

2013 Assessment Report

Property comprising the following Claims:

Alex 279, Alex 377, Alex 278, Alex 280, Alex 175, Alex 277, Alex 176

Located in the:

Keno Hill Area

Mayo Mining District

Yukon Territory, Canada

N.T.S. 105M14

UTM NAD 83, Zone 8

Easting: 484,650

Northing: 7,094,620

Prepared For:

Alexco Keno Hill Mining Corp.

of

1150-200 Granville Street

Vancouver, B.C. V6C 1S4

Prepared By:

Jared Chipman

Alexco Resource Corp.

1150-200 Granville Street

Vancouver, B.C. V6C 1S4

Dates Work Performed: July 11th, 2013

Date of Report: December 30th, 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	Local Geology	7
7.0	Soil Assessment and Results	10
8.0	Conclusions and Recommendations	13
9.0	List of References	15

List of Figures

<i>Figure 1. General location of the Alex 277 claim group, Yukon Territory.</i>	<i>5</i>
<i>Figure 2. Location of the Alex 277 claim group.</i>	<i>6</i>
<i>Figure 3. Geology of the Alex 277 claim group (Murphy, 1997).</i>	<i>8</i>
<i>Figure 4. Legend for Murphy, 1997 geology.</i>	<i>9</i>
<i>Figure 5. Highlighted symbols show Anomalous silver, lead, and zinc silver values from the 8 soil samples taken across the Alex 277 and Alex 278 claims.</i>	<i>14</i>

List of Tables

Table 1. Range of Geochemical Soil Values for the Alex 277 Claim Group..... 11

List of Appendices

Appendix 1
List of claims.....16

Appendix 2
List of Personnel.....16

Appendix 3
Statement of Expenditures17

Appendix 4
Soil Sample Descriptions17

Appendix 5
Soil Sample Assays18

Appendix 6
Statement of Qualifications19

1.0 Summary

Eight soil and or stream sediment samples were collected from the Alex 277 claim group on the 11th of July, 2013. The samples were collected as part of an investigation into the presence of a colour anomaly reported during a water sampling exercise of the area.

All soil samples returned anomalous silver, lead, and zinc values. These anomalies however appear to be associated with the discharge from historic mining operations related to the old Wernecke camp and adjacent Sadie Ladue Mine adit both of which are located above the sampling area.

2.0 Introduction

This report summarizes work carried out on the Alex 277 and Alex 278 claim for Alexco Keno Hill Mining Corp. in which eight soil/stream sediment samples were collected for the purpose of exploration assessment by Alexco Resource Corp. staff on July 11th, 2013. The work was initiated as an investigation into an anomalous water quality sample taken in the area.

3.0 Location and Access

The Alex 277 claim group is located in the Mayo Mining District, central Yukon approximately 350 km north of Whitehorse (Figure 1). The claim group lies on the north-western slopes and valley of Keno Hill approximately 1.2 to 3.4 Km north-west of the historic Sadie Ladue Mine Adit. Access is from a series of old mining tracks leading north from Keno City to the Sadie Ladue Adit and then by foot down into the valley. The centre of the claim group is located at 484,650 East and 7,094,620 North (Figure 2). The base of operations for Alexco from which the work was carried out was Elsa, an abandoned mining town located 14 km west of Keno City on the Silver Trail Highway.

The claim area is covered by NTS map sheet 105M14. All coordinates are in a UTM NAD 83, Zone 8 map projection datum.

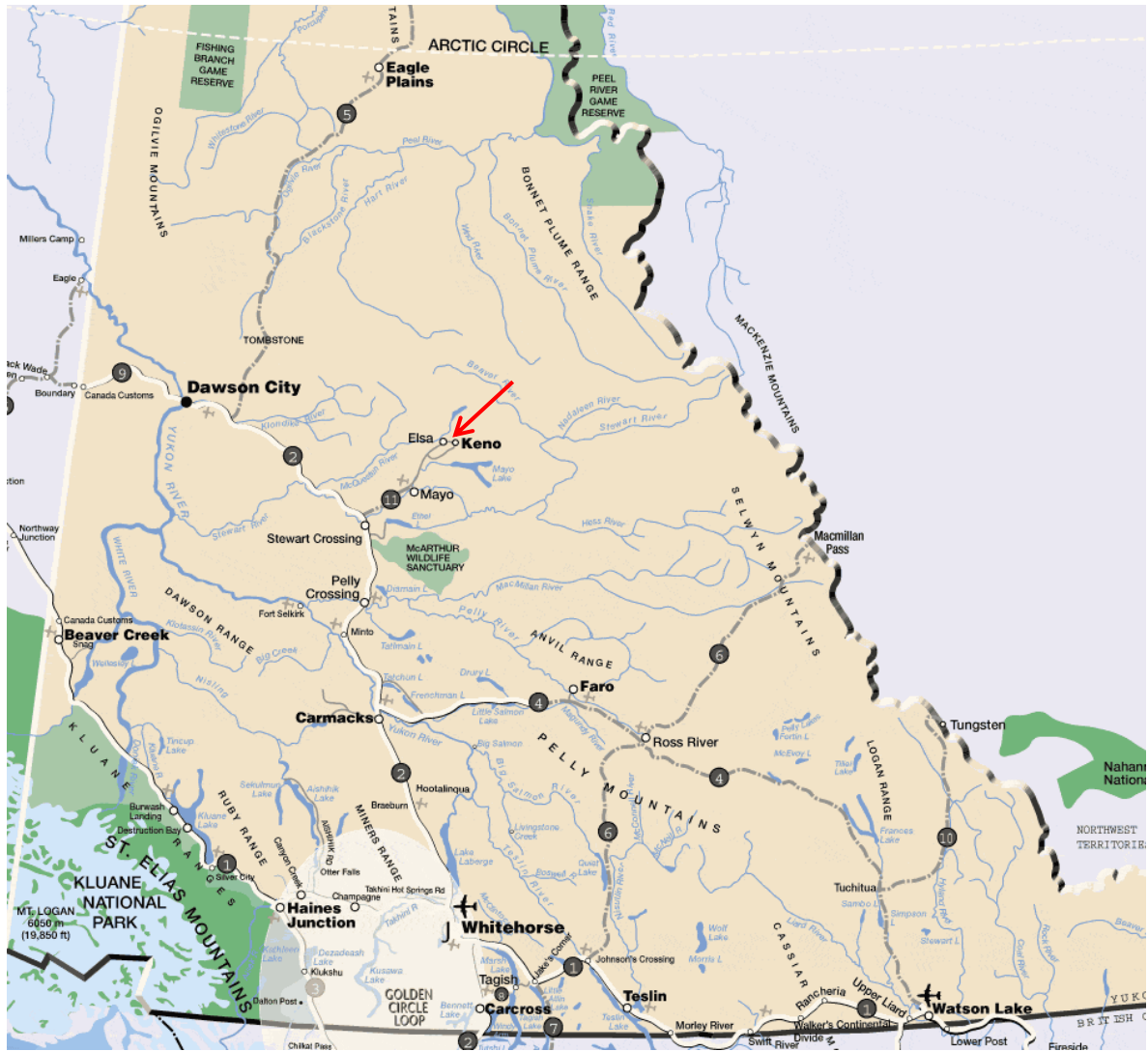


Figure 1. General location of the Alex 277 claim group, Yukon Territory.

4.0 Claim Status

The Alex 175-176, 277-280, and 377 claims are active. The claims were originally staked May of 2006 and prior to current work had an expiry date of December 31st, 2019. Previous exploration assessment work was completed by Alexco Resource Corp. staff (Anderson et al, 2008 and Lippoth, 2010). Work conducted in these reports included soil sampling and bio-geochemical sampling that was done outside of these claims which were included in group for the expenditure filing. These reports are available online through the Yukon Governments Energy, Mines, and Resources Branch and are referenced below.

The details for the claim can be found in Appendix 1. A list of personnel and work expenditures are included in Appendices 2 and 3 respectively.

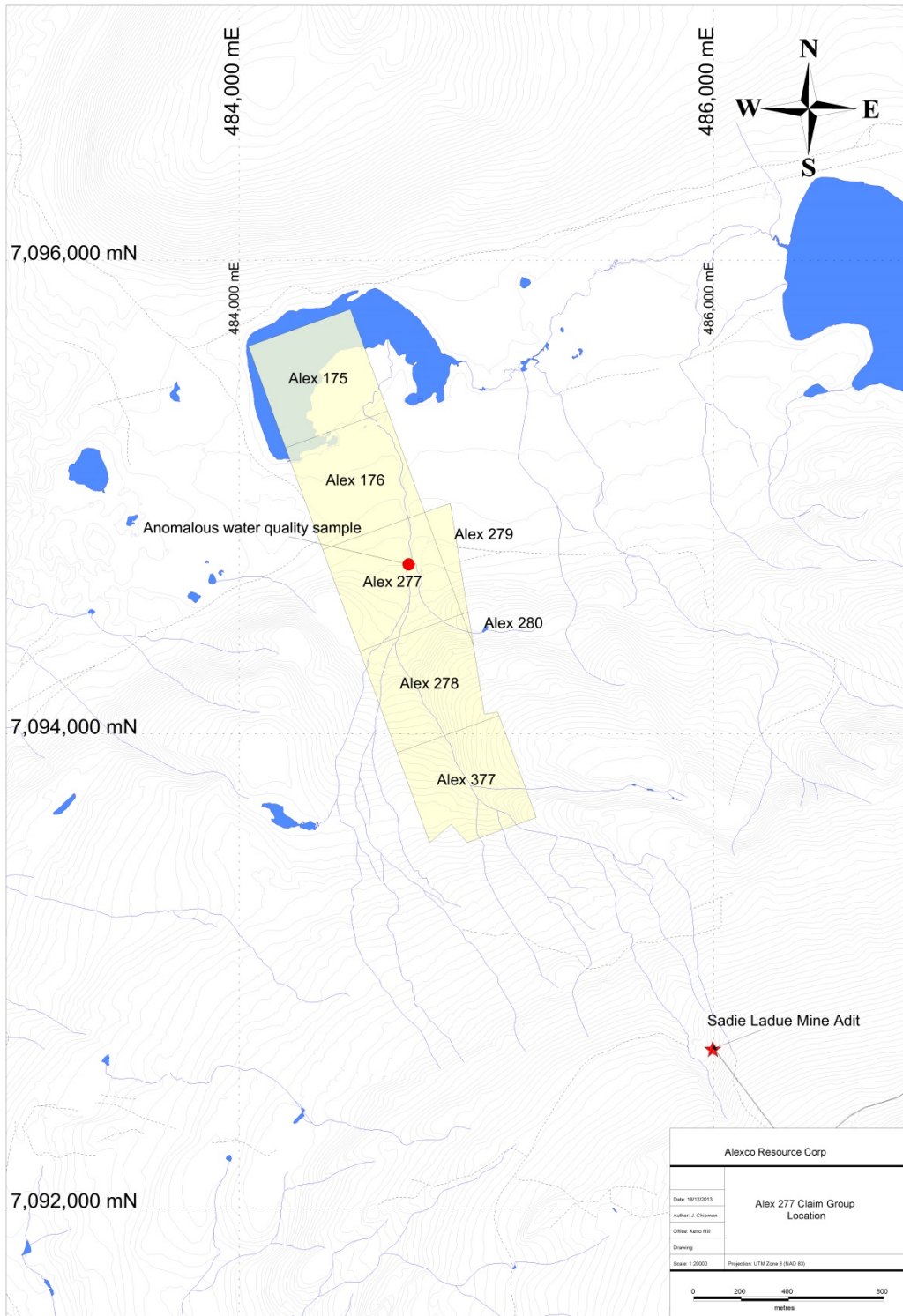


Figure 2. Location of the Alex 277 claim group.

5.0 Regional Geology

The Keno Hill area containing the assessed claims is composed primarily of metasedimentary rocks deposited on the Neoproterozoic to Paleozoic continental margin located on the western margin of the Selwyn Basin (Murphy, 1997). These sediments were subject to greenschist facies regional metamorphism during the Jurassic and Cretaceous periods when compressional tectonics produced extensive folding, and imbricated thrust sheets. In the mid-Cretaceous these rocks were subject to further tectonic activity resulting in extensive brittle deformation and emplacement of igneous intrusives.

The Groups that underlie the Keno Hill area and host most of the past producing silver deposits are the Mississippian Keno Hill Quartzite, the Devonian Earn Group, and Triassic meta-gabbroic sills.

6.0 Local Geology

Mapping by Murphy (1997) shows that a portion of the Alex 277 claim group is underlain by grey carbonaceous schist of the Earn Group (DMEPT). The northern portion of the claim group lies within the valley at the base of Keno Hill and is un-mapped due to lack of outcrop and or deep overburden. The covered area can be inferred of the same Earn Group schists as they are also mapped on the hill north of the claims within the valley.

Figure 3 shows a map of the geology (Murphy, 1997) and a corresponding legend is shown in Figure 4.

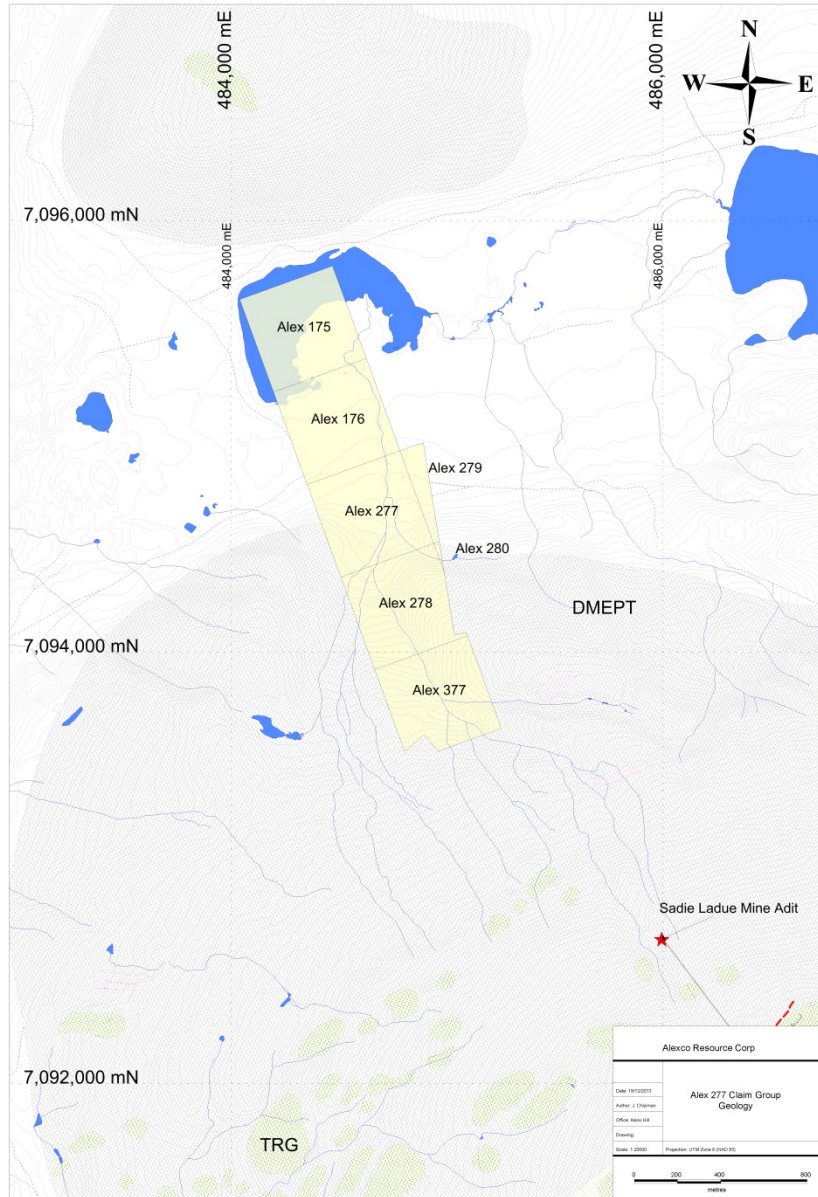


Figure 3. Geology of the Alex 277 claim group (Murphy, 1997).

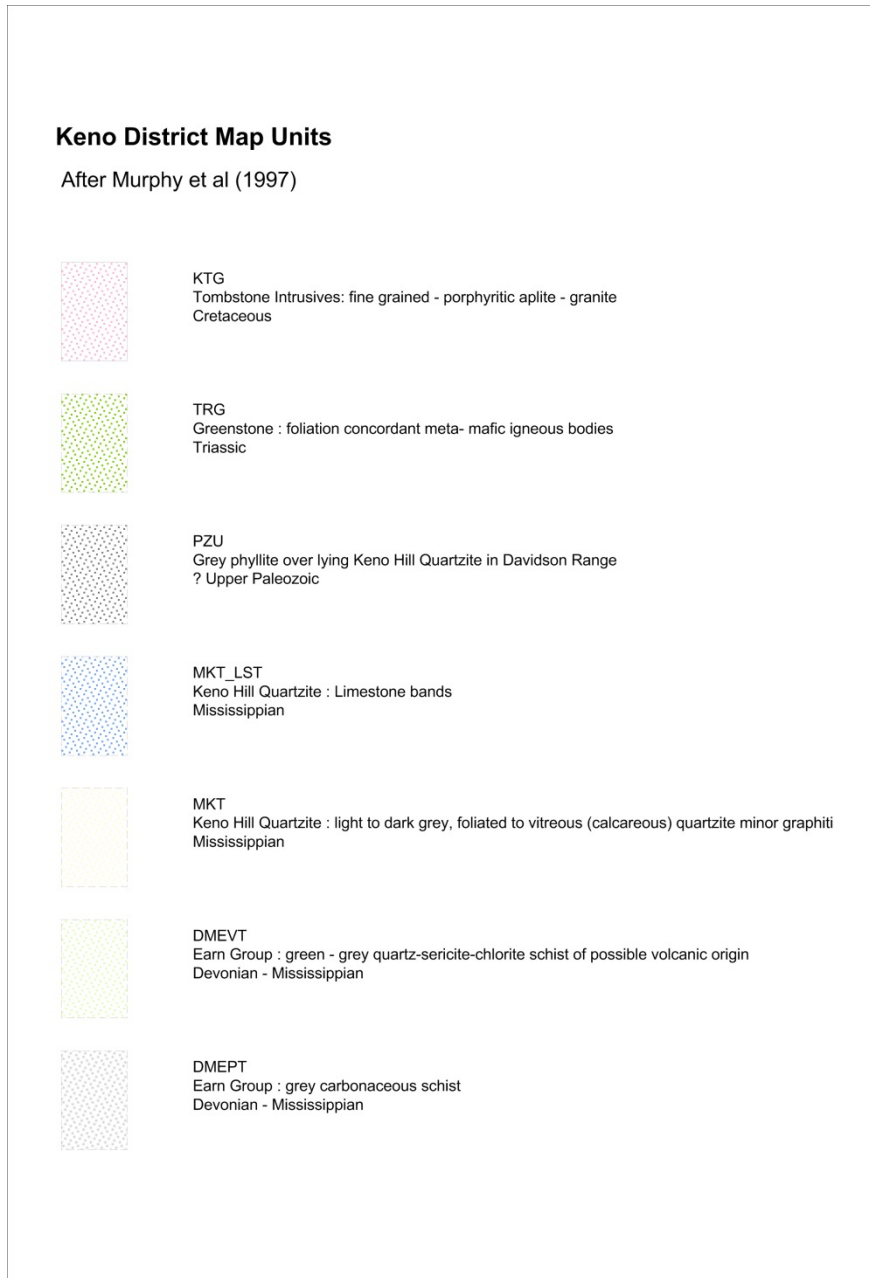


Figure 4. Legend for Murphy, 1997 geology.

7.0 Soil Assessment and Results

Eight soil/stream sediment samples were collected on the Alex 277 and 278 claims (Figure 5). The samples were taken randomly along and in-between creek beds. Samples were taken using a combination of shovels and or trowels and placed in paper sample bags for storage, each marked with its own sample number. All relevant data was recorded in the field then transferred to a digital format as shown in Appendix 4.

All samples were assayed for a 51 trace element analysis by Aqua regia, ICP-MS and ICP-AES by ALS Minerals Laboratory, North Vancouver, BC.

A copy of results, from certificate WH13163141 (finalized on the 23rd of September, 2013) is shown in Appendix 5.

Results

Soil sample assay results are considered to be anomalous if the value is equal to or exceeds twice the established background level for that element. Background element values generally associated with mineralization for the Keno Hill area are:

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

All of the samples taken returned anomalous silver, lead, and zinc values. Silver results ranged from 9.91 to 188 ppm. Lead values ranged from 295 to 1156 ppm while zinc values ranged from 1230 to 9540 ppm. Many samples were also anomalous in arsenic, cadmium, copper, manganese, and antimony. The location of the samples is shown in Figure 5. Table 1 below shows the range of geochemical values received where the maximum values are highlighted.

Rb_ME_MS41L_ppm	2.47	5.27	3.85	1.04	3.19	3.53	4.76	5.20
Re_ME_MS41L_ppm	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01
S_ME_MS41L_pct	0.07	0.31	0.14	0.08	0.09	0.12	0.16	0.21
Sb_ME_MS41L_ppm	9.04	76.60	33.99	25.38	17.45	25.20	42.75	71.70
Sc_ME_MS41L_ppm	1.32	2.39	1.94	0.42	1.64	2.06	2.25	2.36
Se_ME_MS41L_ppm	1.30	5.10	3.26	1.21	2.48	3.55	3.83	4.47
Sn_ME_MS41L_ppm	0.31	1.97	0.76	0.59	0.37	0.50	0.91	1.52
Sr_ME_MS41L_ppm	21.70	65.80	38.44	14.72	29.18	34.20	45.98	55.86
Ta_ME_MS41L_ppm	-0.01	0.01	0.00	0.00	-0.01	-0.01	-0.01	0.00
Te_ME_MS41L_ppm	0.02	0.07	0.04	0.02	0.03	0.05	0.05	0.06
Th_ME_MS41L_ppm	1.94	2.97	2.43	0.35	2.11	2.53	2.60	2.79
Ti_ME_MS41L_pct	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.02
Tl_ME_MS41L_ppm	0.04	0.10	0.07	0.02	0.06	0.07	0.09	0.09
U_ME_MS41L_ppm	0.50	1.46	0.88	0.30	0.69	0.84	1.01	1.17
V_ME_MS41L_ppm	15.20	22.00	17.71	2.12	16.68	17.25	18.63	19.69
W_ME_MS41L_ppm	0.08	0.16	0.11	0.03	0.10	0.10	0.13	0.14
Y_ME_MS41L_ppm	5.92	9.19	7.52	1.27	6.60	7.45	8.65	8.86
Zn_ME_MS41L_ppm	1230.00	9540.00	3383.75	2840.58	1600.00	2070.00	4475.00	6257.00
Zr_ME_MS41L_ppm	0.99	2.40	1.63	0.48	1.21	1.71	1.84	2.15

8.0 Conclusions and Recommendations

It became apparent during sampling (see appendix 4) that some of the material in the area had been influenced by or derived from the historic Sadie Ladue Mine and associated mining activities located up slope of the sampling area. As a result the geochemical results received are not considered to represent the geology underlying the sample area. Further work done in the area would need to obtain samples from medium that is outside the influence of the historic workings. It is recommended that before any future exploration work is undertaken, the area of influence from the historic workings be better defined.

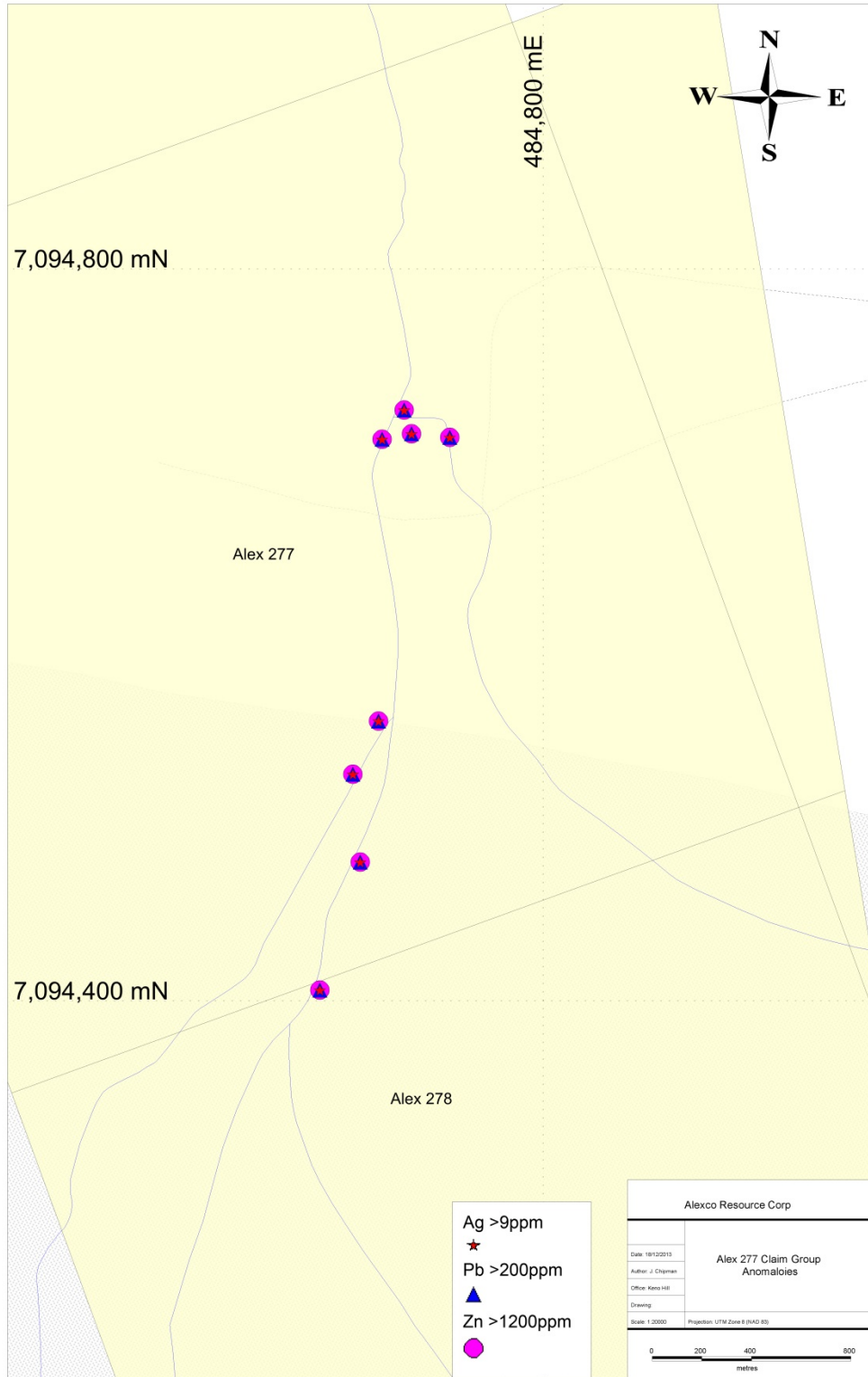


Figure 5. Highlighted symbols show anomalous silver, lead, and zinc silver values from the 8 soil samples taken across the Alex 277 and Alex 278 claims.

9.0 List of References

Anderson, K., Lippoth, R., Dodd, S., 2008, 2008 geological, geochemical and XRF assessment report on the Keno Hill property. YGS Assesment Report Reference 095661.

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.

Lippoth, R. 2010. 2010 Reverse Circulation Drilling Assessment Report. YGS Assesment Report Reference 095713.

Appendix 1

List of claims

Quartz claim	Grant number	Drafting	Regulation	Tenure	Claim label	Owner	Staking date	Recorded date	Expiry date	District
184949731	YC48408	Quartz	Q	Active	Alex 279	Alexco Keno Hill Mining Corp. - 100%	19-May-06	02-Jun-06	31-Dec-19	Mayo
185056709	YC48499	Quartz	Q	Active	Alex 377	Alexco Keno Hill Mining Corp. - 100%	23-May-06	02-Jun-06	31-Dec-19	Mayo
185143378	YC48407	Quartz	Q	Active	Alex 278	Alexco Keno Hill Mining Corp. - 100%	19-May-06	02-Jun-06	31-Dec-19	Mayo
185128939	YC48409	Quartz	Q	Active	Alex 280	Alexco Keno Hill Mining Corp. - 100%	19-May-06	02-Jun-06	31-Dec-19	Mayo
185152959	YC48306	Quartz	Q	Active	Alex 175	Alexco Keno Hill Mining Corp. - 100%	19-May-06	02-Jun-06	31-Dec-19	Mayo
185156451	YC48406	Quartz	Q	Active	Alex 277	Alexco Keno Hill Mining Corp. - 100%	19-May-06	02-Jun-06	31-Dec-19	Mayo
185171572	YC48307	Quartz	Q	Active	Alex 176	Alexco Keno Hill Mining Corp. - 100%	19-May-06	02-Jun-06	31-Dec-19	Mayo

Appendix 2

List of Personnel

Jared Chipman

541 Saunders Road
Deerfield, Nova Scotia
B5A 5N7

Matthew McMahon

25 Gadsby Ave
Welland, Ont
L3C 1A8

Dave Slocombe

#306 – 1685 West 13th Ave
Vancouver, BC

Rich Benson

73 Coburg St.
New Westminster, BC
V3L 2E7

Appendix 3

Statement of Expenditures

Claim name	Grant numb	Owner	Field Staff and Reporting	Camp Overhead	Vehicles - support	Analytical	Est. Total
Alex 277	YC 48406	Alexco Keno Hill Mining Corp.	\$1,310.00	\$456.00	\$220.00	\$264.00	\$2,250.00

Appendix 4

Soil Sample Descriptions

Sample Number	East	North	Claim	Depth (cm)	Horizon	Color	Silt %	Clay %	Organic %	Gravel %	Sand %	Comments
E020026	484728	7094710	Alex 277	20	B	Reddish Brown	40	30	20	0	10	Possible Tailings? Low area below Sadie Ladue. Dry.
E020027	484749	7094708	Alex 277	5	A	Red-Grey	5	5	5	65	20	Stream Sediment; minor-moderate red oxidized qtz, schist, qtz .
E020028	484724	7094723	Alex 277	5	A	Red-Grey	10	10	10	40	35	Stream sediment. Location of colour anomaly; bed of stream covered in brown/red ppt. Oxidation found surfically on gravel below surface level. Angular - Subangular crushed material (possibly tailings).
E020029	484712	7094707	Alex 277	5	A	Red-Grey	20	20	30	15	15	Stream sediment. Minor oxidation, red oxide on surface of small pool but not below. Stream dries up as you move up hill.
E020030	484710	7094553	Alex 277	5	A	Red-Grey	10	0	70	10	10	Stream sediment. Two tributaries join here where ppt is found in sediment of isolated pools of water
E020031	484700	7094476	Alex 277	5	A	Red-Grey	10	5	70	5	10	Ppt disintegrates on contact. Becomes less obvious moving upstream.
E020032	484678	7094406	Alex 278	5	A	Red-Grey	5	5	5	65	20	Stream sediment. Tailings? Minor oxidation on surface of stream sediment.
E020033	484696	7094524	Alex 277	5	A	Red-Grey	5	5	0	65	25	Stream Sediment. Tailings? Minor oxidation

Appendix 5

Soil Sample Assays

Sample Number	Wt_WEI2 1 kg	Au_ME_M S41L ppm	Ag_ME_M S41L ppm	Al_ME_M S41L pct	As_ME_M S41L ppm	B_ME_MS 41L ppm	Ba_ME_M S41L ppm	Be_ME_M S41L ppm	Bi_ME_M S41L ppm	Ca_ME_M S41L pct	Cd_ME_M S41L ppm	Ce_ME_M S41L ppm	Co_ME_M S41L ppm	Cr_ME_M S41L ppm	Cs_ME_M S41L ppm	Cu_ME_M S41L ppm	Fe_ME_M S41L pct	Ga_ME_M S41L ppm	Ge_ME_M S41L ppm	Hf_ME_M S41L ppm
E020026	0.61	0.004	18.05	0.51	190	-10	508	0.24	0.124	1.09	13.55	13.85	21.9	10.85	0.737	38.9	16.9	1.88	0.114	0.044
E020027	0.37	0.0043	35.9	0.46	42.7	-10	94.4	0.15	0.135	0.65	24.6	14.6	8.54	11.9	0.4	34.1	4.16	1.845	0.057	0.045
E020028	0.53	0.011	97.5	0.44	109	-10	166.5	0.17	0.124	0.94	111	11	15.75	10.15	0.608	82.2	10.95	2.8	0.083	0.035
E020029	0.29	0.0026	14.8	0.56	52	-10	127.5	0.24	0.17	0.96	22.5	15.6	9.22	12.6	0.528	44.9	4.41	2.09	0.062	0.039
E020030	0.11	0.0045	9.91	0.7	36.5	-10	203	0.36	0.2	1.48	26.2	16.3	8.65	14.75	0.658	50.4	3.72	2.55	0.062	0.038
E020031	0.15	0.0119	188	0.48	73.3	-10	176	0.22	0.152	0.93	52.4	12.6	7.41	10.55	1.11	56.8	9.65	2.72	0.087	0.027
E020032	0.33	0.0057	83	0.42	70.8	-10	109	0.21	0.163	1.52	41.8	16.05	8.52	9.72	0.944	59.3	6.78	2.24	0.073	0.028
E020033	0.84	0.0023	50.5	0.53	30.8	-10	117.5	0.14	0.095	0.52	14.9	19.7	5.45	11.35	0.372	31	2.94	2.3	0.054	0.041

Sample Number	Hg_ME_M S41L ppm	In_ME_M S41L ppm	K_ME_MS 41L pct	La_ME_M S41L ppm	Li_ME_MS 41L ppm	Mg_ME_M MS41L pc	Mn_ME_M MS41L pp	Mo_ME_M MS41L pp	Na_ME_M S41L pct	Nb_ME_M S41L ppm	Ni_ME_M S41L ppm	P_ME_MS 41L pct	Pb_ME_M S41L ppm	Pd_ME_M S41L ppm	Pt_ME_M S41L ppm	Rb_ME_M S41L ppm	Re_ME_M S41L ppm	S_ME_MS 41L pct	Sb_ME_M S41L ppm	Sc_ME_M S41L ppm
E020026	0.225	0.259	0.03	7.06	7.9	0.32	4480	8.23	0.012	0.32	29.2	0.094	594	0.002	0.002	4.62	0.002	0.09	27	2.11
E020027	0.131	0.411	0.02	7.54	8.1	0.45	9710	4.69	0.008	0.207	24.2	0.104	497	0.001	-0.002	2.47	0.002	0.07	23.4	1.315
E020028	1.45	0.776	0.03	5.56	7.4	1.04	32400	2.62	0.012	0.242	21.2	0.067	1005	0.002	-0.002	3.56	0.003	0.31	69.6	2.35
E020029	0.198	0.19	0.03	7.88	9.1	0.38	4230	4.63	0.011	0.228	27.9	0.109	365	0.002	0.002	3.26	0.005	0.11	13.85	1.715
E020030	0.226	0.241	0.04	8.27	10.8	0.43	5030	2.51	0.016	0.391	28.2	0.091	295	0.001	-0.002	5.17	0.01	0.17	9.04	2.21
E020031	1.115	1.995	0.04	6.33	7.7	0.9	31100	1.8	0.012	0.217	20.3	0.068	1165	0.002	-0.002	5.27	0.002	0.16	76.6	2.39
E020032	0.455	0.595	0.04	8.35	6.8	0.84	18900	4.54	0.012	0.196	31.5	0.104	880	0.001	-0.002	3.5	0.005	0.12	33.8	2.01
E020033	0.128	0.383	0.03	10.1	9.1	0.35	5400	1.69	0.012	0.396	15.85	0.099	635	-0.001	-0.002	2.98	0.002	0.08	18.65	1.4

Sample Number	Se_ME_M S41L ppm	Sn_ME_M S41L ppm	Sr_ME_M S41L ppm	Ta_ME_M S41L ppm	Te_ME_M S41L ppm	Th_ME_M S41L ppm	Ti_ME_MS 41L pct	Tl_ME_MS 41L ppm	U_ME_MS 41L ppm	V_ME_MS 41L ppm	W_ME_M S41L ppm	Y_ME_MS 41L ppm	Zn_ME_M S41L ppm	Zr_ME_M S41L ppm	Ag_Ag_O G46 ppm	Certificate	Date Received	Date Finalized
E020026	3.6	0.57	65.8	0.005	0.05	2.56	0.012	0.099	0.722	17	0.13	7.07	1240	2.4	0	WH13163141	03-Sep-13	23-Sep-13
E020027	2.1	0.31	25.5	-0.005	0.06	2.71	0.012	0.057	0.593	15.2	0.103	5.92	1920	2.04	0	WH13163141	03-Sep-13	23-Sep-13
E020028	2.6	1.33	30.4	-0.005	0.02	1.94	0.011	0.091	0.783	17.2	0.134	9.19	9540	1.22	0	WH13163141	03-Sep-13	23-Sep-13
E020029	3.5	0.34	37	-0.005	0.04	2.56	0.011	0.053	0.995	18.7	0.104	6.81	1720	1.74	0	WH13163141	03-Sep-13	23-Sep-13
E020030	4.2	0.38	51.6	-0.005	0.05	2.12	0.016	0.071	1.455	22	0.079	7.82	2220	1.77	0	WH13163141	03-Sep-13	23-Sep-13
E020031	5.1	1.97	31.4	-0.005	0.02	2.07	0.011	0.085	1.05	17.3	0.159	8.72	4350	0.99	188	WH13163141	03-Sep-13	23-Sep-13
E020032	3.7	0.77	44.1	-0.005	0.07	2.5	0.011	0.069	0.901	15.7	0.09	8.63	4850	1.17	83	WH13163141	03-Sep-13	23-Sep-13
E020033	1.3	0.42	21.7	-0.005	0.03	2.97	0.021	0.043	0.502	18.6	0.097	5.97	1230	1.68	0	WH13163141	03-Sep-13	23-Sep-13

Appendix 6
Statement of Qualifications

Jared Chipman

I Jared Chipman do hereby certify the following:

1. That I am a professional geologist registered with the Association of Professional Geoscientists of Nova Scotia (APGNS). Member # 180
2. That I am employed as a geologist by Alexco Resource Corp.
3. That I am a graduate in geology holding a BSc (Hons) from Saint Mary's University in Nova Scotia, Canada and an MSc from Queens University in Ontario, Canada.
4. That I have been practicing geology in Canada for approximately 7 years.
5. That I am a member of the Society of Economic Geologists.
6. That I was involved in the supervision of this work conducted in August of 2013.
7. That I have no interest in the property described herein, nor do I expect to receive any such interest.

Dated at Elsa, Yukon on this _____ day of _____, 2014