Sept 2023 - El Mochito Mine Presentstion.pptx

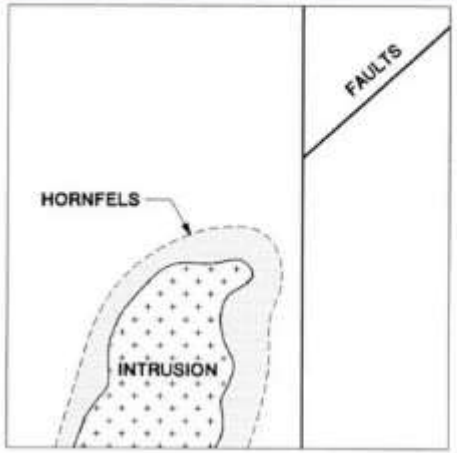
El Mochito Mine – One of the Greatest Honduran Investments of the 20th Century

American Pacific Honduras S.A. (Ampac)
A Kirungu Corporation Company

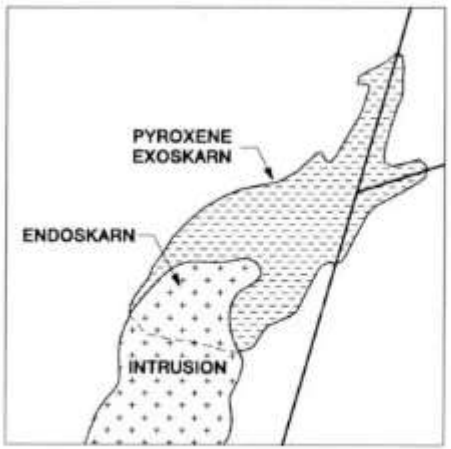
Skarn Deposits- Basics

- The term "skarn" was originally used by old Swedish miners to refer to very tough rocks comprised of coarse-grained, calc-silicate gangue minerals associated with magnetite and chalcopyrite deposits in Sweden.
- Evidence to suggests that mining of skarns took place as far back as 4000 years ago by ancient Chinese, Greek and Romans.
- Only since the 19th century did skarn deposits begin to be described in scientific publications when Alfred Elis Törnebohm used the term in 1875 publication.
- Currently defined as " a calc-silicate rock formed by metasomatic replacement of carbonate lithologies by silicate minerals, during regional or contact metasomatic processes connected to igneous intrusions."
- Meaning – a skarn is a metasomatic rock with a complex mineralogy of granoblastic texture, composed of calc-silicate minerals such as garnets, epidote, vesuvianite, diopside and wollastonite, originating from the percolation of magmatic fluids in a carbonate rock.
- Classified based on scale, structure, replaced rock and prevailing economic metals.
- Exoskarn – occurs when the protolith is in a carbonate rock; alteration assemblage is external to the intrusion.
- Endoskarn – occurs if the protolith is an igneous rock; alteration in internal to the intrusion.
- Seven major types: Au, Cu, Fe, Mo, Sn, W, Zn-Pb.

Schematic Evolution of a Calcic Skarn Deposit



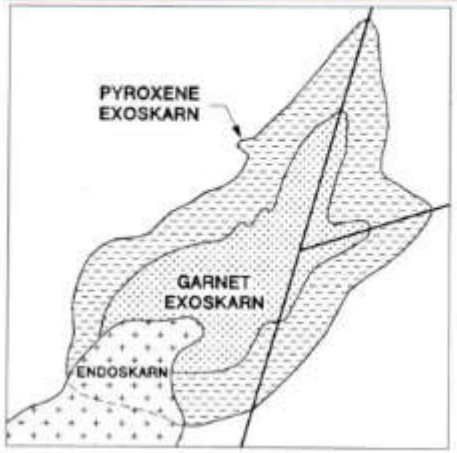
- Intrusion of magma into a carbonate sequence and formation of contact hornfels.



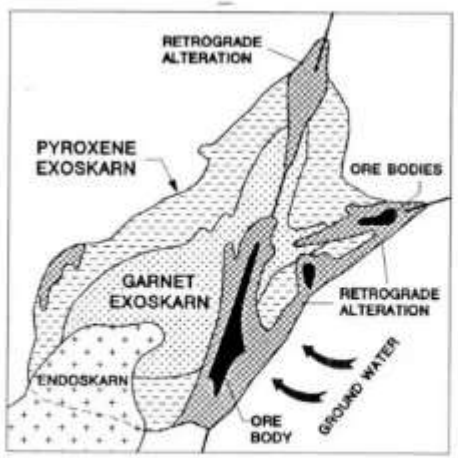
- Infiltration of hydrothermal fluids to produce endoskarn and pyroxen-rich exoskarn.

Webster & Ray, 1990

Schematic Evolution of a Calcic Skarn Deposit



- Continued infiltration with progressive expansion of exoskarn envelope and development of proximal garnet-rich exoskarn.
- Skarn controlled partly by lithologies, bedding planes and fractures.
- Some mineralization may occur at this stage.



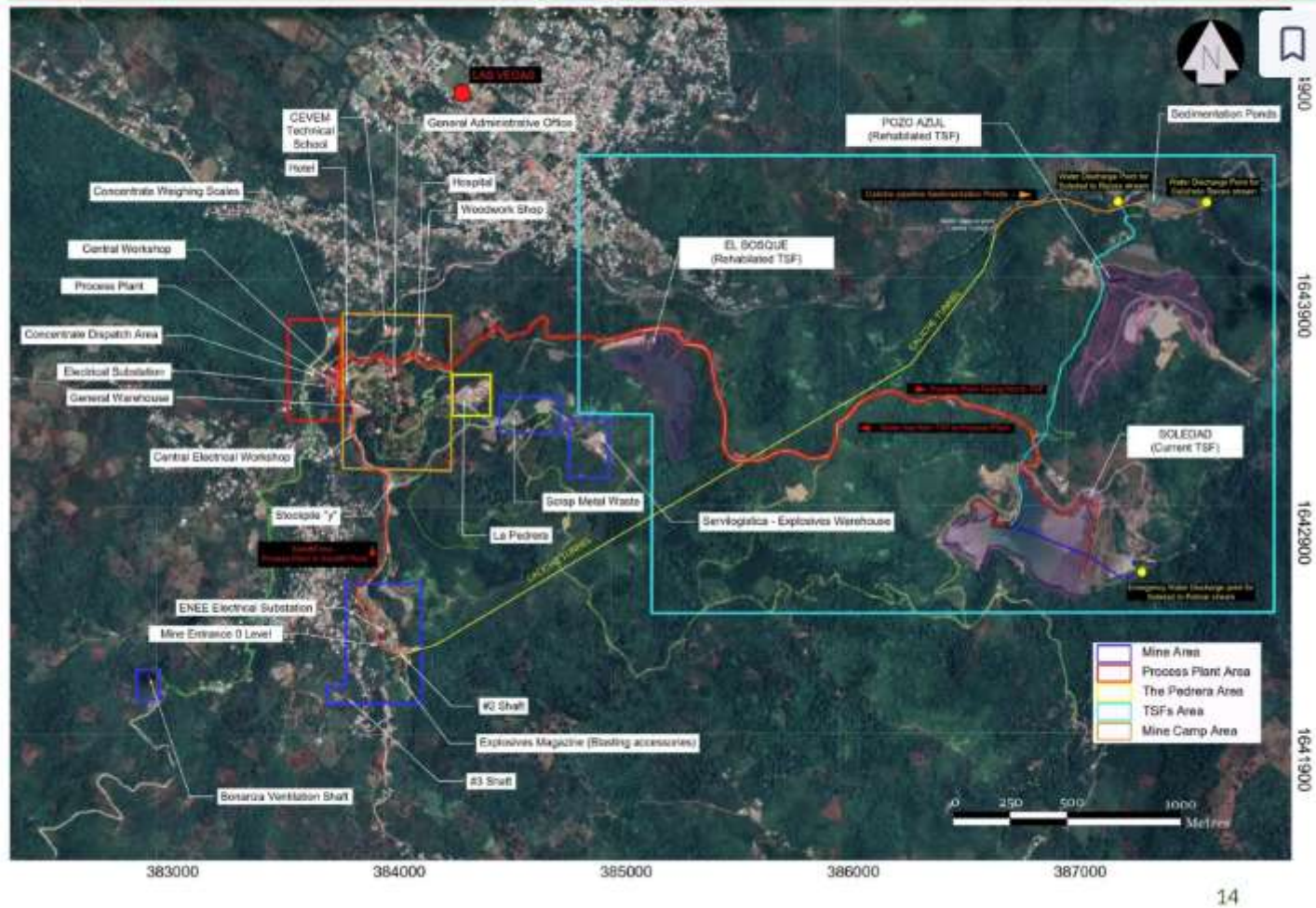
Webster & Ray, 1990

- Hydrothermal system wanes and cools accompanied by retrograde overprinting. (anhydrous minerals are replaced by hydrous minerals. i.e., garnet, Mn pyroxene, wollastonite bustamite are replaced by epidote, chlorite, calcite, quartz, flourite.
- Metals are introduced or scavenged and redeposited to form economic orebodies.
- Structural/lithological controls and influence of metoric water result in irregularily distributed orebodies that are notoriously difficult to delineate.

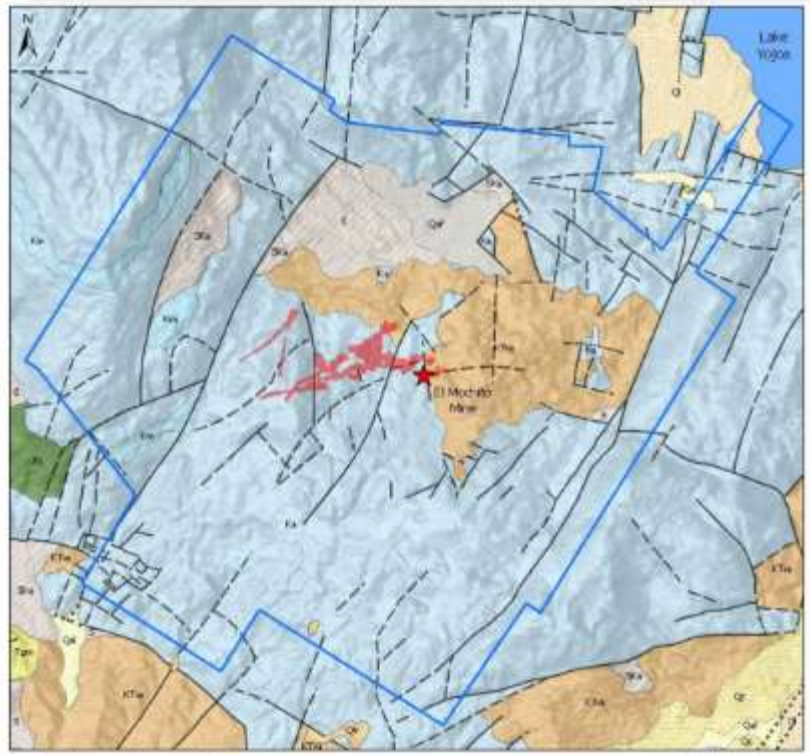
El Mochito- History

- 1938 – Discovered
- 1946 - Purchased by the New York & Honduras Rosario Mining Company (founded 1880).
- 1948 - Underground production starts. Initial products were a jig concentrate containing native silver along with silver and gold dore.
- 1960 – greater volumes of sulphide material from deeper levels made the production of Zn and Pb concentrates economically feasible.
- 1973 – Company was renamed Rosario Mining Corporation.
- 1980 – Acquired by Amax and operated as a subsidiary.
- 1987 – Ceased production for several months due to higher than acceptable taxes.
- 1987 – AMPAC purchased the operations and exploration properties from Amax.
- 1990 – Breakwater Resources Ltd. Purchased AMPAC.
- 2011 – Nyrstar Group acquired Breakwater.
- 2016 – Ascendant Resources Ltd. (originally Morumbi Resources Inc.) acquired El Mochito mine and all facilities.
- 2020 –Kirungu Corporation acquired El Mochito from Ascendant Resources

El Mochito – Surface Overview

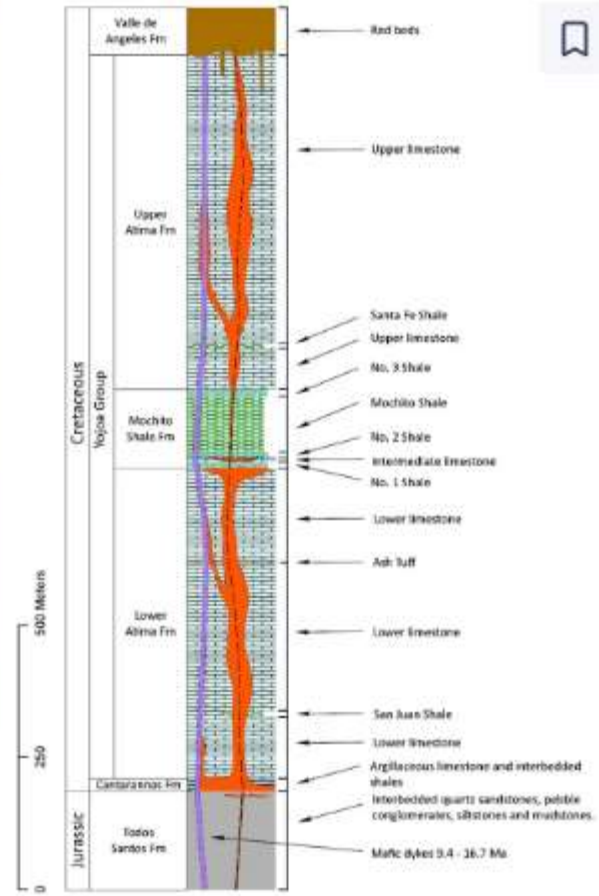


Mochito Regional Geology and Stratigraphy



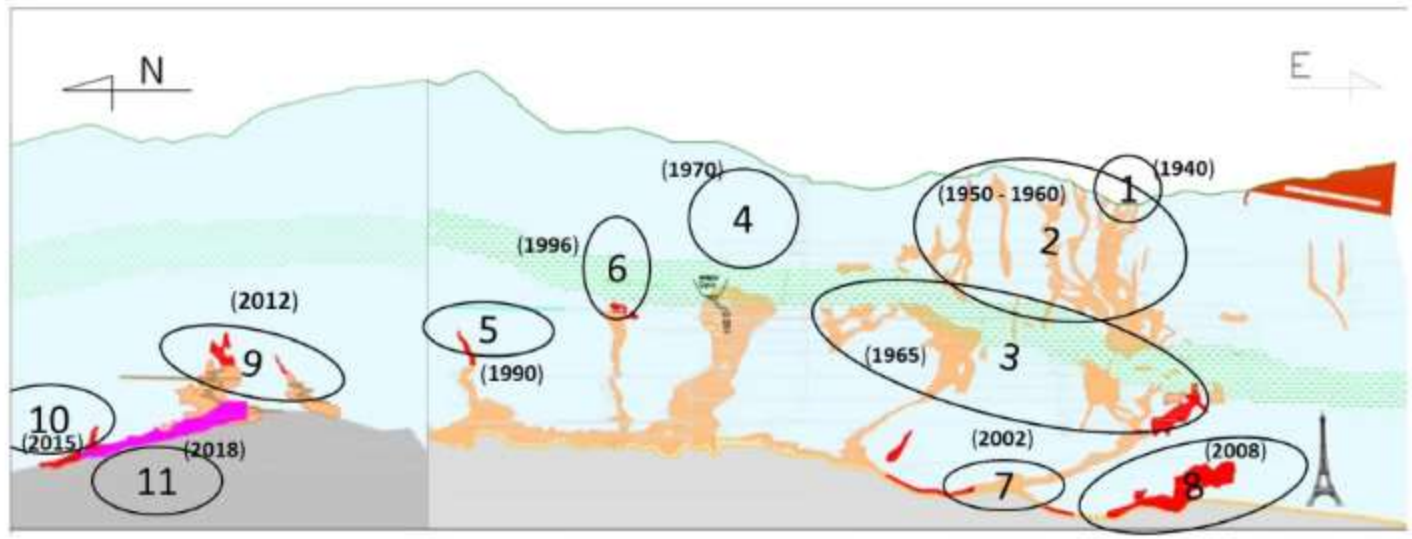
Geology of the El Mochito Graben

Qal - Alluvium
Qaf - Alluvial Fan
Ql - Lacustrine Sediments
Qc - Colluvium
Qtr - Travertine
Tpm - Padre Miguel Tuffs
Tm - Matagalpa Lava Flows
KTva - Valle de Angeles Redbeds
Ka - Atima Limestone
Km - Mochito Shale
Jts - Todos Santos Sediments
S - Landslide
SKa - Limestone Landslide
Faults
Inferred fault
Hidden Faults
Contacts
Inferred contact
Mochito Concession
Orebodies

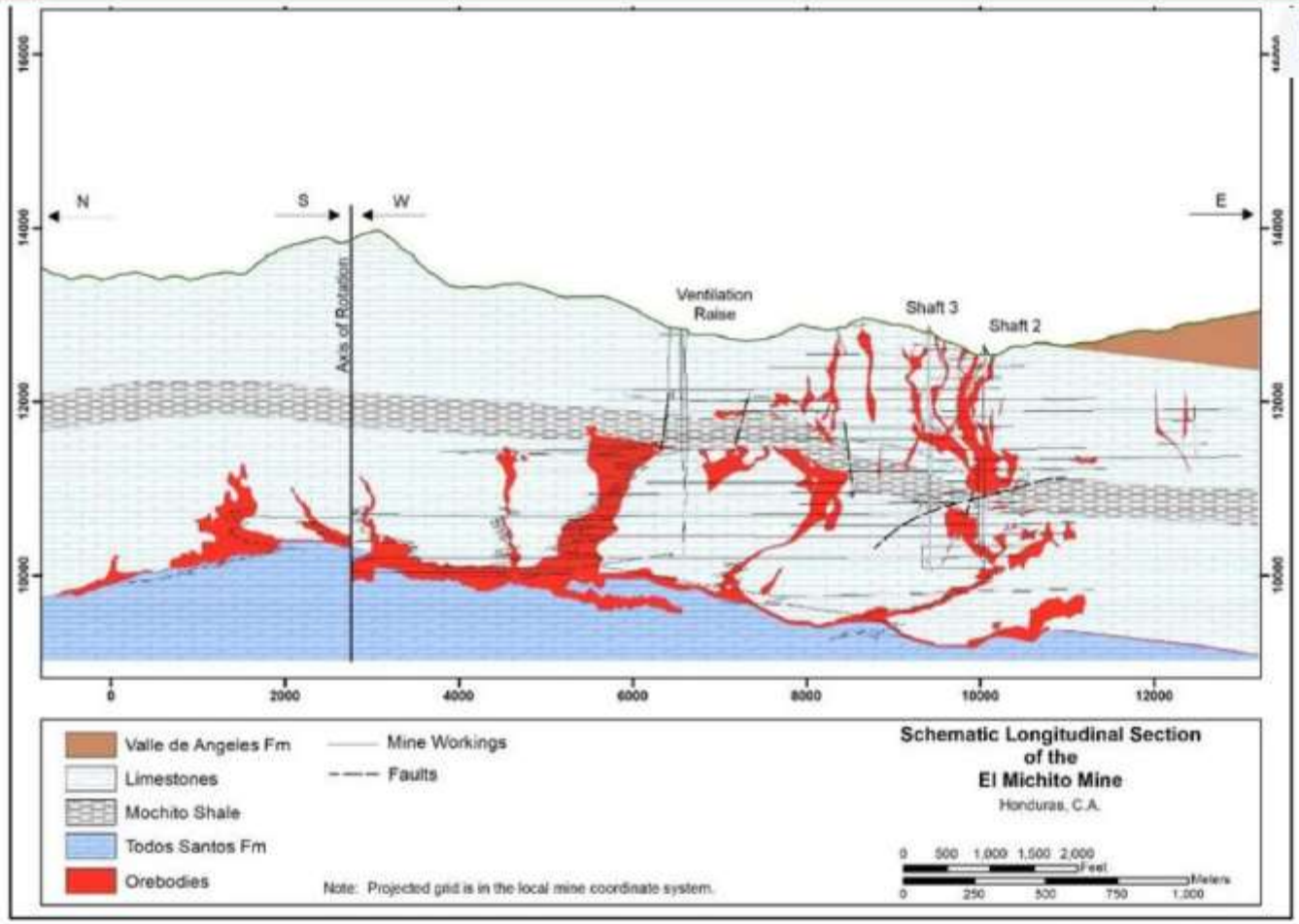


Brief History of El Mochito

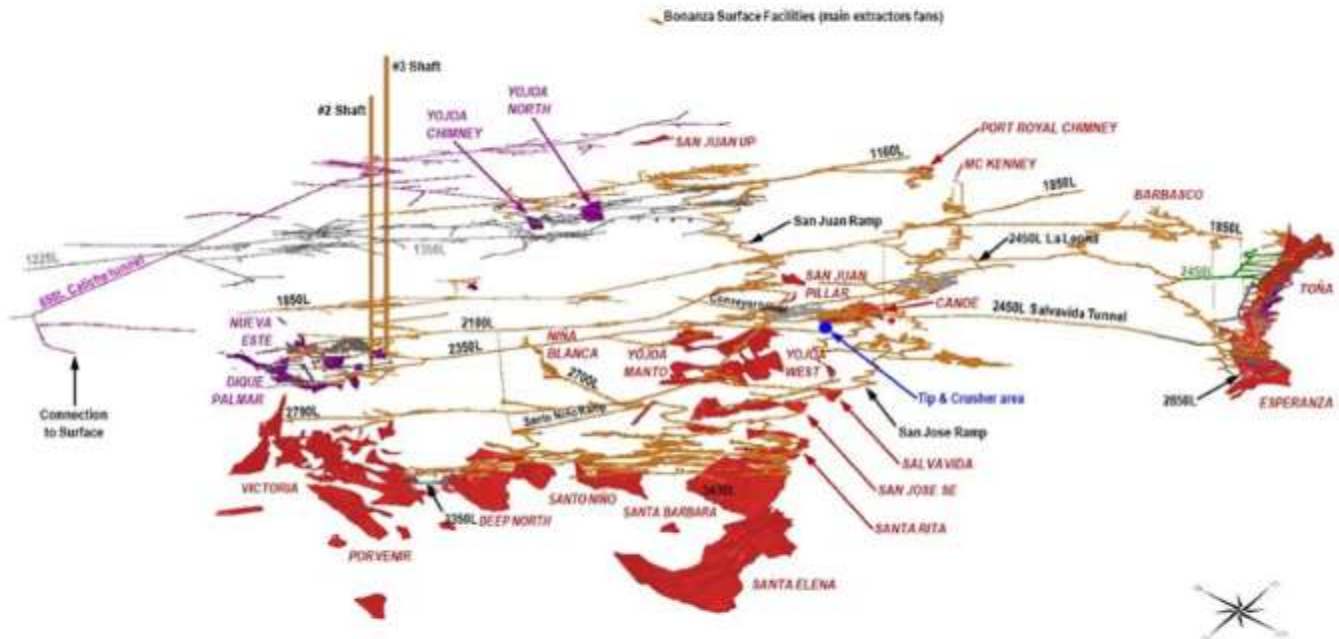
1. Mine started as small pits and adits on oxide bodies during the late 1930's.
2. Followed chimneys down through the limestone. First major discovery was on L-150; intersected a 40' pipe with argentite and native Ag that averaged 500 oz/ton.
3. Discovery of sulphide chimneys below the shales.
4. San Juan: Originally thought to be too far from shaft and too low grade.
5. Nacional: Originally thought to be too far from shaft
6. Port Royal: Originally thought to be at the maximum mineable depth.
7. Santo Nino: Originally thought to be too far and too low grad justify exploration.
8. Deep Sector (Victoria): thought to be too far away and too deep to justify exploration.
9. Imperial and Barbasco Chimney above L-1850: thought to be not accessible because of missing development.
10. Esperanza: Ongoing mining.
11. Toña: Currently being explored and mined.



El Mochito UG Geology at a Glance



Mine Infrastructure – Perspective View



mineralized zones (red)

2018 NI 43-101 Resources

El Mochito Mine
NI 43-101 Mineral Resource Estimate
January 1, 2018

Category	Tonnes	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	Fe (%)	ZnEq (%)
Resources							
Measured	1,100,000	65	2.0	5.5			8.2
Indicated	6,452,000	41	1.7	5.2			7.2
M & I	7,553,000	44	1.7	5.2			7.3
Inferred	4,972,000	33	1.4	5.1			6.7
Total	12,525,000	40	1.6	5.2			7.1

Price Assumptions: 1.21 $/lb Zn, 1.06 $/lb Pb and 18 $/troy oz Ag

ZnEq calculation: Zn% + (Pb% * 0.82) + (Ag g/t * 0.0149)

Cut-off grade: 3.1% ZnEq.

2021 Internal Resources Estimation

El Mochito Mine
Mineral Resources
January 1, 2022

Category	Tonnes	Ag (g/t)	Pb (%)	Zn (%)	Cu (%)	Fe (%)	ZnEq (%)
Resources							
Measured	954,271	65	1.9	5.8	0.1	10.0	8.3
Indicated	4,958,497	53	1.8	5.3	0.1	11.1	7.6
M & I	5,912,768	55	1.8	5.4	0.1	10.9	7.7
Inferred	5,884,209	47	1.7	5.4	0.1	10.9	7.5
Old Mine Pillars*	160,301	346	9.2	10.0			25.2
Total	11,957,278	55	1.9	5.4	0.1	10.8	7.8

Cut-off grade: 3.1% ZnEq.

ZnEq calculation: Zn% + (Pb% * 0.82) + (Ag g/t * 0.0149)

Price Assumptions: 1.21 $/lb Zn, 1.06 $/lb Pb and 18 $/troy oz Ag

* Tonnage has been discounted by 60% from historical total Assured & Probable category

2021 Resource Reconciliation

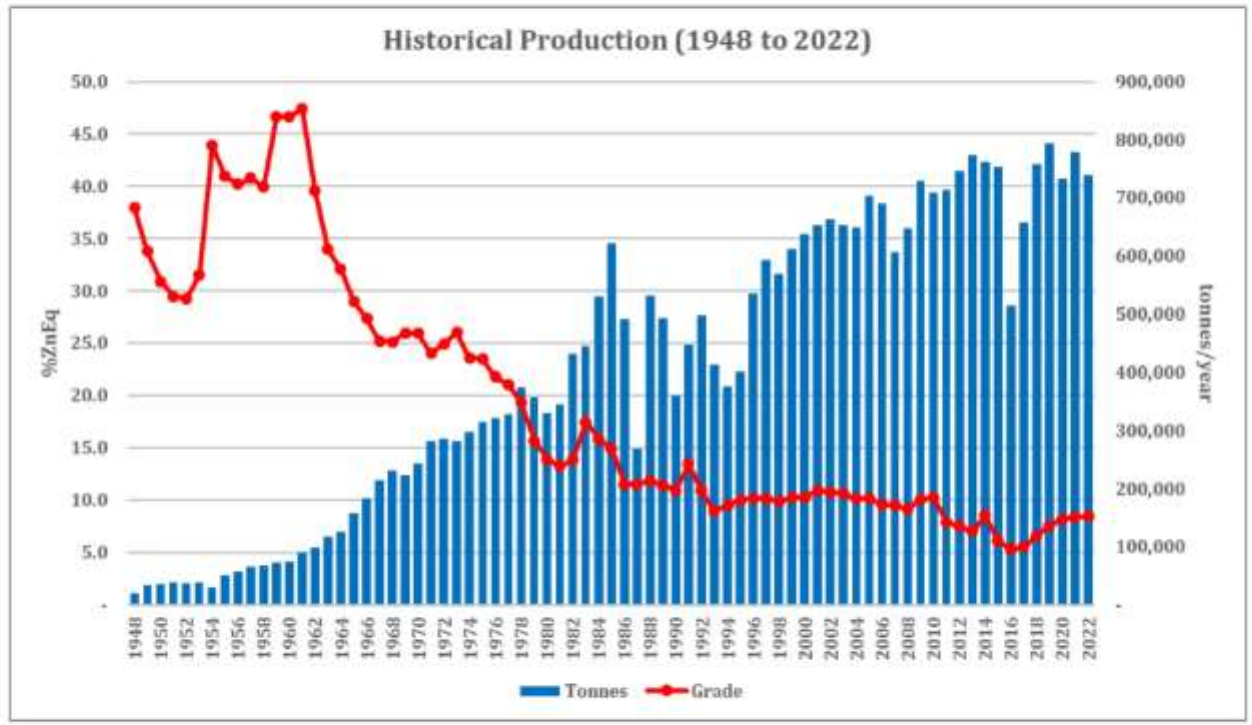
Mineral Resource Reconciliation 2019-2021

Area	2019 - 2020			2021 Only			% Change (2020 - 2021)		
	Tonnes	ZnEq (%)	Contained Tonnes ZnEq (%)	Tonnes	ZnEq (%)	Contained Tonnes ZnEq (%)	Tonnes	ZnEq (%)	Contained Tonnes ZnEq (%)
Canoe	453,366	6.6	29,922	553,520	6.1	33,765	▲ 22%	▼ -8%	▲ 13%
Barbasco	3,038	6.2	188	3,038	6.2	188	▲ 0%	▲ 0%	▲ 0%
Esperanza	601,854	7.3	43,634	279,698	7.4	20,698	▼ -54%	▲ 2%	▼ -53%
Imperial	14,976	12.0	1,790	16,022	11.6	1,859	▲ 7%	▼ -3%	▲ 4%
McKenney	4,404	18.7	821	2,683	20.4	547	▼ -39%	▲ 9%	▼ -33%
Niña Blanca	22,707	19.0	4,314	7,135	25.4	1,812	▼ -69%	▲ 34%	▼ -58%
Nueva Este	39,794	10.9	4,318	38,759	11.0	4,263	▼ -3%	▲ 1%	▼ -1%
Palmar Dyke	200,099	12.1	24,212	215,869	11.8	25,473	▲ 8%	▼ -2%	▲ 5%
Port Royal	36,283	7.9	2,848	8,000	9.2	736	▼ -78%	▲ 17%	▼ -74%
San Juan	94,600	8.4	7,899	92,345	9.0	8,311	▼ -2%	▲ 8%	▲ 5%
Victoria	1,583,860	8.0	126,709	1,316,802	8.4	110,611	▼ -17%	▲ 5%	▼ -13%
Deep East	291,515	6.1	17,637	287,464	6.1	17,535	▼ -1%	▲ 1%	▼ -1%
Deep North	308,837	6.4	19,611	295,057	6.0	17,703	▼ -4%	▼ -6%	▼ -10%
Nacional	37,572	12.3	4,603	36,222	12.8	4,636	▼ -4%	▲ 4%	▲ 1%
Porvenir	896,724	6.8	60,977	869,203	6.8	59,106	▼ -3%	▲ 0%	▼ -3%
Ratoncito	704,189	5.9	41,547	704,189	5.9	41,547	▲ 0%	▲ 0%	▲ 0%
Salva Vida	116,812	5.5	6,425	116,812	5.5	6,425	▲ 0%	▲ 0%	▲ 0%
San Jose	199,573	4.8	9,480	246,146	5.4	13,292	▲ 23%	▲ 14%	▲ 40%
Santa Barabara	767,289	6.4	48,723	683,053	6.5	44,398	▼ -11%	▲ 2%	▼ -9%
Santa Elena	3,053,843	7.0	213,769	3,037,680	7.0	212,638	▼ -1%	▲ 0%	▼ -1%
Santa Rita	225,977	5.6	12,655	191,208	5.6	10,708	▼ -15%	▲ 0%	▼ -15%
Santo Niño	1,066,727	5.8	61,337	900,005	5.7	51,300	▼ -16%	▼ -1%	▼ -16%
Toña	1,421,549	10.4	147,130	1,526,707	12.3	187,785	▲ 7%	▲ 19%	▲ 28%
Yojoa	348,316	5.8	20,202	369,360	6.0	22,162	▲ 6%	▲ 3%	▲ 10%
Old Mine	194,123	26.2	50,860	161,608	28.3	45,735	▼ -17%	▲ 8%	▼ -10%
Totals	12,688,022	7.6	961,611	11,958,585	7.9	943,234	▼ -6%	▲ 4%	▼ -2%

Ore Processing and Treatment

- Mill capacity: 2,350 DMT/day
- Hoisted ore from the mine is transported to the crushing plant by means of conveyor belts.
- The crushed ore is transported in trucks with a capacity of 23 tons to the concentrator plant.
- The ore is weighed and transported by conveyor belts to the grinding area: 4 mills (2 rod mills, 2 ball mills).
- Hydrocyclone classification: Fine material is piped to the flotation circuit. The coarse material returns to mills as circulating load.
- Flotation recovery: 80-82% Lead, 87-89% Zinc and 78-80% Silver.
- Dewatering in thickeners and filters. Concentrates temporarily stored in the concentrate sheds.
- The water from the thickener and filter stage is reused in the process.
- The filtered concentrates are transported by road to our warehouse in Puerto Cortes.
- Final disposal of process tailings conducted under environmentally controlled conditions.

El Mochito Production



El Mochito – Production Summary

Initial Reserves - 1948

Production Years	Reserves (tonnes)	Ag (g/t)	Current Value ($US @ $24/oz)
5	99,790	1379	95,776,845

To Date

Production Years	Ore Production (tonnes)	Zn (%)	Pb (%)	Ag (g/t)	ZnEq (%)
75	30,514,434	6.3	2.9	174	12.9

		Value in situ (M$)			$/lb or oz	$/tonne or g
Zn (tonnes)	**1,923,559**	$	4,665	Zn price	1.1	2425
Pb (tonnes)	**899,891**	$	2,063	Pb Price	1.04	2293
Ag (oz)	**170,702,462**	$	3,926	Ag price	23	0.74
		$	**10,654**			
AgEq (oz)	**463,227,264**					
ZnEq (Tonnes)	**4,393,341**					
ZnEq (lbs)	**9,685,660,976**					

- To date, El Mochito has milled 170 million ounces of silver, 900,000 tonnes of lead, 1,900,000 tonnes of zinc and minor amounts of gold and copper from 30.5 million tonnes of ore grading 5 oz/t Ag, 2.9 % Pb and 6.3 % Zn.
- Total contained metal value produced to date is over $US 10 billion and the current production rate is approximately 800,000 tonnes/yr.