

MacDonald Mines Reports that Grab Samples, Collected 7 km from Scadding Mine, Indicate Potential for Large System on the SPJ Property

TORONTO, Dec. 16, 2019 -- MacDonald Mines Exploration Ltd. (TSX-V: BMK) ("MacDonald Mines", "MacDonald" or the "Company") announces highlights from one hundred and eighty-eight (188) grab samples collected outside of the Scadding Mine footprint. Polymetallic mineralization, indicative of an Iron-Oxide-Copper-Gold ('IOCG') deposit, was observed 7 kilometres east of the Scadding Mine (Figure 1). The grab samples were collected primarily on the Jovan Property where channel sampling in 2018 revealed significant concentrations of gold, cobalt, copper and nickel at the Brady Showing (see *Nov. 27, 2018 News Release*). Results from 19 holes of the now completed Fall 2019 drilling program at the SPJ property are still pending and will be announced as they are received.

Table 1: Assay highlights from grab samples* from regional exploration on the SPJ Property (*The reader is cautioned that grab samples are selective by nature and may not represent the true mineralization on the property)

Gold (g/t)	Silver (g/t)	Copper (ppm)	Cobalt (ppm)	Nickel (ppm)	Sample ID	X	Y
0.13	0.07	9	213	511	709157	528120	5161223
0.21	0.09	3	124	297	709158	528120	5161223
0.06	0.07	6	225	461	709160	528120	5161223
0.05	0.06	16	315	746	709189	528330	5162771
0.25	0.03	3	346	687	709192	528590	5163444
0.1	0.79	2020	66	595	709193	536303	5165195
0.37	1.19	11500	55	628	709196	536739	5165311
0.01	0.17	372	208	123	709953	535810	5165100
0.05	0.08	50	286	127	709955	536196	5165460
0.12	0.05	14	219	50	709956	536196	5165460
0.02	0.21	1270	196	855	709959	538183	5165611
0.01	0.08	375	267	797	709961	538275	5165639
1.70	7.76	30900	96	592	709964	537809	5165684
0.81	n/a	n/a	n/a	n/a	752039	508630	5185089
0.63	0.16	36	68	64	916608	536776	5165889
0.69	0.53	325	969	580	916609	536776	5165889
0.16	0.03	24	864	22	916659	536174	5165765
0.02	0.11	269	550	115	916666	538157	5165633
0.01	0.11	178	95	1140	918007	538399	5166057
0.01	0.22	527	63	2120	918016	538764	5165805
0.22	0.42	187	137	706	918018	539049	5165850
1.55	2.13	3900	223	625	918031	536548	5165780
0.09	1.02	4920	28	20	918039	542690	5166254
0.02	0.07	504	203	886	918042	538282	5165656
0.02	0.18	922	177	792	918044	538176	5165626
0.05	0.12	335	412	278	918045	538176	5165626
0.01	0.08	628	170	913	918058	538275	5165639
0.12	0.2	726	259	906	918061	538153	5165654
0.05	0.23	791	759	670	918062	538153	5165654
0.23	0.11	401	1	12	918064	537809	5165684
0.52	0.16	346	6	42	918065	537809	5165684
0.04	0.04	29	263	20	918074	536164	5165762
0.03	0.07	5	548	22	918076	536170	5165764
1.01	1.04	4500	1540	129	918077	536178	5165773
0.23	0.59	819	261	40	918078	536178	5165773
0.11	0.14	1670	242	57	918080	536182	5165782
1.81	0.38	2540	108	30	918081	536182	5165782
0.71	9.92	6630	49	35	918091	536078	5164831
2.39	0.27	649	951	1190	918094	536598	5165882

Figure 1 is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/98e94672-edaf-46b9-a9a3-7e268042106d>

Quentin Yarie, MacDonald's President and CEO commented: "Our regional exploration program on the SPJ property continues to expand the footprint of the mineralized system and indicates that polymetallic mineralization extends at least 7 km east of the Scadding Deposit. Our exploration results also suggest that high-grade gold-cobalt-copper-nickel mineralization that was sampled at the Brady Showing occurs in many other locations on the property. Overall our 2018 and 2019 exploration programs suggest that the SPJ property has the potential to host an Iron-Oxide-Copper-Gold system."

Eastern extension of the Scadding Deposit hydrothermal system in the Jovan Sector

MacDonald Mines surface exploration work on the Jovan property encountered multiple zones of polymetallic mineralization that contained variable gold, cobalt, copper, nickel and silver. Comparable to the mineralized zones observed at, and near, the Scadding Deposit, corridors of sodic alteration, leading to the formation of albitites, appear to preferentially host zones of polymetallic mineralization.

MacDonald's exploration work also revealed that many of the mineralized zones in the Jovan area of the SPJ property are spatially associated with a ENE-trending structural corridor at least 2.5km long. This corridor is defined in part by the alignment of many positive magnetic anomalies. MacDonald's exploration work showed that the strongest magnetic anomaly, 500x175m in size, relates to the formation of hydrothermal magnetite and to zones of semi-massive pyrrhotite associated with significant cobalt and nickel enrichments. The Brady Showing, where MacDonald's 2018 channel samples contains up to 4.31% copper, 4.42 g/t gold, 0.011% cobalt, 11.15 g/t silver and 0.013% Ni over 3.6 metres, and 3.44% cobalt, 3.81 g/t gold, 0.14% nickel, 0.59 % copper, and 3.79 g/t silver over 1.5 metres is also located just north of that structural corridor.

Located just outside the SPJ property, the McLeod Showing, where historic drilling intersected up to 11.65 g/t gold over 8.69 metres, is also spatially associated with that structural corridor. The reader is cautioned that the mineralization observed at the McLeod Showing may not be representative of the mineralization and grades present on MacDonald's SPJ property.

On-site Quality Assurance/Quality Control ("QA/QC") Measures

Grab samples were transported in security-sealed bags for analyses to Actlabs Labs. in Ancaster, Ontario. Individual samples are labeled, placed in plastic sample bags and sealed. Groups of samples are then placed into durable rice bags and then shipped. The remaining coarse reject portions of the samples remain in storage if further work or verification is needed.

MacDonald has implemented a quality-control program to comply with best practices in the sampling and analysis of drill core. As part of its QA/QC program, MacDonald inserts external gold standards (low to high grade) and blanks every 60 samples in addition to random standards, blanks, and duplicates. All samples over 10 g/t gold or the samples with abundant visible gold are analysed by 1 kilogram metallic screen.

SPJ Property highlights

- 100% ownership
- 17,720 hectares in excellent mining jurisdiction and close to infrastructure
- Hosts the high-grade past producing Scadding Gold Mine
- Evidence of polymetallic mineralization at the Scadding Deposit indicative of IOCG potential
- Significant gold, cobalt-copper, silver, nickel and rare earth showings outside of the Scadding Deposit footprint

Historically, the Scadding Mine produced 914 kilograms of gold from 127,000 tonnes of mineralized material grading 7.2 g/t (OFR 5771). MacDonald's reinterpretation of the geological model at the Scadding Deposit and larger SPJ property indicates that it could host a gold-rich Iron-Oxide-Copper-Gold deposit and that significant gold structures may have been missed by previous operators' drilling campaigns (2009-2011).

Figure 2 is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/78c34e2a-0f65-46c6-af57-cd5a8cd1e948>

Qualified Person

Quentin Yarie, P Geo. is the qualified person responsible for preparing, supervising and approving the scientific and technical content of this news release.

About MacDonald Mines Exploration Ltd.

MacDonald Mines Exploration Ltd. is a mineral exploration company headquartered in Toronto, Ontario focused on gold exploration in Canada. The Company is focused on developing its large SPJ Project in Northern Ontario.

The Company's common shares trade on the TSX Venture Exchange under the symbol "BMK".

To learn more about MacDonald Mines, please visit www.macdonaldmines.com

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