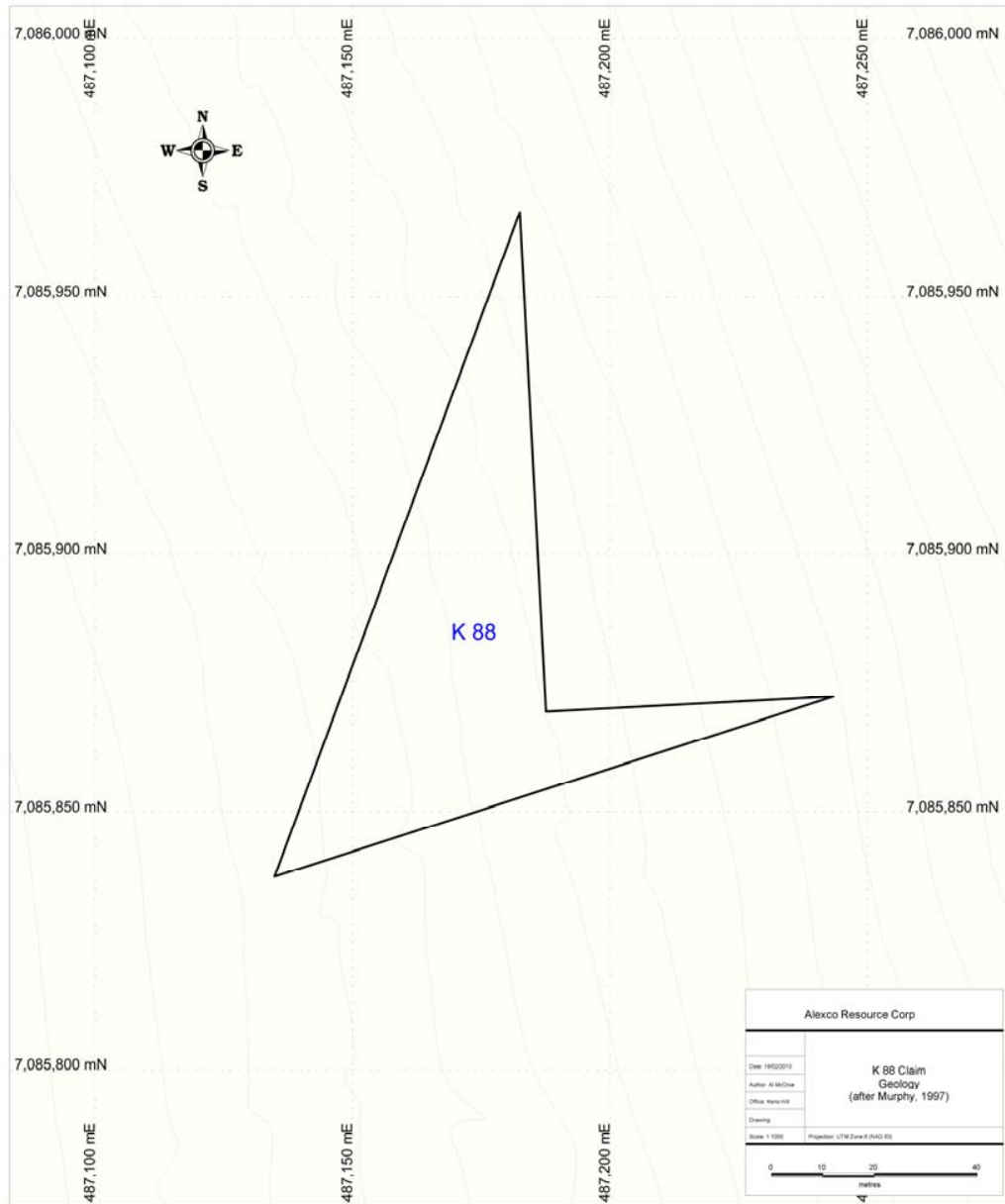
The property is situated within the western part of the Selwyn Basin in an area dominated by deformed and metamorphosed sediments accumulated at the edge of the Neoproterozoic to Paleozoic continental margin. During the Jurassic and Cretaceous, the area was subjected to compressional tectonic forces 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 units within the claim area include the Keno Hill Quartzite (Mississippian), host to most of the past producing ore bodies in the Keno Hill district.

## **6.0 PROPERTY GEOLOGY**

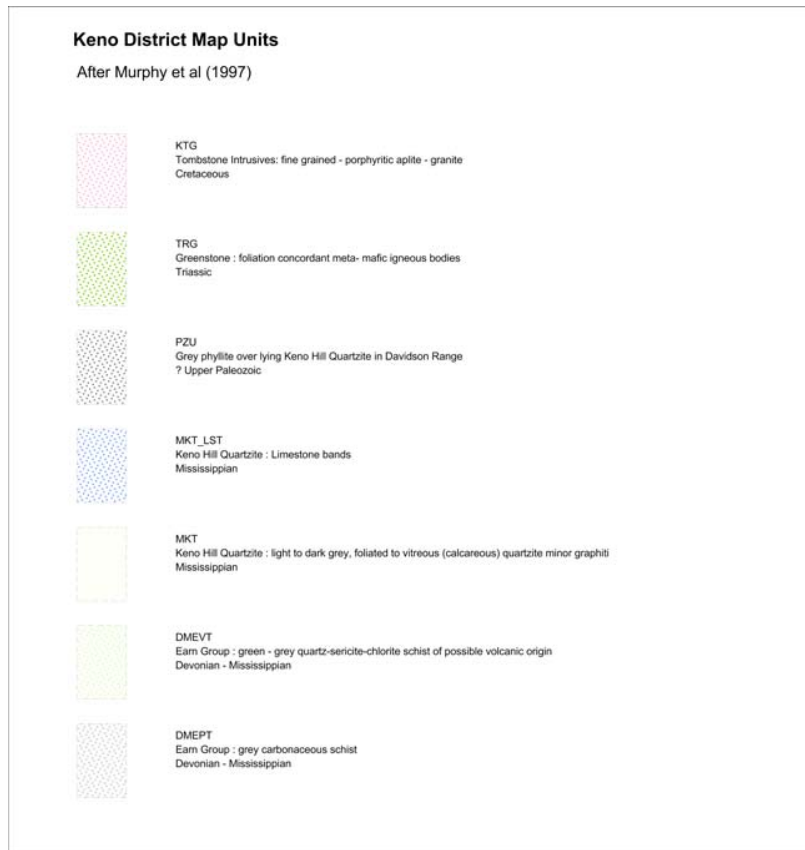
The claim is located on the upper limb of a regional antiformal fold within the Keno Hill Quartzite (MKT) as shown in Figures 3 and 4 (Murphy, 1997). Detailed new geological mapping by Alexco has identified the area to lie just above the upper contact of the Basal Quartzite Member and the lower part of the overlying Sourdough Hill Member sequence. Here the unit is described as comprising the Upper Quartzite Member composed of light to dark grey, platy quartzite with grey schist (phyllite) layers.

A number of mineral deposits are recorded in the district. As well as the close proximity of the Bellekeno silver – lead – zinc mine, the Maybrun, Mo and Yono occurrences are located in the immediate vicinity (Yukon MinFile 105M 014, 105M 013, and 105M 055 respectively).



**Figure 3 Geology of the Claim – all MKT (after Murphy, 1997)**





**Figure 4 Geological Legend (from Murphy, 1997)**

## 7.0 2012 SOIL SAMPLING WORK PROGRAM

Because of the small and irregular nature of the claim area, soil samples were collected adjacent to a series of existing old exploration tracks that cross the claim. Work was completed during the 2012 field season by Alexco Resource Corp. geologists.

All soil sample characteristics were recorded in the field and entered into spreadsheets (Appendix 4). Samples were analyzed for 34 elements by ICP method ME-ICP61 using four acid digestion, and with gold determined by method AA-25 using fire assay and AAS by ALS Minerals Laboratory, North Vancouver, BC and reported 3 October 2012. Copies of the laboratory results (Certificate WH12225640) are included in Appendix 5.

### Soil Sampling Results

Within the Keno Hill district, the background values for elements generally associated with mineralization are considered to be as follows:

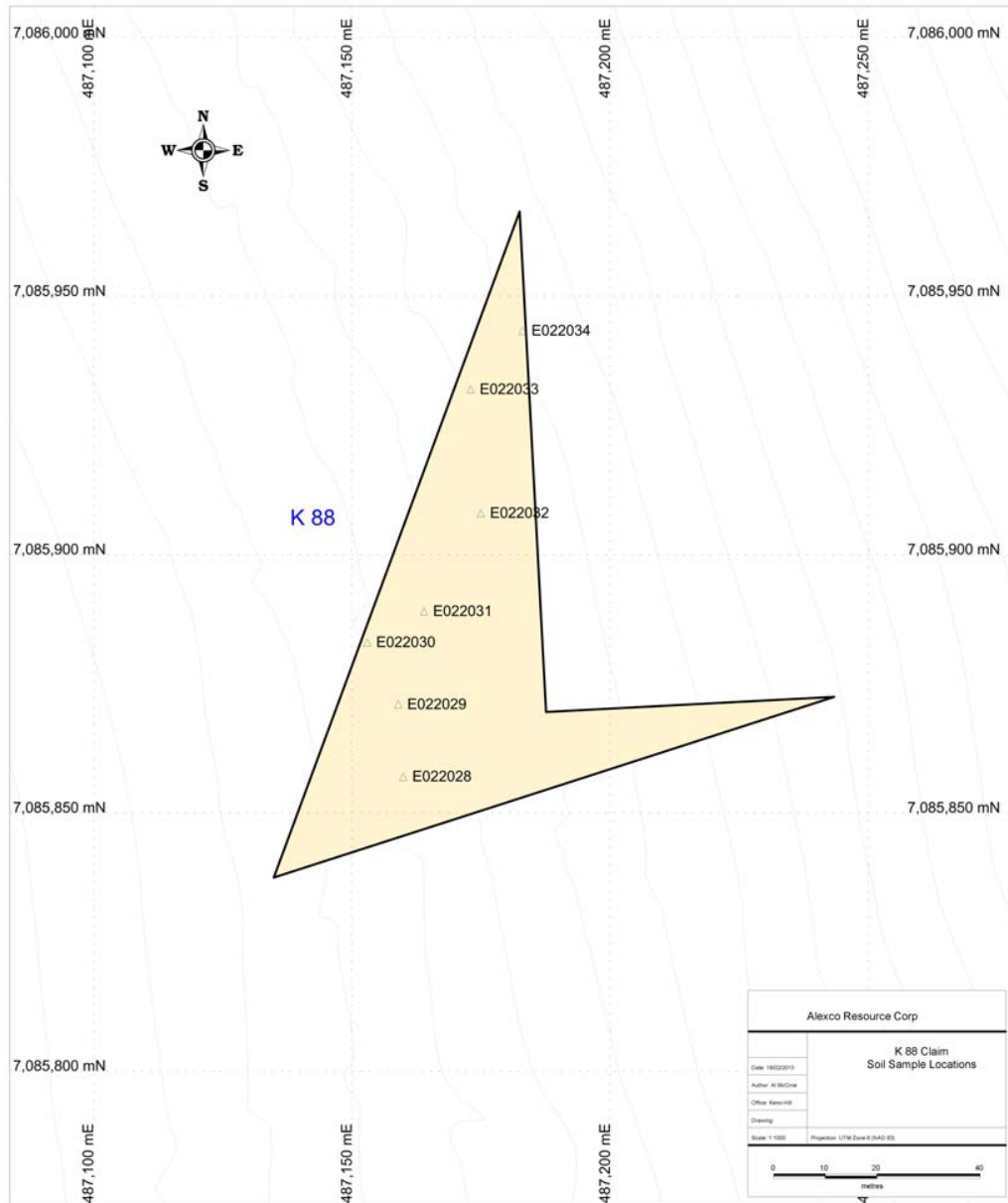
Ag.....	0.5ppm
Au.....	50ppb
Pb.....	40ppm
Zn.....	100ppm
Cu.....	35ppm
As.....	50ppm
Sb.....	5ppm

Anomalous values here are considered to exceed twice the background.

A map showing the location of soil samples is shown as Figure 5. None of the elements of economic interest (Au, Ag, Pb, Zn) were anomalous

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

The results from the soil sampling did not indicate any anomalous zones, however due to the proximity to known mineral occurrences and the stratigraphic position, retention of this claim is warranted.



**Figure 5 Soil Sample Locations**

## **9.0 LIST OF REFERENCES**

Murphy, D.C., 1997.

Geology of the McQuesten River Region, Northern McQuesten and Mayo Map Areas, Yukon Territory (11P/14, 15, 16; 105M/13,14).

Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Bulletin 6.

**APPENDIX 1****LIST OF CLAIM**

Claim Label	Quartz Claim	Grant Number	Owner name	Staking date	Recorded date	Expiry date	District
K 88	97301800	YC56115	Alexco Keno Hill Mining Corp. - 100%	2007/06/13	2007/06/13	2012/12/31	Mayo

## **APPENDIX 2**

### **LIST OF PERSONNEL**

Al McOnie  
694 SH 2, RD1  
Katikati  
New Zealand  
3177

Margaret McLennon  
24 – 255 Parkside Drive  
Fredericton, New Brunswick  
E3B 5L7

**APPENDIX 3**

**STATEMENT OF EXPENDITURES**

<b>COST STATEMENT – Alexco Keno Hill Mining Corp</b>							
CLAIM NAME	GRANT NO.	<i>SOILS</i>	<i>GEO SAMPLER (2)</i>	<i>CAMP</i>	<i>TRUCK, TRAVEL &amp; FREIGHT</i>	<i>PREP/REPO RT</i>	<b>TOTAL</b>
K 88F	YC56115	\$ 294.00	\$ 188.00	\$ 228.00	\$       75.00	\$ 325.00	\$ 1,110.00

## APPENDIX 4

### SOIL SAMPLE DESCRIPTIONS

Sample Number	East	North	Sample Depth (cm)	Horizon	Colour	Silt_%	Clay_%	Organic_%	Gravel_%	Sand_%	Comments
E022028	487160	7085857	15	B	brown	10	10	10	50	20	Talus Slope
E022029	487159	7085871	25	C	dark grey				20		Rock chips of platy quartzite
E022030	487153	7085883	20	C	brown	30	10	20	30	10	Rock chips of platy quartzite
E022031	487164	7085889	30	C	dark grey			5	15		Soil from the side of the road
E022032	487175	7085908	20	C	dark grey	20	10	10	50	10	
E022033	487173	7085932	25	C	dark grey	15	20	5	50	10	
E022034	487183	7085943	20	C	dark grey	10	10	10	60	10	



## **APPENDIX 5**

### **SOIL SAMPLE ANALYSES**

SAMPLE	Au_ppm	Ag_ppm	Al_%	As_ppm	Ba_ppm	Be_ppm	Bi_ppm	Ca_ppm	Cd_ppm	Co_ppm	Cr_ppm	Cu_ppm	Fe_%	Ga_ppm	K_%	La_ppm	Mg_%	Mn_ppm
E022028	-0.01	-0.5	6.66	13	1480	1.4	-2	0.98	-0.5	13	73	18	3.41	20	1.58	40	0.7	827
E022029	0.01	-0.5	5.87	10	1410	1.3	-2	0.86	-0.5	7	65	17	2.36	20	1.5	30	0.56	305
E022030	-0.01	-0.5	6.18	10	1490	1.4	-2	0.88	-0.5	11	67	23	2.9	20	1.5	30	0.59	637
E022031	-0.01	0.6	6.98	13	1750	1.6	-2	0.93	-0.5	13	79	30	3.39	20	1.64	30	0.69	856
E022032	0.01	0.5	6.64	12	1630	1.6	-2	0.92	-0.5	12	77	28	3.37	20	1.57	40	0.65	946
E022033	0.01	0.5	6.47	12	1620	1.5	-2	0.84	-0.5	12	78	26	3.26	20	1.58	30	0.64	779
E022034	-0.01	-0.5	6.64	9	1670	1.6	-2	0.77	-0.5	13	78	30	3.31	20	1.6	30	0.62	884

SAMPLE	Mo_ppm	Na_%	Ni_ppm	P_%	Pb_ppm	S_%	Sb_ppm	Sc_ppm	Sr_ppm	Th_ppm	Ti_%	Tl_ppm_	U_ppm	V_ppm	W_ppm_	Zn_ppm_
E022028	1	1.03	27	940	20	0.02	-5	12	208	-20	0.39	-10	-10	145	10	109
E022029	1	0.93	23	800	14	0.04	5	11	191	-20	0.35	-10	-10	133	-10	93
E022030	1	0.89	26	930	16	0.03	-5	12	185	-20	0.36	-10	-10	138	-10	100
E022031	1	0.99	33	1040	23	0.03	-5	14	210	-20	0.39	-10	-10	153	-10	127
E022032	1	0.95	30	960	21	0.03	-5	13	202	-20	0.39	-10	-10	145	-10	123
E022033	1	0.94	29	960	19	0.03	-5	13	189	-20	0.38	-10	-10	147	10	118
E022034	-1	0.89	34	940	20	0.03	-5	13	190	-20	0.38	-10	-10	142	-10	121

## APPENDIX 6

### STATEMENT OF QUALIFICATIONS

#### Al McOnie

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

THAT, I am a VP Exploration and Qualified Person with Alexco Resource Corp., 1150-200 Granville Street, Vancouver, BC, V6C 1S4.

THAT, I have practiced my profession with various mining companies in Canada, New Zealand, Australia, United States, Mexico, and China for over 36 years.

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.

THAT, I am a member of the Society of Economic Geologists.

THAT, I am a Fellow of the Australasian Institute of Mining and Metallurgy.

THAT, this report is based on work which I personally managed during the year 2012.

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 20th day of February, 2013.



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Al McOnie