1780 0062

(111)
Item # 5 $ 4

AMERICAN ZINC CO., WALTER G. SWART FILES, NEVADA

Keystone Group
Jeane

FOLDER 271

L. Form C. O. 77. 7-20-11-20M

UNITED STATES SMELTING COMPANY

NINTH FLOOR NEWHOUSE BUILDING

Salt Lake City, Utah, Feb. 1, 1918.

Pay to E. D. Waltz.

Ore Bocrome Mercantile Co. Lot No. 2 Class

Sampled by U.S.S. Received 1-29 Sampled 1-29 Assayed 1-31

E. & M. J. Quotations:—Silver Copper Lead

ASSAYS	GOLD OZS. PER TON	SILVER OZS. PER TON	PER CENT COPPER WET	PER CENT LEAD	PER CENT IRON	PER CENT INSOLUBLE	PER CENT ZINC	PER CENT SULPHUR	PER CENT
U. S. S. Co.									
Umpire									
Settlement Assay U.S.S.	.03	21.0	7.55	11.8	10.4	20.8	15.7	14.9	

CAR NOS.	WET WEIGHT	WORKING CHARGE		METAL VALUES		
Mtc BB654		Treatment		Gold @		
		Insoluble		Silver 95% @		
		Zinc		Copper, dry assay @		
		Sulphur		Lead 90% @		
		Speiss		Gross Value		
Total Wet Weight	17000					
113 Sacks, Wt.	140	Total Debit				
Net Weight	16860	Iron		Less Working Charge		
Less H_2O 2.0 %	338	Net Working Charge		Net payment per ton	31.55	

Dry Weight, lbs. 16522	Payment for 8.261 tons @ 31.55 per ton		175.55
	For Bocrome Mercantile Co.		
	Freight advanced @ 12.05 of 64 per ton		40.80
	Sampling charges		
Checked by J.H.B.	Assay charges		
Approved by			
	Net payment		134.75

INFORMATION BLANK

THE UNIVERSAL SMELTING & REFINING CO. Feb. 20, 1912

Denver, Colo., U. S. A.

Gentlemen: Below is given as fully as possible the information pertaining to the Keystone mine, located in the Eureka mining district, County of ..... State of Nevada P. O. Address .....

NATURE OF ORE—CARBONATE X OXIDE X SULPHIDE X If more than one class of ore is produced give separate analysis of each class.

ANALYSIS OF ORE—

Gold (Au)	.03 oz.	Iron (Fe)	10.4 %	Silica (SiO_2)	20.5 %
Silver (Ag)	21 oz.	Lime (CaO)	? %	Alumina (Al_2O_3)	? %
Copper (Cu)	7.55 %	Manganese (Mn)	? %	Sulphur (S)	14.9 %
Lead (Pb)	11.8 %	Magnesia (MgO)	? %	Antimony (Sb)	X %
Zinc (Zn)	15.7 %	Baryta (BaO)	? %	Arsenic (As)	X %

ANALYSES OF FLUXES—

IRON ORE { Iron (Fe) ..... % / Silica (SiO_2) ..... % / Sulphur (S) X % }

LIMESTONE { Lime (CaO) ..... % / Silica (SiO_2) ..... % / Alumina (Al_2O_3) ..... % }

State whether Iron Ore is OXIDE X or SULPHIDE .....

Cost per ton at smelter site of IRON ORE $ ..... LIMESTONE $ 2.50

FUEL—Cost per ton at smelter site. COKE $ 20 CHARCOAL $ ..... COAL $ 20

WOOD per cord $ .....

LABOR—Cost of Common Labor $ 3.00 of Skilled Labor $ 5.00

WATER—Source of supply .....

Proximity ..... Quantity Available .....

POWER—Available ..... Desired .....

Altitude of smelter site 5500 feet above Sea Level.

Daily tonnage capacity of mine 30 $7800. L.A.

Name of nearest railroad station White Pine

Distance of mine from shipping point 25 miles

Method of transportation from railroad to mine hauling Cost per ton $5.00

Cost of lumber at smelter site $30.00

REMARKS: Combination zinc plant.

SIGNED .....

C. E. HIESS, PRESIDENT

JOS. C. HEAD, TREAS.

AUSTIN MANHATTAN CONSOLIDATED MINING COMPANY

OFFICES
AUSTIN, NEVADA
CARSON CITY, NEVADA
CHICAGO, ILLINOIS
MINES
REESE RIVER MINING DISTRICT
LANDER COUNTY, NEVADA

W. W. WISHON, GENERAL MANAGER

JAMES HUMES, SUPT.

AUSTIN, NEVADA, U.S.A.

RECEIVED

Feb 20 1912.

FEB 26 1912

E. A. Clark Esq.,

55 Congress St.,

Boston Mass.,

Dear Sir:-

M. E. A. Wentworth has given me your address as being interested in Zinc properties. The Keystone group is located in Eureka County Nevada and in my opinion is the making of a huge mining property with proper development. Considerable ore is now blocked out. I enclose y u returns on a recent shipment which gives you the analysis. When 60 cts Gold, $11. silver, 151# copper, 236# Lead 314# Zinc only brings $21.25 per ton after ded ucting cost of smelting, you may depend upon it some body stole a good part of it.

I built and worked successfully the first Huff Plant in Nevada on much harder ores to treat than the above and by placing a similar plant upon this property with a small Partridge smelter, a product of zinc sulphide running 50% or better on the one hand and bullion on the other hand can be shipped.

Just now I can purchase the property for the very small figure of $50,000 on good terms.

Yours very truly,

W. W. Wishon

Los Angeles, Cal., Feb. 21, 1912.

W. W. Wishon, Esq.,

Addressed.

Dear Sir:

I beg to refer to our conversation of yesterday regarding the metallurgy of the Keystone mine in Nevada.

The analysis, as given me by you, shows a decidedly complex ore, and one which would cause great trouble if treated in a Standard type of smelting furnace, unless the zinc is eliminated by electrostatic concentration and the ore subsequently roasted to convert the lead sulphide into an oxide.

This mode of procedure calls for a comparative large expenditure in milling, roasting and smelting equipment and would not be a commercial success under one hundred tons daily capacity; and, since the plant you desire me to report on is to be of thirty tons daily capacity, I can only suggest the subsequent mode of procedure.

You are aware that my object in the majority of cases is to handle metallurgical propositions on a small scale and that the nature of my business calls for the commercial solution of the reduction of complex ores and just such ores as you have presented to me in this case.

Such ores are comparatively common in Mexico and especially in the State of Colorado and have been frequently submitted to me for determination. I have recently submitted a proposal for the installation of a thirty ton plant for the Badger Mountain Mining Co. of Colorado Springs. The mine is located near Lake George, Park County, Colorado. Its ores are almost identical to what you have submitted to me. The proposal has been accepted and I expect to close the contract and erect the plant as soon as the winter breaks in that locality.

The general specification of the plant is as follows:

1 - Partridge Smelter complete with transmission machinery and electric power. The smelter constructed for the smelting of lead-copper ores.

Mr. Wishon No. 2.

1 - Partridge zinc condensing chamber connected to smelter by special by pass. All accessories, assay laboratory etc. The operation is the most simple that can be devised.

The ore is fed into the smelter without any previous tseatment or crushing, care being taken that all the ore shall pass through a five inch ring. The necessary fluxes and fuel are fed at the same time as the ore. Preferably the fuel is charged in layers, while the or and fluxes are well mixed and charged jointly.

The zinc is volatilized and collected in the condensor as zinc oxide. The lead, free from zinc or copper is ladled from the lead-well in the form of base bullion, while the copper is tapped from the smelter in the shape of a high grade matte.

The gold and silver is apt to be equally distributed between the lead and matte, but this can only be determined on actual operation. The copper matte will be remarkably free from lead and not contain over one quarter of one per cent of lead, thus not incurring heavy refining fines.

The operating cost of such a plant in your locality will be as follows:

1	Superintendent & Chemist	at $7.00	per	day	$7.00
3	Foreman	" $5.00	"	"	$15.00
6	Helpers	" 3.00	"	"	18.00
3	Engineers	" 5.00	"	"	15.00
1	Extra man	" 3.00	"	"	3.00
	Total,----				$ 58.00.

Pro rata of manual labor per ton,---	$ 1.60
Lime rock 400 lbs. per ton of ore,--	.50
Coke 8% at 1 ¢ lb. per ton of ore,-	2.00
Power,--	.35
Incidentals,	.25
Total cost of smelting per ton of ore,--	$ 4.70

The above cost of $4.70 per ton, includes all expenses connected with the operation from the ore delivered to the bins to the recovery of the metals, but does not include shipping and selling of the metals.

The recoveries of metals will be as follows:

Gold,-	100%
Silver,-	94%
Copper,-	98%
Lead,-	92%
Zinc,-	80%

As previously stated, the five metals will be extricated

in the one operation. The cost of such a plant erected and in operation at the mine will be Fourteen thousand six hundred ($14,600.00) dollars and will include the complete plants erected and installed in a lumber and corrugated iron building. The excavation and water facilities are not included in this figure.

I can contract to have this plant in operation ninety days after receipt of order, if transportation facilities are good.

Hoping the above will meet with your approval, I am,

Very truly yours,