

Initial Metallurgical Testwork Shows Potential for High Silver Recoveries at Cuitaboca

5 October 2017 - Santana Minerals Limited ('Santana') is pleased to report highly encouraging results from initial metallurgical test work carried out on composite samples from three drill holes from the Mojardina Prospect at the Company's flagship Cuitaboca Project.

This preliminary testwork resulted in very high silver recoveries using both direct leaching and rougher flotation tests, suggesting the ore is highly amenable to conventional processing methods for silver recovery.

Metallurgical Test Work

A preliminary test program was carried out on composite samples from 3 drill holes of the Mojardina Prospect (**Table 1**) at the Cuitaboca Silver Project in Mexico.

Table 1

Hole	Interval (m)	Average Ag (g/t)	Sample Mass (Kg)
RC16CT-19 (Evangalina)	65-110	45	245
RC16CT-21 (Evangalina)	0-35	221	162
RC16CT-23 (Las Animas)	24-52	216	149

The purpose of the preliminary metallurgical test program was to determine initial leaching and flotation performance to recover the main material of economic interest, Silver.

The Metallurgical test work was carried out by Core Resources, Albion laboratory in Brisbane, Australia.

A total of 556kg of RC drill core rock chips from the three drill holes was divided into 3 composite samples.

Representative samples for the three drill holes were sent to Bureau Veritas Minerals Laboratory in British Columbia, Canada for Mineralogical assessment using QEMSCAN Particle Mineral Analysis (PMA) and QEMSCAN Trace Mineral Search (TMS). A summary of the chemical and mineralogical contents of the samples tested is shown in **Table 2**.

Table 2 - Chemical and Mineralogical Composition data

Chemical Assays (% or g/t)				Mineral Contents (Wt %)			
Element	Hole 19	Hole 21	Hole 23	Minerals	Hole 19	Hole 21	Hole 23
Cu	0.01	0.02	0.02	Silver Minerals	0.01	0.03	0.02
Pb	0.06	0.28	0.07	Sulphide Minerals	0.12	0.14	0.09
Zn	0.15	0.73	0.10	Pb Oxides	0.07	0.21	0.10
Fe	3.14	3.63	4.51	Iron Oxides	2.15	2.80	3.23
S	0.03	0.02	0.03	Ilmenite	0.60	1.02	1.68
Ag	40.1	199.6	215.3	Quartz	28.9	22.0	15.1
Au	0.04	0.06	0.03	K-Feldspars	49.7	61.2	61.7
				Carbonates	7.68	0.49	2.74
				Micas	7.41	7.54	5.59
				Chlorite	1.52	1.05	7.30
				Kaolinite (Clay)	0.08	0.35	0.72
				Others	1.76	3.17	1.73
				Total	100	100	100

Particle Mineral Analysis showed a high degree of silver mineral liberation could be expected at a partial size of 150 micron and that liberated silver would likely be amenable to cyanide leaching.

Leach Test Results

A series of standard Carbon In Leach (CIL) bottle roll tests were conducted on whole rock portions cut from the composite samples at a target grind size of 75 micron and leaching duration of 48 hours. Results of the leach tests are shown in **Table 3**, and confirm the amenability of the silver to be extracted by leaching with silver recoveries greater than 93% being achieved.

Table 3 - Silver extraction by cyanide leaching

Sample	pH	Lime Consumption (Kg/t)	Cyanide Consumption (Kg/t)	Ag Extraction (%)
Hole 19	10.9	1.0	1.6	93.1
Hole 21	10.9	2.0	1.8	95.3
Hole 23	10.9	1.6	2.2	98.4

Flotation Test Results

Flotation is a standard mineral beneficiation process, where after grinding the ore the minerals of value are concentrated and separated from the minerals of no value by taking advantage of mineral hydrophobicity differences. Rougher flotation is the first stage of the flotation process where the maximum amount of the valuable mineral is concentrated. Rougher flotation results are shown in **Table 4**.

Table 4 - Rougher Flotation Results

Sample	% weight to concentrate	Concentrate grade Ag (g/t)	Ag Recovery to concentrate (%)	Comment
Hole 23	28.9	649	93.6	32 % Solids
Hole 23	16.1	1,170	88.2	22% Solids
Hole 23	8.8	2,229	86.8	32% Solids & 500g/t Sodium Silicate



Figure 1: Rougher flotation testwork

Initial rougher flotation resulted in 93.6% Ag recovery to a concentrate grading 649g/t Ag consisting of 28.9% of the mass in the flotation test. Subsequent tests at lower % solids and with the addition of sodium silicate highlight the potential to increase the grade of the concentrate by reducing the mass of concentrate with a mild reduction in Ag recovery.

The above results suggest the possibility of producing a bulk concentrate which would substantially reduce the size of a leaching circuit. It may also allow the transportation of a high grade concentrate for treatment by others.

Conclusion

The preliminary test work to date has shown that the recovery of Ag by either a direct cyanidation route or by leaching a flotation concentrate remain viable alternatives. Additional test work to further refine flotation performance is planned.

With no detection of deleterious elements and the ore appearing to be highly amenable to conventional, well understood and low-cost processing routes, these results open up the possibility for favourable operating costs per ounce of silver recovered from any future mining operation, subject to the successful delineation of a bulk tonnage silver resource.

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About Santana

Santana is a precious metals explorer focused on Mexico where it's primary focus is earning an initial 80% interest in the Cuitaboca Silver-Gold project in Sinaloa State. Santana also holds 100% of the Namiquipa Silver Project in Chihuahua.

Additional information about Santana and its projects is available on the website: www.santanaminerals.com

Competent Person's Statement – Metallurgical Results

The results reported herein, insofar as they relate to metallurgical test work results, are based on information provided to and reviewed by Mr Greg Moore, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and a consultant to the Company. Mr Moore has sufficient experience relevant to the mineralogy and type of deposit under consideration and the typical beneficiation thereof. Mr Moore consents to the inclusion in the report of the matters based on the reviewed information in the form and context in which it appears.

Competent Person's Statement – Exploration Results

The results reported herein, insofar as they relate to exploration activities and exploration results, are based on information compiled by Mr Jason Beckton, who is a Member of the Australian Institute of Geoscientists. Mr Beckton is a part time consultant to Santana. Mr Beckton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Beckton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.