

**BC Geological Survey  
Assessment Report  
34031**

# **2012 GEOCHEMISTRY and PROSPECTING REPORT**

**on the**

## **Murray Property**

**Lat. 50° 37' North  
Long. 117° 59' West  
Trim Map #: 082K.061  
NTS: 82K/12**

**For**

**SELKIRK MINERAL SYNDICATE  
5936 Stafford Rd.  
Nelson, BC  
V1L 6P3**

**By: Bernhardt Augsten, P.Geo.  
December, 2012**

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## **1.0 SUMMARY**

The Murray property is located approximately 45km south of Revelstoke, British Columbia on the west shore of Arrow Lake.

The property is situated at relatively low elevations and except for steeply incised creek valleys would not be considered rugged. The property has excellent access by virtue of a network of new and older logging roads. Industrial activity in the area is manifested by variably-aged cut blocks.

The property consists of several showings of polymetallic gold and silver-bearing sulphide mineralization which appear to be stratabound and may represent volcanogenic massive sulphides. The property first came to existence as a mineral showing in the early 1980's with no written history of previous discovery. In the intervening years exploration work was limited to prospecting, geochemical surveys, some geophysics and minor poorly documented trenching.

The current program of soil sampling and prospecting established that B-horizon soil sampling is an effective exploration method. Prospecting north and east of the main showing demonstrated the widespread nature of copper, silver, zinc and gold mineralization on the property.

Future work recommendations include further prospecting, geological mapping, soil geochemistry, airborne geophysics and IP.

## **2.0 INTRODUCTION**

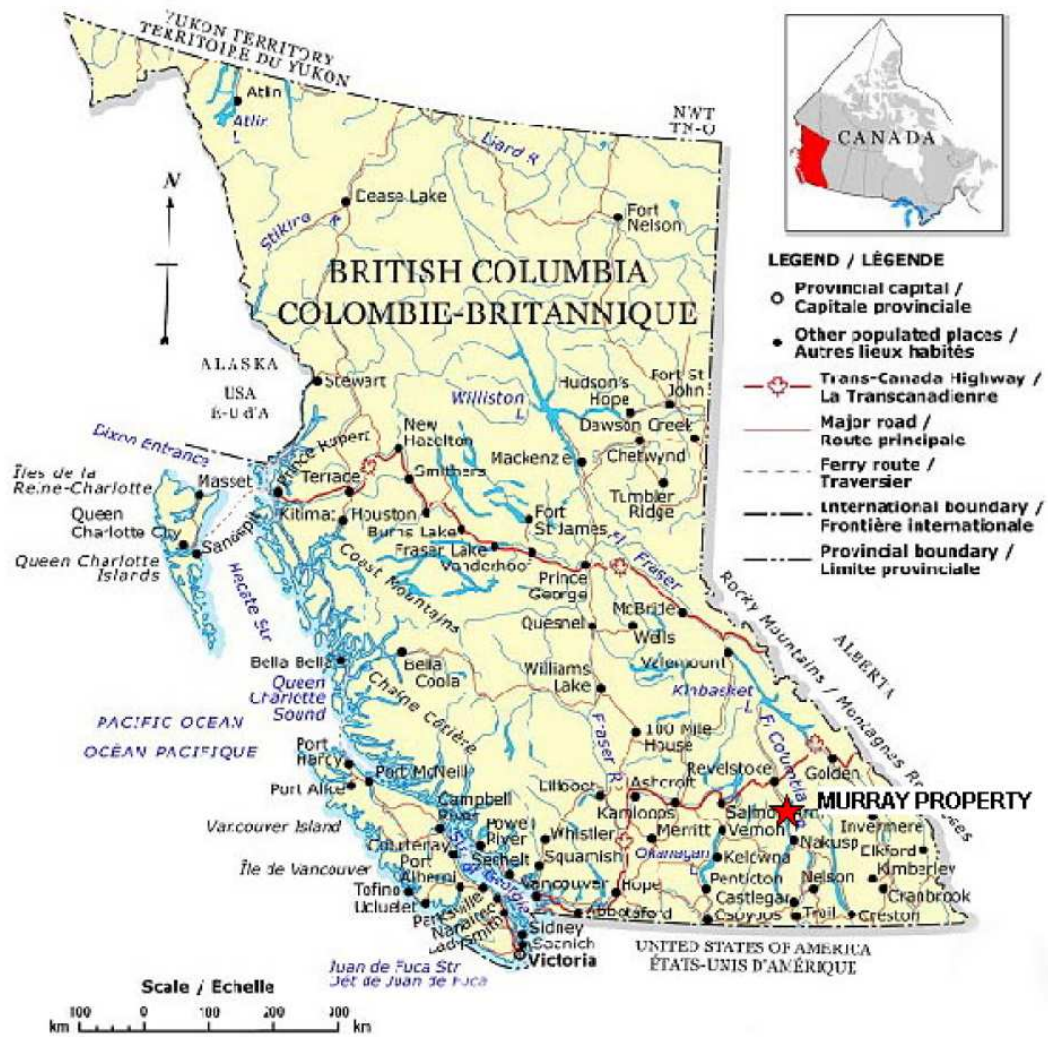
This report details results from a brief soil sampling and prospecting trip that was undertaken on the Murray claims in late September of 2012. The primary purpose of this work was to establish whether conventional B-horizon soil sampling was a suitable exploration method to explore for buried extensions of the known mineralization on the Murray Property.

## **3.0 LOCATION, ACCESS AND PHYSIOGRAPHY**

The Murray property is located approximately 45km south of Revelstoke, British Columbia on the west shore of Arrow Lake. The property is traversed by a number of new and old logging roads. The older roads are partially brushed in but would be serviceable with very minimal work. The claims are only 5km from BC Hwy #23 and about 30 minutes to the Shelter Bay Ferry on Arrow Lakes. (see Figure 1).

The Property is situated at relatively low elevation on a generally east to northeast facing slope. Elevations range from 460 to 1400 metres. For the most part the property would not be considered rugged with the exception of the drainages which form narrow steeply incised gullies. Significant mineralized showings occur in one such east trending drainage. Much of the property has been logged over the last 50 years. The original forest, some of which remains, consists of Western Cedar, Hemlock, Douglas Fir, Spruce and Balsam Fir. The same species exist as second growth along with ubiquitous alder.

Figure 1 Location Map



## 4.0 CLAIM STATUS

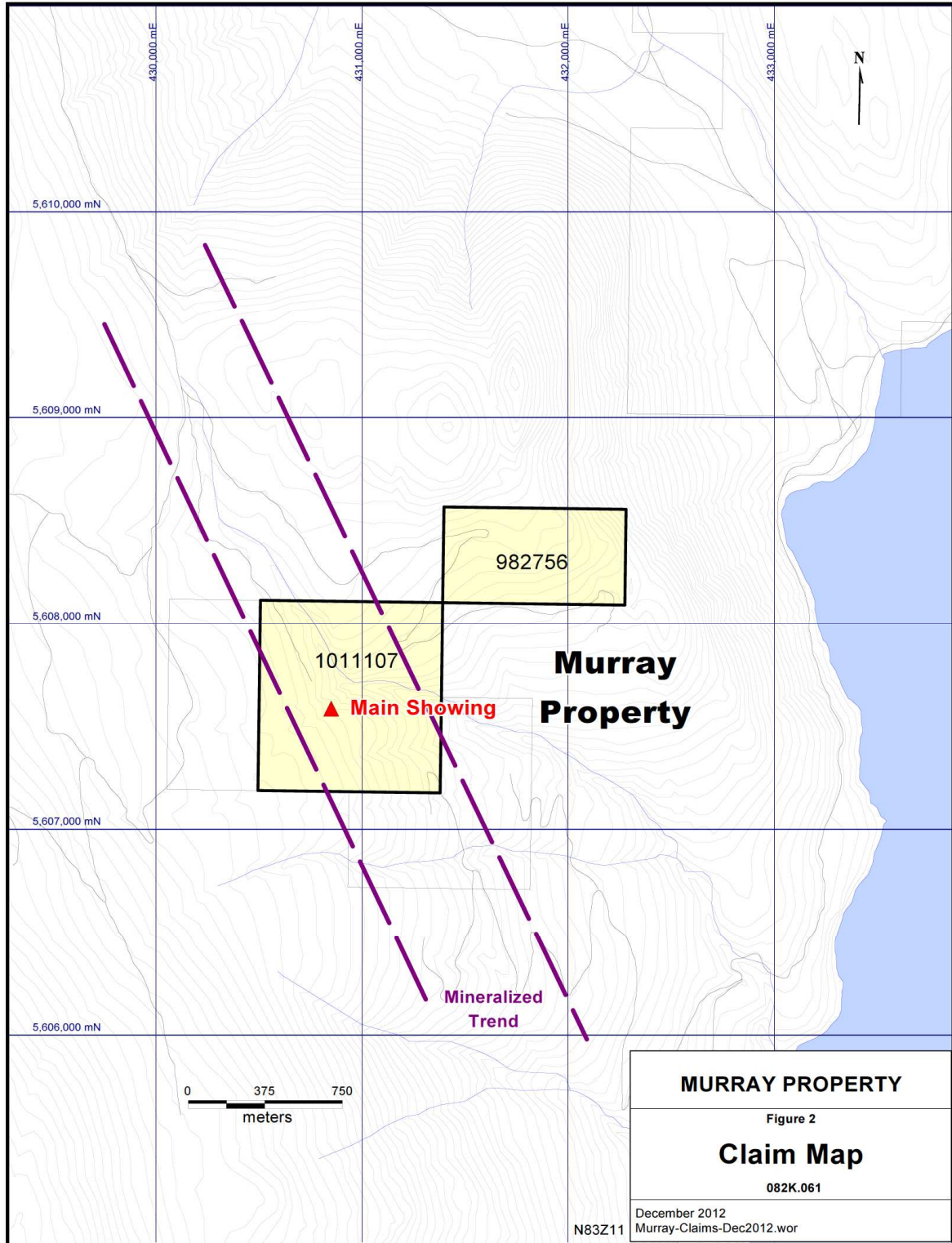
The claims are jointly owned by a prospecting syndicate, Selkirk Minerals Syndicate. The property currently consists of two claims covering an effective area of 123.01 hectares.

**Table 1 Claim Data**

<b>TENURE #</b>	<b># OF HECTARES</b>	<b>EXPIRY DATE</b>
1011107	82.01	January 14, 2013*
982756	41.00	April 27, 2013*

\* Prior to filing of this assessment report

Figure 2 Claim Map



## 5.0 REGIONAL AND LOCAL GEOLGY

*The following description of the regional geological context in which the Murray Property is situated was written by Jamie Kraft who has undertaken a mapping project in the area as part of his studies at the University of Alberta. The writer is indebted to Mr. Kraft for his help in this regard. A geological map will soon be available which will cover the Murray property as part of a larger area, (Kraft et al, in prep).*

### *Stratigraphy*

The Murray claims occur in a heterogeneous succession of amphibolitic schist to biotite schist with minor amphibolite and marble. The amphibolitic schist succession is likely the metamorphic product of intermixed volcanic, volcanoclastic, siliciclastic and minor carbonate rocks. It has been mapped along the shores of Upper Arrow Lake from Mount Sproat in the north to Scalping Knife Mountain at the Arrow Lakes narrows (Hyndman, 1968; Lemieux, 2006; Kraft et al., in prep), and likely traces westward into the Vernon map area (Thompson et al., 2006).

Although it was previously inferred to be Upper Mississippian to Permian in age (Read and Wheeler, 1976), the amphibolitic schist succession at Upper Arrow Lake was recently re-interpreted to have been deposited in an Upper Devonian or Lower Mississippian back-arc basin on the basis of new mapping and geochemical data (Kraft et al., in prep). The amphibolitic schist, which hosts the Murray claims, is lithologically similar to and is interpreted as a time-stratigraphic, eastern equivalent of Upper Devonian to Lower Mississippian members of the Eagle Bay assemblage, likely having deposited near the basin's eastern margin (Kraft, pers. comm. 2010). To the east, the amphibolitic schist conformably overlies highly variable Upper Devonian or Lower Mississippian metasediments and mafic to intermediate arc volcanic rocks. It is disconformably overlain by the sedimentary Upper Mississippian Milford Group.

### *Structure and metamorphism*

The Murray claims occupy the immediate hanging wall of the Columbia River fault zone – a moderately east dipping extensional fault of Eocene age with potentially kilometres of east-side down displacement (Lemieux, 2006; Thompson et al., 2006). The fault zone is



characterized by cataclasite and gouge zones that locally overprint mylonitic fabrics. Although chloritization and other hydrothermal alteration of country rock are typical near the trace of the fault zone, mineralization appears not to have genetic links to the fault zone. Compositional layering in the amphibolitic schist was transposed into the metamorphic foliation under epidote amphibolite-facies conditions during the mid-Jurassic (Read, 1973; Roback, 1993; Kraft pers. comm., 2010).

## **6.0 EXPLORATION HISTORY**

The Murray property or more importantly the mineralized showings which constitute the important part of the Murray property were discovered in 1983 by Fran Jenkins and Bill Cameron of Revelstoke, BC. Prior to this there is no record of any exploration work or discoveries in the area. Fran Jenkins and Bill Cameron conducted soil surveys, heavy metal Bloom geochemical tests, prospecting and Self Potential on the property. Their work demonstrated the occurrence of stratabound copper-rich massive sulphides hosted in metavolcanic and metasedimentary rocks, (Jenkins, 1984). Between 1983 and 1987 several companies visited the property and collected some data which is not available. In the spring of 1987 G.W.R. Resources Inc. optioned the property. They immediately enlarged the claim block by staking and established a grid over the central part of the claim. They laid out 22 line kilometers of grid with stations every 25 metres. The grid was chained and compassed. On the grid they conducted soil surveys and ground VLF-EM and Magnetics in addition to examining outcrops. A total of 69 soils, and 33 rock samples were collected. Some petrographic work was done as well, (Leishman, 1987). Leishman concluded that despite poor geophysical response, the obvious high grade and stratabound nature of the mineralization and some intriguing soil anomalies warranted further work.

Orphan Boy Resources Inc. staked the Mur 1 claim in October 1999 which covered the principal occurrences on the original Murray Property. Orphan Boy conducted a brief prospecting program in which a total of 30 rock samples were collected. Highlights included values of >10% Cu, 65.8ppm Ag and 6875 ppm Zn. Further work was recommended in the form of detailed soil and rock geochemistry, prospecting and Mag and VLF-EM geophysics, (Goodall, 2001).

In 2009, Selkirk Mineral Syndicate undertook some limited prospecting and stream sediment sampling which confirmed the stratabound nature of high grade sulphide mineralization described in previous work and helped to illustrate the strike potential of polymetallic mineralization, (Augsten, 2010).

## 7.0 PROSPECTING RESULTS

All samples are plotted on Fig. 3 with results and descriptions in Tables 2 and 3. Four rock samples were collected. Two samples, (16284, 16285) were collected on Longworth Creek downstream of the main showing. One sample, (16285) was anomalous in copper (2180ppm) and silver (2.9ppm). This sample occurred in a subcrop of quartz-mica schist with disseminated chalcopyrite, pyrite and magnetite. In general this rock is not too dissimilar to other copper-bearing rocks on the property. The location of the sample is approximately 300 metres ENE of the main showing. Due to the steep ravines in this area accurate GPS readings are difficult. Two further samples, (16287, 8868) were collected approximately 450 metres NNW of the main showing in the vicinity of the historic 'New Showing'. Best values were in #16287 returning 8060ppm Cu, 5.1ppm Ag, and 0.144 g/t Au in a quartz-feldspar-garnet-biotite schist. Copper occurs as chalcopyrite as disseminated blebs and grains in the foliation.

**Table 2 Rock Sample Results**

Rock_ID	Location GPS (Nad83)		Au g/t	Ag g/t	Cu ppm	Zn ppm	Pb ppm
	Easting	Northing					
16284	431060	5607685	<0.005	0.3	288	26	12
16285	431031	5607683	0.021	2.9	2180	225	10
16287	430713	5608022	0.144	5.1	8060	230	12
8868	430719	5608022	0.031	1.4	4170	107	11

Table 3 Rock Sample Descriptions

Rock_ID	Location GPS (Nad83)		ROCK SAMPLE DESCRIPTION
	Easting	Northing	
16284	431060	5607685	Quartz vein float; cg white to lt grey qtz with 1-2% fc py, tr fc cpy with a pale green, foliated, siliceous wallrock containing 2-3% disseminated pyrite
16285	431031	5607683	Subcrop of qtz-mica schist? With seams of cg py+mt; nearby outcrop; foliation S1 at 346/10; east side of creek below waterfalls;
16287	430713	5608022	1.2m wide outcrop of qtz-fsp-biotite-gt schist; tr diss cpy, py, mal and mt; biotite partially chloritized; weakly magnetic overall;
8868	430719	5608022	Outcrop of qtz-fsp-biotite-gt schist; 1% blebby diss. Cpy; some malachite on foliation surfaces; <1% diss mt; mod magnetic; biotite partially chloritized;

## 8.0 SOIL GEOCHEMISTRY

A total of 16 B-horizon soil samples were collected in the vicinity of the main showing as illustrated in Fig.5. Significant results are listed in Table 4 and complete analyses are available in Appendix II. Six samples (189612 to 189189617) were collected along the interpreted strike, (162°/342° of the main showing (one sample, 189612 to the north and 5 at 25 metres spacing south of the main showing, (189613 thru 189617). At that point 5 samples were collected at 10 metre spacing going east (072°), (189618 thru 1896222) and 5 samples were collected at 10 metre spacing going west (252°), (189623 thru 189627). The thesis was to try and geochemically identify a southern extension to the main showing by running a detailed crossline. It was thought that a 25 metre station spacing may be too coarse considering that a significant sulphide lens may only be several metres thick, therefore a 10 metre station spacing was used.

This small survey was successful with one clearly anomalous sample, (#189624) with elevated copper, silver, lead, manganese and molybdenum. Overburden depths at this location are not known but are estimated to be between one and three metres. This soil sample occurs approximately 140 metres south of the main showing and may represent the geochemical expression of a southern extension to the main zone mineralization.

**Table 4 Soil Sample Results**

Soil_ID	Location GPS (Nad83)		Ag	Cu	Pb	Mn	Mo
			ppm	ppm	ppm	ppm	ppm
189612	430840	5607603	0.14	35.4	8.5	140	0.61
189613	430846	5607549	0.11	65.6	10.8	273	0.77
189614	430854	5607527	0.24	22.1	8.2	371	0.72
189615	430862	5607502	0.5	31.2	11.1	385	1.19
189616	430870	5607478	0.63	32.4	10.3	186	0.82
189617	430877	5607454	0.48	37.6	18.4	657	1.35
189618	430887	5607457	0.24	43.9	15.1	316	1.08
189619	430896	5607460	0.56	21.8	9	347	0.87
189620	430906	5607463	0.34	26.4	15.4	382	0.99
189621	430915	5607466	0.35	23.9	15.1	537	1.5
189622	430925	5607469	0.44	13.2	14.4	606	1.03
189623	430868	5607451	0.22	35.5	14.5	392	0.65
<b>189624</b>	<b>430859</b>	<b>5607448</b>	<b>1.33</b>	<b>86.7</b>	<b>27</b>	<b>915</b>	<b>1.31</b>
189625	430849	5607445	0.42	25.5	12.9	317	1.16
189626	430839	5607442	0.34	19	16.2	698	1.6
189627	430830	5607439	0.11	32.3	10.2	256	0.58

## 9.0 CONCLUSIONS AND RECOMMENDATIONS

Limited prospecting as described in this report has identified copper bearing mineralization to the north and east of the main showing. Further prospecting and mapping is warranted with focus in the creek valleys where exposure is best. Standard B-horizon soil sampling has shown to be effective in identifying potential mineralized horizons. The density of sampling appears to be important. The single anomalous sample should be investigated by hand trenching if the overburden is not too deep. Further investigation should also consider the application of 'Ah' horizon sampling. It has been shown to be effective in deep overburden covered areas elsewhere.

Despite previous lack of success using basic geophysical techniques (VLF-EM) the massive nature of some of the chalcopyrite mineralization would indicate that given a large enough body of similar sulphides electromagnetic techniques should be successful. Additionally, widespread disseminated copper sulphides and pyrite indicate that induced polarization (IP) surveys may be used. The lack of argillaceous or pelagic rocks make this technique even more attractive.

Recommendations for further work should include the following:

1. It is recommended that the entire property be surveyed with airborne geophysical surveys measuring EM and Magnetics. The lines should be flown in a northeast-southwest direction.
2. Further detailed soil geochemistry should be considered. Ah horizon should be tested as to its efficacy on this property.
3. Prospecting should be carried out on Longworth Creek where current and previous work has identified copper and zinc mineralization.
4. Prospecting should be undertaken to the south in the vicinity of the anomalous copper and zinc in silts and where previous work identified copper soil geochemistry to 4000ppm.
5. Lastly detailed geological mapping should be carried out in the vicinity of the main mineralized showings to better understand the lithological and structural setting.

## 10.0 COST STATEMENT

<b>Labour</b>	M. Hudock (1 day @\$300.00)	\$300.00
	B. Augsten (1 day @ \$500.00)	\$600.00
<b>Truck and Fuel</b>		150.00
<b>ATV</b>		100.00
<b>Meals</b>		61.40
<b>Analyses</b>	ALS Minerals	586.04
<b>Report Preparation</b>		\$367.50
	<b>TOTAL</b>	<b>\$2,164.94</b>

## 11.0 REFERENCES

- Augsten, B.E.K., 2010: *2010 Geology Report on the Murray Property, Assessment Report # 31470.*
- Goodall, G., 2001: *Prospecting Report on the Murray Property, Mur 1 Mineral Claim, Assessment Report # 26765.*
- Hyndman, D.W., 1968. *Petrology and structure of the Nakusp map-area, British Columbia; Geological Survey of Canada, Bulletin 161, 95 p*
- Jenkins, F., 1984: *Prospecting Report, Murray Claims, Revelstoke Mining Division, Assessment Report # 12702.*
- Kraft, J.L., Thompson, R.I., and Dhesi, P. (in prep): *Geology, BEATON (82K/12), Geological Survey of Canada Open File Map, 1:50,000 scale.*
- Leishman, D., 1987: *Geological, Geochemical and Geophysical Report on the Murray Claims, for GWR Resources Inc., Assessment Report # 16361.*
- Lemieux, Y., 2006: *Structure, geochronology and thermobarometry of the eastern flank of the Shuswap metamorphic complex in the Upper Arrow Lake area, southeastern British Columbia. Ph.D. thesis, University of Alberta, Edmonton, Alberta, 172 p.*
- Read, P.B., 1973: *Petrology and structure of Poplar Creek map-area, British Columbia. Geological Survey of Canada, Bulletin 193, 144p*
- Read, P.B., and Wheeler, J.O., 1976: *Geology of the Lardeau west-half map-area, British Columbia. Geological Survey of Canada, Open File 432, 1:250,000.*
- Roback, R.C., 1993: *Late Paleozoic to Middle Mesozoic tectonic evolution of the Kootenay Arc, northeastern Washington and southeastern British Columbia. Ph.D. thesis, University of Texas, Austin, 237 p.*

Thompson, R.I., Glombick, P., Erdmer, P., Heaman, L.M., Lemieux, Y., and Daughtry, K.L., 2006:

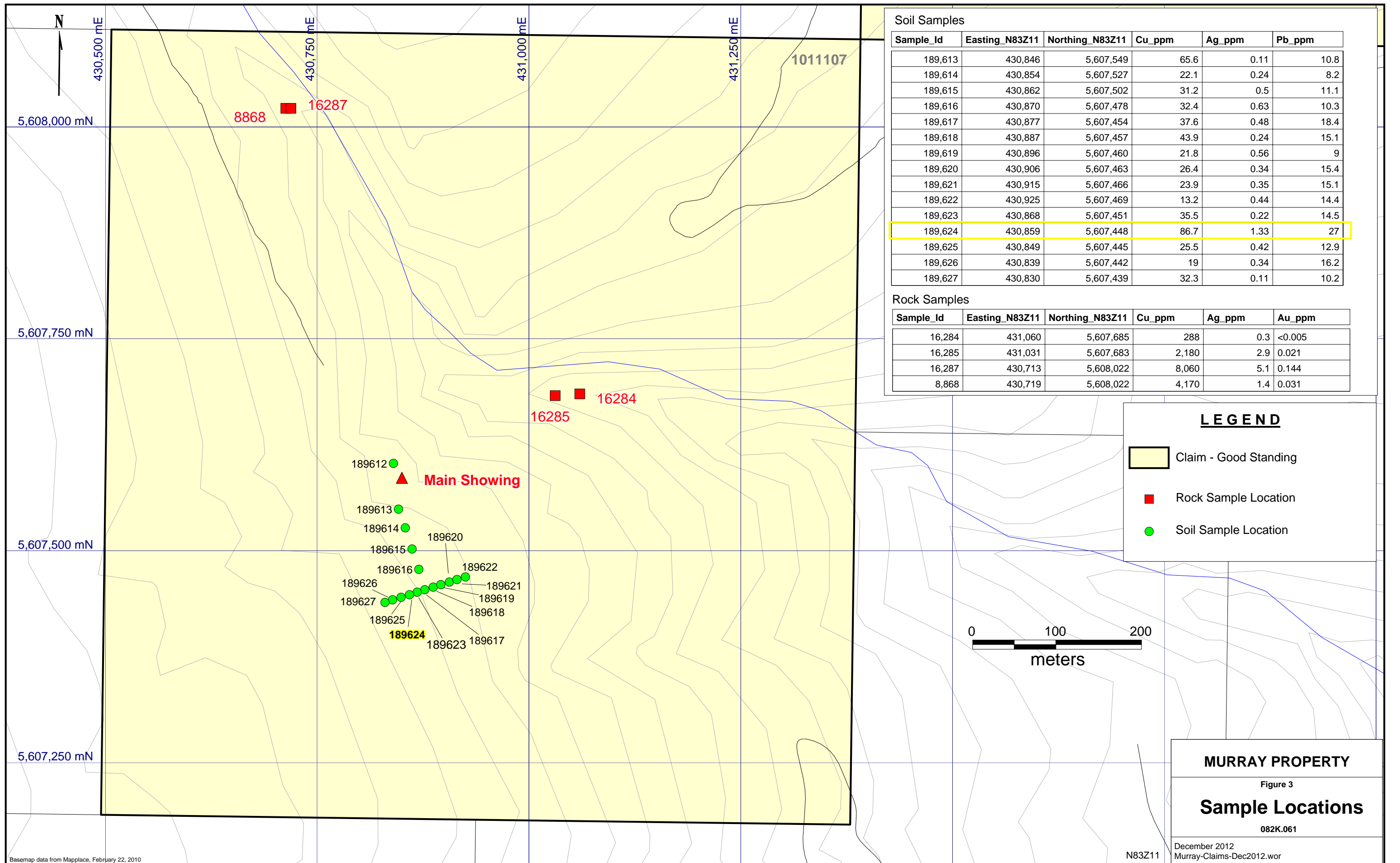
*Evolution of the ancestral Pacific margin, southern Canadian Cordillera: Insights from new geologic maps; In Colpron, M. and Nelson, J.L. eds., Paleozoic Evolution and Metallogeny of Pericratonic terranes at the Ancient Pacific Margin of North America, Canadian and Alaskan Cordillera. Geological Association of Canada, Special Paper 45, p. 435-484.*

MINFILE: British Columbia Mineral Occurrence database.

RGS: British Columbia geochemical database

MAPPLACE: interactive site for geoscience data for British Columbia.





**Soil Samples**

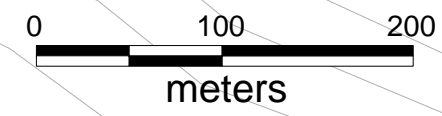
Sample_Id	Easting_N83Z11	Northing_N83Z11	Cu_ppm	Ag_ppm	Pb_ppm
189,613	430,846	5,607,549	65.6	0.11	10.8
189,614	430,854	5,607,527	22.1	0.24	8.2
189,615	430,862	5,607,502	31.2	0.5	11.1
189,616	430,870	5,607,478	32.4	0.63	10.3
189,617	430,877	5,607,454	37.6	0.48	18.4
189,618	430,887	5,607,457	43.9	0.24	15.1
189,619	430,896	5,607,460	21.8	0.56	9
189,620	430,906	5,607,463	26.4	0.34	15.4
189,621	430,915	5,607,466	23.9	0.35	15.1
189,622	430,925	5,607,469	13.2	0.44	14.4
189,623	430,868	5,607,451	35.5	0.22	14.5
189,624	430,859	5,607,448	86.7	1.33	27
189,625	430,849	5,607,445	25.5	0.42	12.9
189,626	430,839	5,607,442	19	0.34	16.2
189,627	430,830	5,607,439	32.3	0.11	10.2

**Rock Samples**

Sample_Id	Easting_N83Z11	Northing_N83Z11	Cu_ppm	Ag_ppm	Au_ppm
16,284	431,060	5,607,685	288	0.3	<0.005
16,285	431,031	5,607,683	2,180	2.9	0.021
16,287	430,713	5,608,022	8,060	5.1	0.144
8,868	430,719	5,608,022	4,170	1.4	0.031

**LEGEND**

- Claim - Good Standing
- Rock Sample Location
- Soil Sample Location



**MURRAY PROPERTY**

Figure 3  
**Sample Locations**

082K.061

December 2012  
Murray-Claims-Dec2012.wor

## **11.0 CERTIFICATE of AUTHOR**

*I, Bernhardt Augsten, P. Geo., do hereby certify that:*

1. *I am currently self-employed as a consulting geologist resident at:  
5936 Stafford Rd.  
Nelson, BC  
V1L 6P3*
2. *I graduated with a degree in Geology, BSc Hons, from Carleton University in 1985.*
3. *I am a member of the Association of Professional Engineers and Geoscientists of British Columbia.*
4. *I have worked as an exploration geologist since my graduation from university.*
5. *I am a part owner of the Murray Property.*

# **APPENDIX I**

## **CERTIFICATE OF ANALYSES**



ALS Canada Ltd  
2103 Dollarton Hwy  
North Vancouver BC V7H 0A7  
Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: SELKIRK MINERALS SYNDICATE  
5936 STAFFORD ROAD  
NELSON BC V1L 6P3

Page: 1  
Finalized Date: 28- NOV- 2012  
This copy reported on  
10- JAN- 2013  
Account: SELKMI

**CERTIFICATE KL12257603**

Project: Murray

P.O. No.:

This report is for 6 Rock samples submitted to our lab in Kamloops, BC, Canada on 13- NOV- 2012.

The following have access to data associated with this certificate:

BERNHARDT AUGSTEN

**SAMPLE PREPARATION**

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
CRU- 31	Fine crushing - 70% < 2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% < 75 um

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
ME- ICP41	35 Element Aqua Regia ICP- AES	ICP- AES
Ag- OG46	Ore Grade Ag - Aqua Regia	VARIABLE
ME- OG46	Ore Grade Elements - AquaRegia	ICP- AES
Au- AA23	Au 30g FA- AA finish	AAS

To **SELKIRK MINERALS SYNDICATE**  
**ATTN: ALS MINERALS**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

Signature:

Colin Ramshaw, Vancouver Laboratory Manager



ALS Canada Ltd.  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: SELKIRK MINERALS SYNDICATE  
 5936 STAFFORD ROAD  
 NELSON BC V1L 6P3

Page: 2 - A  
 Total # Pages: 2 (A - C)  
 Finalized Date: 28- NOV- 2012  
 Account: SELKMI

Project: Murray

CERTIFICATE OF ANALYSIS KL12257603

Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	Au- AA23 Au ppm	ME- ICP41 Ag ppm	ME- ICP41 Al %	ME- ICP41 As ppm	ME- ICP41 B ppm	ME- ICP41 Ba ppm	ME- ICP41 Be ppm	ME- ICP41 Bi ppm	ME- ICP41 Ca %	ME- ICP41 Cd ppm	ME- ICP41 Co ppm	ME- ICP41 Cr ppm	ME- ICP41 Cu ppm	ME- ICP41 Fe %
16284		1.41	<0.005	0.3	0.30	<2	<10	70	<0.5	<2	1.02	<0.5	5	5	288	2.26
16285		0.75	0.021	2.9	2.32	<2	<10	90	0.6	4	0.98	0.5	9	1	2180	6.58
16287		0.81	0.144	6.1	2.93	<2	<10	30	0.5	13	0.76	1.1	40	8	8060	8.50
<del>16288</del>		<del>0.07</del>	<del>0.70</del>	<del>1.00</del>	<del>0.11</del>	<del>12</del>	<del>10</del>	<del>10</del>	<del>0.0</del>	<del>2</del>	<del>0.02</del>	<del>0.0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0.00</del>
<del>16289</del>		<del>0.07</del>	<del>0.020</del>	<del>0.07</del>	<del>0.00</del>	<del>0.0</del>	<del>10</del>	<del>10</del>	<del>0.0</del>	<del>2</del>	<del>0.01</del>	<del>0.0</del>	<del>0</del>	<del>12</del>	<del>10</del>	<del>0.00</del>
8868		1.85	0.031	1.4	3.48	<2	<10	40	0.8	<2	1.34	<0.5	29	32	4170	6.63



ALS Canada Ltd  
 2103 Dollarton Hwy  
 North Vancouver BC V7H 0A7  
 Phone: 604 984 0221 Fax: 604 984 0218 www.alsglobal.com

To: SELKIRK MINERALS SYNDICATE  
 5936 STAFFORD ROAD  
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Page: 2 - B  
 Total # Pages: 2 (A - C)  
 Finalized Date: 28- NOV- 2012  
 Account: SELKMI

Project: Murray

**CERTIFICATE OF ANALYSIS KL12257603**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Ca ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm
		10	1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	
16284		<10	<1	0.10	10	0.14	347	<1	0.03	2	370	12	1.00	<2	1	55
16285		10	1	0.11	10	1.56	799	<1	0.04	<1	1820	10	0.71	<2	7	40
16287		10	<1	0.13	<10	1.82	964	16	0.02	5	550	12	1.01	20	5	23
<del>16299</del>		<del>10</del>	<del>1</del>	<del>0.01</del>	<del>10</del>	<del>0.01</del>	<del>5</del>	<del>1</del>	<del>0.01</del>	<del>1</del>	<del>10</del>	<del>2</del>	<del>0.01</del>	<del>2</del>	<del>1</del>	<del>1</del>
<del>16300</del>		<del>10</del>	<del>1</del>	<del>0.01</del>	<del>10</del>	<del>0.01</del>	<del>5</del>	<del>1</del>	<del>0.01</del>	<del>1</del>	<del>10</del>	<del>2</del>	<del>0.01</del>	<del>2</del>	<del>1</del>	<del>1</del>
8868		10	<1	0.26	<10	1.94	786	1	0.09	15	990	11	0.30	<2	9	48



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Project: Murray

CERTIFICATE OF ANALYSIS KL12257603

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-CP41	ME-ICP41	ME-ICP41	Ag-OG46
		Th	T	Tl	U	V	W	Zn	Ag
		ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
16284	20	0.01	<10	<10	4	<10	26		
16285		0.37	<10	<10	40	<10	225		
16287		0.20	<10	<10	93	<10	230		
<del>8868</del>		<del>0.33</del>	<del>&lt;10</del>	<del>&lt;10</del>	<del>124</del>	<del>&lt;10</del>	<del>107</del>		
8868		0.33	<10	<10	124	<10	107		



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**CERTIFICATE KL12257604**

Project: Murray  
 P.O. No.:  
 This report is for 16 Soil samples submitted to our lab in Kamloops, BC, Canada on  
 13- NOV- 2012.  
 The following have access to data associated with this certificate:  
 BERNHARDT AUGSTEN

**SAMPLE PREPARATION**


ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
SCR- 41	Screen to - 180um and save both

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION
ME- MS41	51 anal. aqua regia ICPMS

To: SELKIRK MINERALS SYNDICATE  
 ATTN: ALS MINERALS

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.  
 \*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager





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**CERTIFICATE OF ANALYSIS KL12257604**

Sample Description	Method Analyte Units LOR	WEI- 21	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	
		Recvd Wt. kg	Ag ppm	Al %	As ppm	Au ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm
		0.02	0.01	0.01	0.1	0.2	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
189612		0.31	0.14	0.90	1.8	<0.2	<10	40	0.33	0.15	0.12	0.06	13.95	5.4	11	0.80
189613		0.39	0.11	1.28	1.1	<0.2	<10	50	0.50	0.18	0.12	0.12	21.9	8.5	13	0.82
189614		0.33	0.24	1.48	1.6	<0.2	<10	50	0.35	0.18	0.07	0.15	14.00	7.2	11	1.15
189615		0.25	0.50	1.37	2.4	<0.2	<10	50	0.40	0.25	0.08	0.33	20.1	7.0	14	1.22
189616		0.21	0.63	0.86	1.6	<0.2	<10	50	0.23	0.25	0.06	0.18	12.30	4.0	9	1.16
189617		0.26	0.48	1.71	2.4	<0.2	<10	70	0.31	0.26	0.11	0.35	13.00	7.4	14	1.12
189618		0.32	0.24	1.32	2.3	<0.2	<10	30	0.35	0.23	0.11	0.26	14.60	7.9	13	0.70
189619		0.22	0.56	2.28	2.4	<0.2	<10	40	0.41	0.18	0.08	0.38	13.20	6.5	11	1.30
189620		0.17	0.34	1.42	2.1	<0.2	<10	50	0.28	0.23	0.10	0.59	11.45	6.4	10	0.84
189621		0.23	0.35	1.81	3.3	<0.2	<10	40	0.35	0.25	0.06	0.39	13.20	9.3	12	1.17
189622		0.16	0.44	1.07	1.6	<0.2	<10	50	0.21	0.31	0.03	0.24	12.00	4.6	7	1.02
189623		0.29	0.22	1.37	4.4	<0.2	<10	100	0.39	0.25	0.22	0.21	22.3	9.1	16	0.93
189624		0.17	1.33	1.13	3.4	<0.2	<10	70	0.46	0.37	0.08	0.83	15.30	11.0	11	1.57
189625		0.19	0.42	0.80	2.8	<0.2	<10	50	0.32	0.30	0.06	0.62	15.30	4.2	6	1.08
189626		0.22	0.34	1.32	2.7	<0.2	<10	50	0.25	0.29	0.05	0.78	14.10	6.0	12	1.23
189627		0.34	0.11	1.25	1.1	<0.2	<10	30	0.38	0.16	0.10	0.14	14.20	7.4	13	0.80

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Project: Murray

**CERTIFICATE OF ANALYSIS KL12257604**

Sample Description	Method Analyte Units LOR	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
		Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	Hg ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm
		0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
189612		35.4	1.73	3.74	<0.05	0.02	<0.01	0.015	0.05	6.0	12.8	0.33	140	0.61	<0.01	1.02
189613		65.6	1.99	4.96	0.06	0.02	0.02	0.019	0.07	10.4	12.9	0.40	273	0.77	0.01	1.41
189614		22.1	1.82	5.45	<0.05	0.04	0.04	0.017	0.04	6.4	13.7	0.27	371	0.72	<0.01	1.47
189615		31.2	2.42	7.37	<0.05	<0.02	0.06	0.030	0.04	8.1	13.1	0.26	385	1.19	<0.01	1.78
189616		32.4	2.03	7.56	<0.05	<0.02	0.04	0.022	0.03	5.8	5.1	0.11	186	0.82	<0.01	1.63
189617		37.6	3.30	9.89	<0.05	0.03	0.09	0.036	0.04	6.1	9.7	0.21	657	1.35	0.01	2.48
189618		43.9	2.74	5.60	0.05	<0.02	0.06	0.031	0.04	5.5	10.8	0.33	316	1.08	<0.01	1.20
189619		21.8	1.78	7.33	0.05	0.07	0.11	0.025	0.04	6.2	11.8	0.19	347	0.87	<0.01	1.81
189620		26.4	2.62	7.30	<0.05	0.02	0.08	0.046	0.03	5.5	8.1	0.18	382	0.99	0.01	1.93
189621		23.9	3.35	10.70	<0.05	0.03	0.09	0.043	0.03	6.2	9.8	0.19	537	1.50	<0.01	2.26
189622		13.2	2.12	12.10	<0.05	0.06	0.03	0.022	0.02	6.0	4.9	0.07	606	1.03	0.01	2.76
189623		35.5	2.66	6.11	0.05	<0.02	0.04	0.034	0.07	9.4	15.4	0.44	392	0.65	0.01	1.19
189624		86.7	2.30	10.30	<0.05	0.03	0.07	0.039	0.05	8.3	5.2	0.15	915	1.31	0.01	2.04
189625		25.5	1.86	8.79	<0.05	0.02	0.06	0.027	0.03	7.9	3.3	0.05	317	1.16	0.01	1.41
189626		19.0	2.87	10.90	<0.05	0.03	0.10	0.042	0.04	6.8	5.7	0.11	698	1.60	<0.01	1.64
189627		32.3	1.82	4.11	<0.05	0.04	0.03	0.017	0.08	5.6	14.2	0.38	256	0.58	<0.01	0.98

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**CERTIFICATE OF ANALYSIS KL12257604**

Sample Description	Method Analyte Units LOR	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	
		Ni ppm	P ppm	Pb ppm	Rb ppm	Re ppm	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %
		0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
189612		9.7	700	8.5	9.1	<0.001	0.01	0.06	2.0	<0.2	0.3	7.0	<0.01	0.02	2.9	0.041
189613		9.8	580	10.8	8.9	<0.001	0.01	0.11	2.8	0.3	0.5	9.8	0.01	0.02	3.3	0.065
189614		8.2	350	8.2	11.1	<0.001	0.02	0.15	1.6	0.2	0.5	7.2	0.02	0.03	1.1	0.056
189615		8.2	570	11.1	11.5	<0.001	0.02	0.26	1.6	0.3	0.7	9.2	<0.01	0.05	1.1	0.071
189616		5.3	330	10.3	10.6	<0.001	0.02	0.24	1.2	0.2	0.8	7.7	<0.01	0.03	0.6	0.083
189617		7.5	700	18.4	10.1	<0.001	0.04	0.38	1.4	0.6	0.9	15.1	0.01	0.05	0.6	0.103
189618		7.9	670	15.1	6.1	<0.001	0.02	0.42	1.5	0.4	0.4	8.6	<0.01	0.03	0.8	0.056
189619		5.5	650	9.0	12.7	<0.001	0.02	0.49	1.6	0.5	0.7	7.7	0.06	0.04	0.6	0.075
189620		7.1	450	15.4	7.4	<0.001	0.04	0.67	1.3	0.3	0.6	12.8	0.02	0.04	0.7	0.080
189621		5.7	950	15.1	8.8	<0.001	0.03	0.55	1.5	0.3	0.8	8.9	0.02	0.04	1.0	0.102
189622		3.9	480	14.4	7.9	<0.001	0.01	0.16	1.3	<0.2	1.4	5.2	0.04	0.03	1.1	0.132
189623		11.9	930	14.5	11.1	<0.001	0.02	0.42	1.9	0.2	0.5	16.7	<0.01	0.03	1.2	0.055
189624		11.2	510	27.0	11.3	<0.001	0.04	0.59	1.0	0.3	1.3	11.1	<0.01	0.03	0.3	0.104
189625		5.0	400	12.9	10.3	<0.001	0.03	0.30	0.7	0.2	1.1	8.3	<0.01	0.03	0.2	0.084
189626		5.9	820	16.2	16.4	<0.001	0.04	0.63	0.8	0.4	1.0	6.4	<0.01	0.03	0.3	0.071
189627		10.5	660	10.2	10.6	0.001	0.01	0.17	1.9	0.3	0.4	5.8	<0.01	0.02	1.2	0.037

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**CERTIFICATE OF ANALYSIS KL12257604**

Sample Description	Method Analyte Units LOR	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
		Tl	U	V	W	Y	Zn	Zr
		ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.02	0.05	1	0.05	0.05	2	0.5
189612		0.04	0.54	25	0.68	3.31	38	0.7
189613		0.06	0.98	33	0.24	5.48	48	0.6
189614		0.06	0.62	29	0.26	2.76	59	1.5
189615		0.06	0.84	37	0.28	2.46	39	<0.5
189616		0.05	0.65	41	0.25	1.88	27	0.6
189617		0.06	0.85	45	0.30	2.10	50	1.2
189618		0.04	0.66	38	0.20	2.71	37	<0.5
189619		0.08	0.69	29	0.25	3.06	52	2.6
189620		0.06	0.71	36	0.25	1.99	40	1.0
189621		0.06	0.80	42	0.30	2.30	40	1.9
189622		0.07	0.63	39	0.29	1.88	29	2.8
189623		0.06	0.99	40	0.24	3.31	49	<0.5
189624		0.07	1.73	34	0.23	3.07	49	1.3
189625		0.05	0.76	26	0.21	3.11	21	0.9
189626		0.08	0.93	37	0.26	2.01	35	1.3
189627		0.07	0.49	27	0.18	3.30	55	1.0

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**CERTIFICATE OF ANALYSIS KL12257604**

Method	CERTIFICATE COMMENTS
ME- MS41	Gold determinations by this method are semi- quantitative due to the small sample weight used (0.5g).