

2013 Assessment Report

Property comprising the following Claim:

K 91

Located in the:

Keno Hill Area

Mayo Mining District

Yukon Territory, Canada

N.T.S. 105M13

UTM NAD 83, Zone 8

Easting: 474,080

Northing: 7,086,000

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

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Dates Work Performed: August 12th, 2013

Date of Report: December 30th, 2013

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1.0 Summary

Eleven soil samples were collected from a single line transecting the K 91 claim on the 12th of August, 2013.

Results show one anomalous silver value; however the sample was taken from an old track and may not be reliable.

2.0 Introduction

This report summarizes work carried out on the K 91 claim for Alexco Keno Hill Mining Corp. Eleven soil samples were collected for the purpose of exploration assessment by Alexco Resource Corp. staff on the August 12th, 2013.

3.0 Location and Access

The K 91 claim is located in the Mayo Mining District, central Yukon approximately 350 km north of Whitehorse (Figure 1). The claim lies on the northern slope of Galena Hill and access is directly off of the Silver Trail Highway approximately 900 metres west of the Flack Creek Camp (Elsa townsite). It lies 40 metres south of the highway and is located at 474,080 East and 7,086,000 North. The claim is 500 metres to the south of the historic Husky SW mine (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 105M13. All coordinates are in a UTM NAD 83, Zone 8 map projection datum.



Figure 1. General location of the K 91 claim, Yukon Territory.

4.0 Claim Status

The K 91 claim is active. The claim was originally staked in June of 2007 and prior to current work had an expiry date of December 31st, 2013. No prior assessment reports have been located for the K 91 claim or ground that it covers.

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.

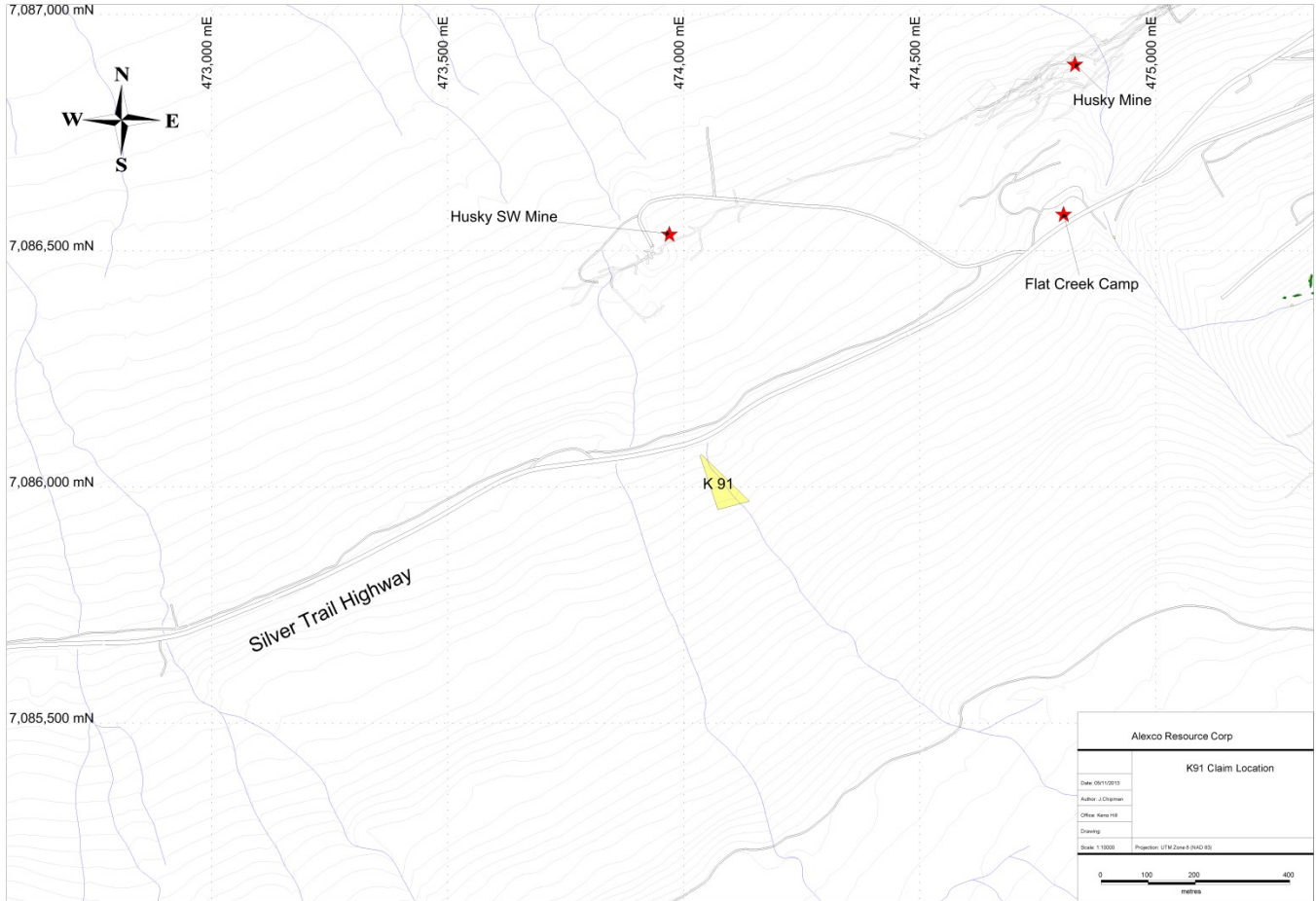


Figure 2. Location of the K 91 claim.

5.0 Regional Geology

The Keno Hill area containing the assessed claim 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

No outcrop has been mapped on the K 91 claim as it lies on the northern flank of Galena Hill that is covered by deep overburden. The stratigraphic position can be interpreted from surrounding geology (McOnie and Read, 2009), regional trends, and the geology of the Husky and Husky SW mines located 500 metres to the north. The area of the claim is interpreted to be underlain by the upper part Basal Quartzite Member (MKq) of the Keno Hill Quartzites. A stratigraphic column for the Keno Hill area is shown in Figure 3 (McOnie and Read, 2009).

7.0 Soil Assessment and Results

One line of soil samples was collected on the K 91 claim (Figure 4 & 5). In total eleven samples were taken at 25 metre centers with the best attempt made to sample the more prospective “B” soil horizon. 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 for each sample 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

One anomalous silver value (6.22 ppm) was returned from the eleven samples taken on the claim. The sample was taken from a power line access track. No other anomalous values were returned from the sample suite.

The location of the samples is shown in Figure 4 with the location of the anomalous silver value shown in Figure 5. Table 1 below shows the range of geochemical values received where maximum anomalous values are highlighted.

Pt_ME_MS41L_ppm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rb_ME_MS41L_ppm	4.20	9.92	6.13	1.58	5.45	5.83	6.59	7.38
Re_ME_MS41L_ppm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S_ME_MS41L_pct	-0.01	0.10	0.05	0.03	0.04	0.05	0.07	0.07
Sb_ME_MS41L_ppm	0.97	1.68	1.34	0.20	1.24	1.37	1.45	1.52
Sc_ME_MS41L_ppm	1.21	2.79	2.15	0.44	1.95	2.20	2.39	2.62
Se_ME_MS41L_ppm	0.60	1.30	0.99	0.21	0.90	1.00	1.10	1.20
Sn_ME_MS41L_ppm	0.16	1.04	0.30	0.25	0.21	0.22	0.26	0.30
Sr_ME_MS41L_ppm	22.20	68.00	42.65	13.98	33.65	44.50	52.40	52.50
Ta_ME_MS41L_ppm	-0.01	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	-0.01
Te_ME_MS41L_ppm	0.01	0.04	0.03	0.01	0.02	0.02	0.03	0.04
Th_ME_MS41L_ppm	0.52	2.99	1.61	0.67	1.28	1.55	1.90	2.34
Ti_ME_MS41L_pct	0.01	0.02	0.02	0.00	0.02	0.02	0.02	0.02
Tl_ME_MS41L_ppm	0.07	0.14	0.10	0.02	0.09	0.10	0.11	0.14
U_ME_MS41L_ppm	0.58	1.69	1.23	0.41	0.84	1.43	1.56	1.63
V_ME_MS41L_ppm	20.70	32.50	27.61	3.18	26.20	27.20	29.65	30.80
W_ME_MS41L_ppm	0.08	0.21	0.11	0.04	0.09	0.10	0.11	0.12
Y_ME_MS41L_ppm	5.49	7.15	6.17	0.53	5.69	6.24	6.55	6.68
Zn_ME_MS41L_ppm	69.40	107.00	83.93	13.57	73.15	83.30	91.60	103.50
Zr_ME_MS41L_ppm	1.33	1.81	1.55	0.13	1.49	1.56	1.63	1.67

8.0 Conclusions and Recommendations

Sample (E020151), although anomalous in silver does not have any corresponding anomalies and may be related to the disturbed ground of an apparent old track on which it was taken (see Appendix 4).

With the complete lack of outcrop and the location of the claim being on the lower northern flank of Galena Hill the real possibility exists of deep overburden as seen elsewhere in the district, so the lack of results is not completely surprising.

It is recommended a program be put together to test the overburden depth and to determine the bedrock lithology beneath the claim.



Figure 4. Location of samples collected on the K 91 claim.



Figure 5. Highlighted symbol shows anomalous silver value from the 11 soil samples taken across the K 91 claim.

9.0 List of References

McOnie, A and P.B. Reid. 2009. Stratigraphy, Structure, and Exploration Opportunities Sourdough, Galena and part of Keno Hills, Keno Hill Mining Camp, Central Yukon. Internal Report Alexco Resource Corp.

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 claims

Quartz_cla	Grant_num	Drafting_t	Regulation	Tenure_sta	Claim_labe	Owner_name	Staking_da	Recorded_d	Expiry_dat	District_n
184999398	YC56118	Quartz	Q	Active	K 91	Alexco Keno Hill Mining Corp. - 100%	11-Jun-07	13-Jun-07	31-Dec-13	Mayo

Appendix 2

List of Personnel

Jared Chipman

541 Saunders Road
Deerfield, Nova Scotia
B5A 5N7

Dave Slocombe

#306 – 1685 West 13th Ave
Vancouver, BC

Matthew McMahon

25 Gadsby Ave
Welland, Ont
L3C 1A8

Appendix 3

Statement of Expenditures

Claim name	Grant numb	Owner	Field Staff and Reporting	Camp Overhead	Vehicles - support	Analytical	Est. Total
K 91	YC56118	Alexco Keno Hill Mining corp.	\$533.00	\$342.00	\$110.00	\$365.00	\$1,350.00

Appendix 4

Soil Sample Descriptions

Sample Number	East	North	Claim	Depth (cm)	Horizon	Color	Silt%	Clay%	Organic%	Gravel%	Sand%	Comments
E020151	474041	7086058	K91	30	A	Dark brown	30	15	15	20	20	Possibly old road, hydro corridor, weeds loose gravel on flat area
E020152	474045	7086048	K91	40	B	Dark Brown	30	15	15	20	20	Same
E020153	474048	7086039	K91	45	A	Red Brown	15	15	40	15	15	Deep muskeg, into sparse spruce
E020154	474051	7086029	K91	40	B	Light grey-Brown	25	40	5	10	20	Deep muskeg, gravel
E020155	474054	7086019	K91	35	B	Brown	20	40	20	5	10	Deep muskeg, gravel
E020156	474057	7086010	K91	40	B	Brown-grey	30	35	15	5	15	Deep muskeg, gravel
E020157	474060	7086000	K91	15	B	Brown-grey	15	30	5	20	30	Old dried up creek bed
E020158	474063	7085991	K91	35	B	Brown	35	25	25	0	15	Old dried up creek bed
E020159	474067	7085981	K91	30	B	Brown-grey	30	40	5	10	15	Old dried up creek bed
E020160	474070	7085972	K91	15	B	Brown-grey	25	40	5	10	20	Side of old track; low veg.
E020161	474073	7085962	K91	30	B	Brown-grey	25	35	5	10	25	Side of old track; low veg.

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
E020151	0.16	0.0034	6.22	0.92	26.5	-10	246	0.32	0.199	1.38	0.468	17.75	8.71	17.65	0.537	36.8	2.19	2.74	0.031	0.041
E020152	0.17	0.0033	0.469	1.04	21.7	-10	309	0.34	0.188	1.59	0.524	17.3	8.96	19.25	0.61	42.2	2.12	2.93	0.034	0.053
E020153	0.12	0.0023	0.424	0.9	25.8	-10	301	0.27	0.18	1.83	0.39	15.95	8.78	16.4	0.571	29.9	2.02	2.4	0.037	0.039
E020154	0.17	0.0131	0.387	1.01	29.5	-10	185.5	0.29	0.186	0.61	0.217	21.1	9.03	19.35	0.568	30.4	2.44	2.88	0.04	0.037
E020155	0.14	0.0035	0.425	0.88	27.2	-10	276	0.34	0.176	1.88	0.337	14.7	8.31	16.85	0.48	41.6	1.97	2.78	0.031	0.036
E020156	0.18	0.0029	0.588	0.86	35	-10	202	0.27	0.206	0.87	0.315	16.7	8.47	18.05	0.535	31.9	2.18	2.6	0.037	0.046
E020157	0.27	0.0267	0.776	0.94	50.4	-10	174.5	0.29	0.255	0.69	0.439	22.2	10.05	20.5	0.683	34	2.62	2.86	0.043	0.041
E020158	0.09	0.0014	0.389	0.88	20.1	-10	346	0.32	0.142	2.44	0.437	12.05	7.18	14.5	0.411	35.6	1.74	2.52	0.029	0.036
E020159	0.15	0.004	0.489	1.35	16.9	-10	336	0.35	0.25	1.47	0.266	19.45	9.28	23.1	0.811	34	2.33	4.03	0.048	0.038
E020160	0.17	0.0021	0.467	1.05	23	-10	263	0.28	0.201	1.18	0.199	19	10.15	19.05	0.566	22.1	2.06	2.83	0.03	0.047
E020161	0.27	0.0346	0.764	0.97	47	-10	266	0.36	0.305	1.57	0.427	14.5	10.65	19.25	0.57	46.8	2.63	2.85	0.038	0.049

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
E020151	0.06	0.021	0.05	9.07	11.5	0.44	537	0.86	0.011	0.461	20.7	0.071	21.2	-0.001	-0.002	6.11	-0.001	0.05	1.365	2.19
E020152	0.079	0.018	0.04	9	13	0.43	437	0.56	0.012	0.485	22.4	0.075	16.55	0.003	-0.002	6.58	0.002	0.07	1.365	2.11
E020153	0.067	0.018	0.04	8	11	0.38	652	0.7	0.011	0.433	17.95	0.068	17.25	-0.001	-0.002	6.59	0.001	0.07	1.355	1.795
E020154	0.055	0.014	0.04	10.7	12.2	0.4	404	1.07	0.011	0.495	21.9	0.053	17.35	-0.001	-0.002	5.57	-0.001	-0.01	0.968	2.62
E020155	0.076	0.013	0.04	7.34	12	0.39	483	0.77	0.007	0.385	20.5	0.062	17.3	0.003	-0.002	5.64	0.001	0.07	1.43	1.77
E020156	0.074	0.018	0.04	8.11	10.3	0.4	450	1.17	0.009	0.34	18.9	0.067	23.4	0.001	-0.002	4.25	0.001	0.03	1.205	2.21
E020157	0.065	0.026	0.04	10.85	12.5	0.49	315	1.48	0.009	0.375	20.7	0.09	30.4	0.001	-0.002	5.33	-0.001	0.01	1.46	2.79
E020158	0.071	0.018	0.03	6.25	9.7	0.38	987	0.59	0.011	0.373	18.85	0.077	12.2	0.003	-0.002	4.2	0.002	0.1	1.515	1.21
E020159	0.097	0.017	0.06	9.68	18.4	0.51	541	0.52	0.011	0.528	20.9	0.072	20.9	0.004	-0.002	9.92	0.001	0.07	1.265	2.57
E020160	0.066	0.02	0.04	9.44	13.3	0.41	594	0.51	0.009	0.45	17.55	0.062	19.5	0.001	-0.002	7.38	0.002	0.05	1.095	2.2
E020161	0.067	0.028	0.04	7.39	12.2	0.47	587	1.51	0.01	0.372	24.9	0.066	26.1	0.001	-0.002	5.83	0.002	0.05	1.68	2.2

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_Recei ved	Date_Finili zed
E020151	1.1	1.04	39.8	-0.005	0.02	1.84	0.02	0.099	1.43	25.7	0.21	6.43	83.3	1.56	0	WH13163141	03/09/2013	23/09/2013
E020152	1.2	0.27	52.3	-0.005	0.04	1.435	0.017	0.102	1.69	27.2	0.085	6.66	83.5	1.6	0	WH13163141	03/09/2013	23/09/2013
E020153	1.1	0.22	52.5	-0.005	0.03	1.205	0.016	0.075	1.465	26.1	0.108	5.7	75.3	1.52	0	WH13163141	03/09/2013	23/09/2013
E020154	0.7	0.21	23.7	-0.005	0.02	2.34	0.024	0.093	0.711	30.8	0.109	6.3	70.9	1.33	0	WH13163141	03/09/2013	23/09/2013
E020155	1	0.16	52.5	-0.005	0.02	0.934	0.015	0.085	1.515	26.3	0.091	5.68	69.4	1.58	0	WH13163141	03/09/2013	23/09/2013
E020156	0.6	0.22	28.1	-0.005	0.03	1.96	0.017	0.096	0.74	26.5	0.079	5.49	83.7	1.49	0	WH13163141	03/09/2013	23/09/2013
E020157	0.8	0.21	22.2	-0.005	0.02	2.99	0.02	0.135	0.581	30.3	0.124	6.68	99.5	1.67	0	WH13163141	03/09/2013	23/09/2013
E020158	1.1	0.17	68	-0.005	0.04	0.519	0.012	0.072	1.63	20.7	0.078	5.63	71	1.48	0	WH13163141	03/09/2013	23/09/2013
E020159	1.3	0.3	46.3	-0.005	0.02	1.545	0.016	0.138	1.61	32.5	0.115	7.15	103.5	1.65	0	WH13163141	03/09/2013	23/09/2013
E020160	1	0.24	39.2	-0.005	0.01	1.55	0.016	0.108	1.205	28.6	0.089	6.24	76.1	1.4	0	WH13163141	03/09/2013	23/09/2013
E020161	1	0.21	44.5	-0.005	0.03	1.345	0.016	0.103	0.942	29	0.098	5.9	107	1.81	0	WH13163141	03/09/2013	23/09/2013

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