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1/15/74 Copy to C. L. Hudson with extra copy of List of company properties.

COMBINED METALS REDUCTION COMPANY

August 9, 1967

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1/15/74 Copy to C. L. Wilson with extra copy of List of company properties.

COMBINED METALS REDUCTION COMPANY

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COMBINED METALS REDUCTION COMPANY

ABSTRACT

Primary assets of Combined Metals Reduction Company are numerous silver, lead and zinc properties, either owned or held under lease, and concentrators and other processing facilities with auxiliaries at Caselton, Nevada and Bauer, Utah. The Company also has diversification in non-metallic minerals, notably the production of a fossiliferous resin which it extracts from Carbon County, Utah crude concentrates by a unique solvent process. The finished resin (rosin) production is marketed to ink, rubber, adhesive, etc. industries. Additionally, the company has large reserves of perlite in Nevada and New Mexico and a crushing and sizing facility at Caselton, Nevada. The sized perlite is sold to expanders for light weight aggregate markets.

Combined Metals Reduction Company owns several securities in other mining companies and ventures, notably the Topaz Beryllium Company (controlled by The Anaconda Company) and Comet Coalition Mines Company (controlled by International Smelting and Refining Company). The Company has under option to lease to the Signal Oil and Gas Company its extensive bituminous sandstone deposits near Sunnyside, Utah. This property is held by the Company in joint venture. Other exploration options on properties in Nevada and Utah are nearing final completion with a major copper mining company. (Refer to enclosed chart listing Combined Metals Reduction Company holdings.)

NEVADA

Combined Metals Reduction Company owns a one-half interest in the Grand Panam Company Joint Venture near Pioche, Nevada which has mined and processed over 675, 000 tons of ore from the Pan American Mine (leased from Comet Coalition Mines Company) since May, 1965. (Refer to E. & M. J. article, enclosed, entitled "Panam Wrings Profit from $5.75 Ore" appearing in the July, 1967 issue.)

This Venture produced nearly $400, 000 gross profit in 1966 before general administrative expenses, amortization, etc. of which Combined Metals Reduction Company is the ultimate recipient of one-half. The increased price of silver has fortified the N. S. R. so that on average grade of ore the N. S. R. is very near $6. 00 per ton with direct costs of $4. 50 per ton -- CMR's net profit per ton would be approximately 75¢ or approximately $18, 000 per month.

The Caselton concentrator has processed in excess of 3, 000, 000 tons of ore since 1941 and has a nominal capacity of 1, 600 tons per day. The Company is presently milling approximately 25, 000 tons per month from the Pan American Mine, but has capacity for an additional 15, 000 tons per month. It has been estimated that the Venture, at a cost of approximately $300, 000, could increase the monthly mine production from the Pan American Mine to another 10, 000 tons from which a cash gain of $15, 000 per month, less amortization, would be anticipated.

Additionally, the iron-manganese content of the Pan American tailings, presently impounded at Caselton, Nevada, have considerable economic potential as evidenced by extensive metallurgical research and preliminary market study completed to date. The recovery of

iron-manganese and/or iron or manganese requires additions to the existing plant at Caselton which would utilize feed that, for practical purposes, would have virtually no "ore" cost.

A recent appraisal by Singmaster and Breyer of New York places the replacement value on the Caselton and Nevada facilities (in as good a condition), excluding underground facilities, mining properties and mining equipment, at December, 1966, at $5,793,000. (Refer to Summary Sheet from Singmaster & Breyer Report dated December 29, 1966.)

UTAH

The Calumet Mine and Bauer concentrator located at Bauer, Utah, are not presently in operation. The concentrator which is served by the Calumet Mine has a nominal capacity of 1,000 tons per day. It is estimated that the Calumet Mine could be placed into operation for $350,000 to mine a developed reserve of 147,000 tons of ore which, based on previous metallurgy and with today's metal prices, would yield an indicated $9.65 a ton gross profit, after amortizing the $350,000 over the tons of developed reserve, at a rate of 200 tons per day. The concentrator is estimated to require approximately $100,000 in refurbishment to place it in good operating condition. These investment figures are exclusive of exploration costs and any drastic mining plant renovation.

It is believed that, regardless of exploration programs and projectable mining plant improvements, however desirable and recommended, the merits of reopening this mine for the developed reserve alone with present existing facilities are self-evident. The relatively high silver content of the Calumet Mine ores and today's silver price ($1.82/troy ounce) which is projecting upward, has made the reopening of this mine and the Bauer concentrator a very attractive enterprise. The silver market offers long term operating possibilities heretofore not enjoyed due to the cycling nature of the lead-zinc market prices of the past.

The history of the operation at the Calumet Mine indicates in excess of ten tons of ore developed for every lineal foot of drifting.

Based upon the above valuation of the Caselton and Nevada facilities, a similar valuation of the Bauer, Utah facilities would be in the order of magnitude of $2,500,000 exclusive of underground facilities, mining properties and mining equipment.

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COMBINED METALS REDUCTION COMPANY

INTRODUCTION

Combined Metals Reduction Company was incorporated in 1923 in the State of Utah and is a closely held corporation with the exception of approximately 10% of the outstanding stock being held by Combined Metals, Incorporated, a publicly held corporation traded on the Salt Lake Stock Exchange.

Combined Metals Reduction Company has operated mines and metallurgical plants in Utah and Nevada and has ownership or control of mining properties in California, New Mexico, Nevada, Utah and Colorado yielding, since incorporation, in excess of $125,000,000 in Net Smelter Returns based upon the metal prices of the times.

With the exception of the resin operation located at Bauer, Utah and the perlite operation at Pioche, Nevada, the Company's base metal operations were placed on a standby basis in 1958 due to the depressed prices of lead and zinc. The Company recommenced its metal operations at Caselton, Nevada in May, 1965, mining and milling ore from the Pan American Mine continuously to date. The mining operations are conducted in a joint venture between Grand Deposit Mining Company and Combined Metals Reduction Company doing business as the Grand Panam Company.

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COMBINED METALS REDUCTION COMPANY

CURRENT OPERATING STATUS AND IMMINENT PROSPECTIVE OPERATIONS

NEVADA

PAN AMERICAN MINE

Combined Metals Reduction Company is presently operating the Pan American Mine in Joint Venture with the Grand Deposit Mining Company. This Joint Venture is known as the Grand Panam Company and was formed in November, 1964.

The ore being mined from the Pan American Mine has a value of $5.75 to $6.00 per ton N. S. R. The Joint Venture mines in excess of 25, 000 tons per month which is trucked 16-1/2 miles to the Caselton Mill of Combined Metals Reduction Company where it is processed for the Joint Venture by Combined Metals Reduction Company under the terms of a milling agreement between CMRCo and Grand Panam Company. The gross operating profit before debt retirement, amortization, depreciation and general expenses outside of the Pioche District approaches $1.50 per ton. Refer to Report on Examination by Main Lafrentz and Company for the year ending 1966.

The Grand Panam Company holds a lease from the Comet Coalition Mines Company which expires December 1, 1986. This lease provides for the recovery by the Lessee of all costs associated with mining exploration plus $1.50 per ton preemptive mill profit before Comet Coalition shares in 1/3 of the operating profits before taxes and under specified definitions of cost, depreciation, etc.

Comet Coalition Mines Company has an authorized stock of 2, 000, 000 shares at 25¢ par value of which all but 125, 000 shares are issued. The unissued stock, however, is under option to the International Smelting and Refining Company at 50¢ per share. Currently the International Smelting and Refining Company owns somewhat less than 1/2 of the outstanding stock of Comet Coalition Mines Company. Combined Metals Reduction Company owns 455, 428 shares of which 187, 500 are under option to Charles A. Steen at 50¢ per share. This option expires in December, 1969. Comet Coalition stock is traded on the Salt Lake Stock Exchange -- current market prices have been very close to 25¢ per share.

CASELTON MILL

The Caselton Mill of Combined Metals Reduction Company concentrates the silver, lead and zinc and other values from the Pan American ore producing an iron-manganese tailing which is classified physically in a sand-slime separator impounding approximately 1/2 its weight in a stockpile above the Company's 175' rotary kiln. This stockpiling is in anticipation of application of developed procedures for the beneficiation of the tailing to iron-manganese and manganese products. The first indicated marketable product is an iron-manganese pellet analyzing approximately 50% iron and 20% manganese.

The iron in this pellet appears essentially as all magnetic in form. The manganese is indicated to be present as MnO. The balance of the constituents to account 100% material including oxygen is some 6% to 10% insoluble material, lime and magnesia with trace amounts of lead, zinc, silver and phosphorous. As yet no production or sales have been made on this product, but it is undergoing final stages of process and market development.

The Caselton Mill operates at rates in excess of 1600 tons of ore per day. Operations have usually been for 10 day runs with the mill having indicated capacity half again as great as is now being utilized.

CASELTON MINE

The Caselton Mine is not in production at date. There are some 200, 000 tons of ore developed having substantially better indicated N. S. R., but also having a higher cost of extraction. This developed ore has been de-watered recently and an estimate has been made indicating that less than $100, 000 would place it into production, if so desired.

Since the ore is relatively high zinc, although carrying significant lead and silver, zinc price stability has not been satisfactory enough to suggest that we immediately proceed with this operation; however, there is sufficient mill capacity in the Caselton Mill, referred to above, to handle the indicated rate of mining desirable in the event the mine was reopened.

INDICATED IMPROVEMENTS IN OPERATION

It has been estimated that an additional $300, 000 of investment, primarily in the Pan American Mine for a conveyor belt to remove ore through the main adit, would increase the mine capacity at least 10, 000 tons per month which, without taking credit for fixed charge distribution savings, projects a $15, 000 per month cash gain, less return of investment.

OTHER METAL MINING PROPERTIES

The company has a variety of mining properties throughout the State of Nevada, mostly bearing lead, zinc, silver ores which are not in operation at the present time, but have exploration potential.

The Company has just recently entered into an agreement with Bear Creek Mining Company for an exploration option and option to purchase its Manhattan Group of claims which constitute approximately 160 claims north and west of Caselton, Nevada. This option is a two part option and if exercised by Bear Creek, the option price on Parcel A is $870, 000 and on Parcel B $190, 000. The option also provides for a 1-1/2% carried working interest from N. S. R. The Bear Creek Mining Company is exploring for large deposits of low grade copper.

PERLITE

Combined Metals Reduction Company mines and sizes crude perlite for shipment to market for expansion there. The Company has extensive perlite ore deposits at Panaca, Nevada not far from Pioche. The crushing and sizing plant is at Caselton, Nevada. Currently this operation is marginal due to unfavorable freight costs to market.

The Company also owns a large undeveloped perlite deposit not far from Grants, New Mexico.

UTAH

CALUMET MINE

The Company mining properties near Bauer, Utah comprise some 5, 200 acres including millsites. Mining operations in the past have produced in excess of 1, 250, 000 tons of ore from limestone formations steeply dipping 50° to 75° to the north in widths of from five to thirty feet. Low metal prices and high costs of underground transportation have made this property inoperative since 1957.

Currently the mine is indicated to have 147, 000 tons of developed ore. Refer to R. G. Lee's estimate dated April 26, 1967.

Projections based on the following metal prices:

Silver	$1. 29
Lead	. 14
Zinc	. 145

(Muscatine)
97, 275 tons @ $29. 67/ton = $2, 886, 150 N. S. R.

Assays:

Gold	. 045
Silver	8. 68
Lead	11. 92
Zinc	2. 12

(Calumet)
49, 879 tons @ $20. 65/ton = $1, 029, 918 N. S. R.

Assays:

Gold	. 06
Silver	4. 14
Lead	7. 3
Zinc	5. 0

(Total)
147, 154 tons @ $26. 61/ton = $3, 916, 068 N. S. R.

Comp. Weighted Assays:

Gold	. 05
Silver	7. 14
Lead	10. 35
Zinc	3. 10

PROJECTIONS CORRECTED FOR METAL PRICES AT AUGUST 8, 1967:

Silver	$1.82
Lead	.14
Zinc	.135

97, 275 tons @ $33.22/ton = $3, 231, 476 N. S. R.

49, 879 tons @ $22.12/ton = $1, 103, 323 N. S. R.

Total 147, 154 tons @ $29.46/ton = $4, 334, 708 N. S. R.

A recent estimate indicated $350, 000 would be necessary to open the mine for extracting this reserve which should yield, after amortizing a $350, 000 investment, a gross profit of $6.80 per ton. The increased price of silver to over $1.80 per troy ounce increases this gross profit to another $2.85 or $9.65 per ton after production costs and return of investment.

Of course, there are many programs projectable suggesting exploration and improved haulage including a 2-1/2 compartment shaft, but these would have to be evaluated in terms of exploration results which costs are not included in the above.

However, the past production, present and indicated future metal prices and the presence of a 1, 000 tons per day nominal capacity concentrator at the mine site would indicate this to be a very worthwhile undertaking.

RESIN

Combined Metals Reduction Company processes fossiliferous rosin (resin) concentrates obtained from the central Utah coal belt from which they extract the resin with a hexane solvent producing various forms of refined resin. Currently this operation produces a cash gain of approximately $5, 000 per month.

ROCK ASPHALT PROPERTY (Bituminous Sandstone)

Combined Metals Reduction Company has a one-half interest in extensive bituminous sandstone deposits near Sunnyside, Utah. This property is presently under option to lease to Signal Oil & Gas Company which is presently at the site doing exploration work.

MERCUR

The Company has a one-half interest in gold properties at Mercur, Utah which are subject to a 10% overriding royalty.

8/9/67
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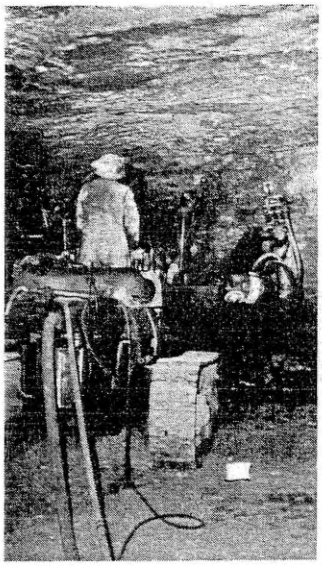
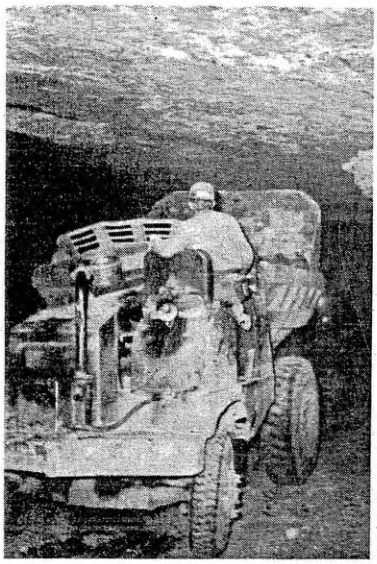
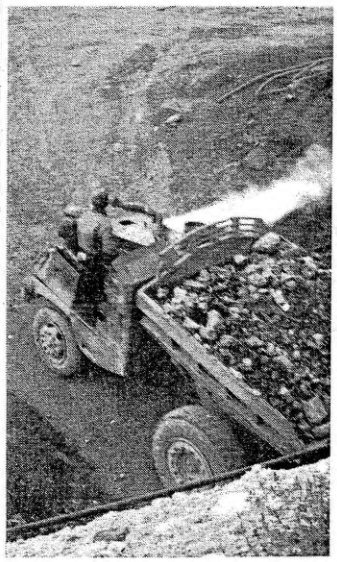
E/MJ
July 1967

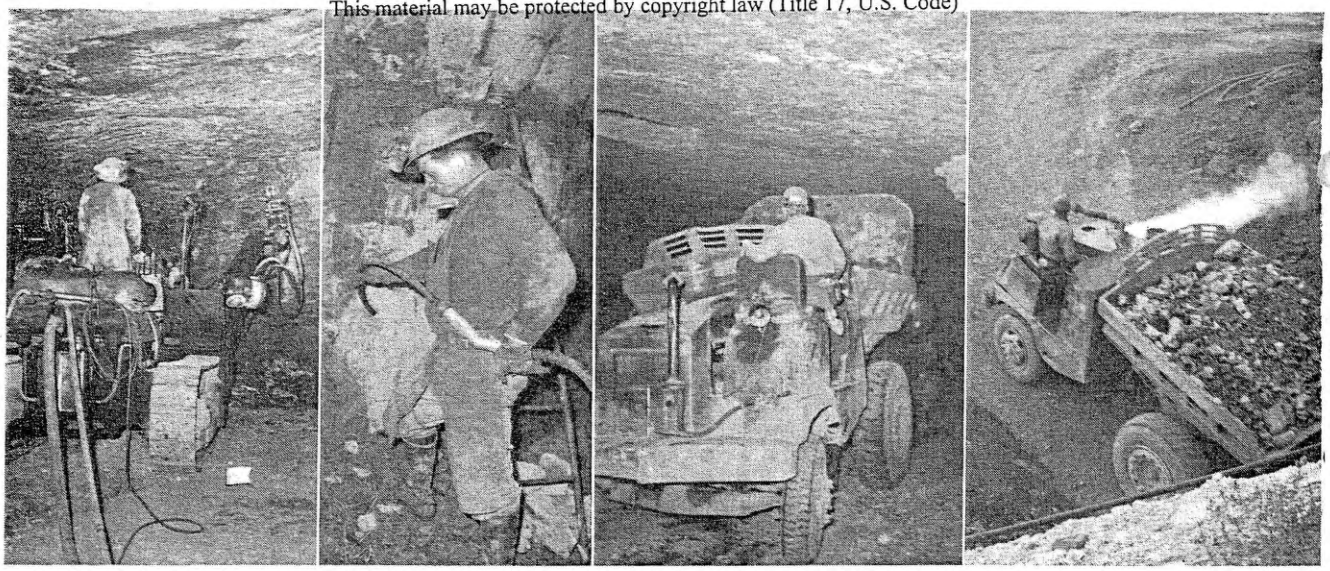
Panam wrings profit from $5.75 ore

Joint venture group reopens idle lead-zinc-silver mine in calculated program aimed at finding better reserves and a market for byproduct ferromanganese









MECHANIZED MINING in room-and-pillar method was key to holding direct mining cost to $1.84 a ton. Equipment deployed underground includes Gardner-Denver jumbos on IH, and Allis-Chalmers crawlers (left), Cat 977 loaders for Koehring Dumptors which haul 9-ton loads 1,000 to 2,500 ft to the surface through an incline. AN/FO is charged in blastholes (second from left).

Panam wrings profit from $5.75 ore

Joint venture group reopens idle lead-zinc-silver mine in calculated program aimed at finding better reserves and a market for byproduct ferromanganese

THE PAN AMERICAN MINE on the west slope of the Highland Range southwest of Pioche, Nev., is back in operation. Lead and zinc are being produced again and at a profit, as a result of the Grand Panam Joint Venture mining and milling project. Grand Deposit Mining Co. and Combined Metals Reduction Co. are principals in the venture. The mining division is producing about 1,350 tpd of ore from the underground mine which is about 16 miles from Caselton. The mill, which is located about four miles southwest of Pioche, was reactivated by Combined Metals and is capable of processing 1,500 tpd through its three 10x4-ft Hardinge ball mill grinding circuits and two Fagergren flotation circuits.

The depression closed down the Pan American mine in 1932, after the location of hundreds of claims, performance of necessary geological and engineering work and initial development work. Combined Metals Reduction Co. proceeded with development work in 1947 by leasing from International Smelting & Refining Co., which had obtained over 50% of the stock during the interim. Until the time of the joint venture, sporadic drifting and raising development created the configuration of the mine at conception time of the venture.

Dikes, faulting complicate geology

The Combined Metals (CM) limestone of the Cambrian Pioche shale contains the ore horizon at the Pan American mine. The member dips 10° east and is 85 ft thick. The upper part of the limestone is composed of 65 ft of thin-bedded carbonaceous section. A medium-bedded 20-ft thick layer makes up the lower portion.

The CM limestone is cut by two mafic dike systems, both dipping nearly vertical. One dike system strikes northeast and the other northwest. Thickness of dikes varies from less than 0.5 to 6-ft. Two major sets of normal faults, striking northeast and northwest, further complicate the picture. Total displacement of the faults ranges from 1 to 15 ft. The CM limestone and igneous dike systems are both cut by the faulting. Further clouding of the geology is caused by the northeast set of faults cutting the northwest set.

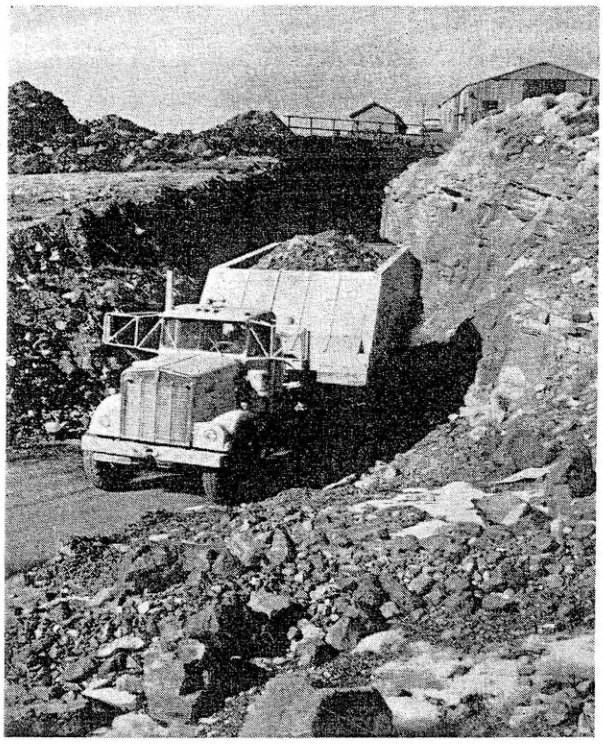
The contact between the thin-bedded and massive portions of the limestone has experienced bedding plane faulting. This faulting cut all earlier dikes and faults. The observable offset indicates a maximum apparent slippage of approximately 90 ft. It is predicted that the imbricate structures along the dikes and faults were formed at the time of bedding plane movements.

The low-grade sulphide replacement type ore contains silver-bearing galena and sphalerite, manganosiderite, pyrite, and small amounts of chalcopyrite. Ore occurs in the following three zones: (1) in the gouge of bedding plane faulting between the massive and thin-bedded units; (2) in the massive unit of the CM bed; (3) and in the thin-bedded unit of the CM bed.

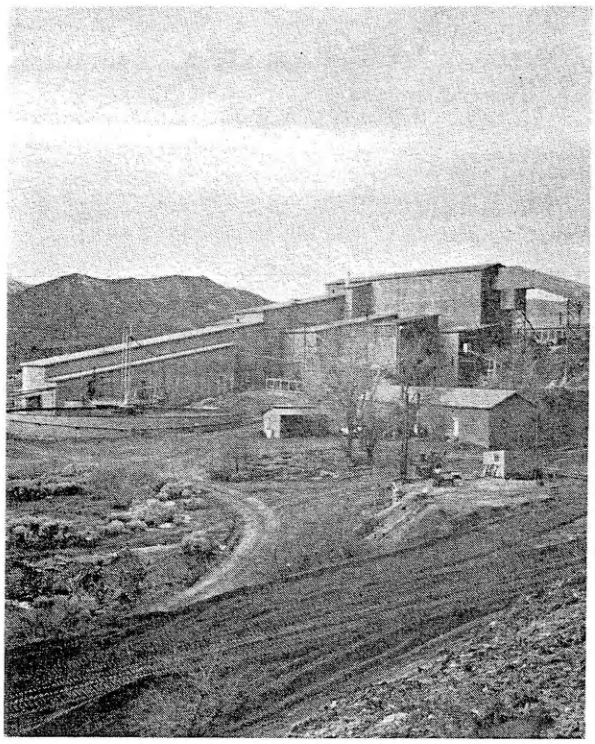
Gouge ore may vary from 1 to 8 ft in thickness. The limit is apparently controlled by the accumulation of gouge in areas of increased drag near the dikes and faults which are cut by the bedding plane faulting.

Ore of the massive unit ranges in thickness from less than 1 up to 13 ft. The thickness varies with an undulating shaley member at the base of the ore, causing the ore to appear as rolls.

In the thin-bedded unit, ore thickness appears to be controlled by shingle-like structures that manifest themselves in close proximity to the pre-existing faults and dikes that have been cut by the bedding plane faulting. The imbricate structures peel off and upward from the bedding plane faulting. This ore may be 1 to 40 ft thick.



85-TON PAYLOAD drawn from surface bin at mine is hauled 16-miles to millsite in Timpte trailers powered by Kenworth tractors.



CASELTON MILL can process 1,500 tpd of mine run ore through three grinding circuits and two differential flotation lines.

Considerable development work, good sampling and record keeping, and reports written by responsible engineers and geologists indicated to the principals of the joint venture that profitable operations could be managed. Previous mining and exploration by Combined Metals Reduction Co. and International Smelting & Refining Co. had developed proved reserves of about 800,000 tons and possible reserves of several million tons. Grade was verified at 1.75 oz Ag per ton, 1.25% Pb and 2.5% Zn. The manganosiderite added further potential value to the ore with its carbonates of manganese, 9%, and iron, 19%.

Development work from 1924 to October 1964, involved the following:

1) A 7x7-ft incline driven in the CM limestone from the outcrop for 2,300 ft.

2) Drifting from the incline at various levels; 800 level—1,270 ft, 1,200 level—300 ft, 1,500 level—1,100 ft, and 370 ft of drifting on the 2,000 level.

3) Short raises into the CM limestone to verify thickness and grade.

Cut samples, muck samples, diamond drill cores, sludge from long holes and bulk samples from raises, crosscuts and drifts were all used in the sampling program.

Cost figures from the Mi Vida uranium mine at Moab, Utah, where Grand Deposit mining personnel had completed 10 years of mechanized mining, indicated a mining cost under $2 per ton for a similar extractive situation at the Pan American mine. It was planned to move all remaining equipment and supplies from Mi Vida to Pioche.

In 1951 the state built a well graveled road from the Comet district to Caselton which would serve the Pan American mine. A 16-mile truck haul indicated a cost of some 65¢ per ton.

Plans were to reactivate the Combined Metals Reduction Co. mill at Caselton, which had been closed since 1957. Estimates from past milling experience indicated a milling cost of near $2.25 per ton based on 20,000 tpm. Based on the indicated ore reserve grade and mill recovery, a value of $5.75 per ton net smelter return could be expected under existing metal prices which would indicate a modest profit over direct operating costs. Thus, idle mining equipment and personnel combined with an idle mill and mine began operations on a project that was indicated to be feasible under the above conditions.

These following possibilities for a profit were instrumental in the decision to go ahead with the operation: (1) An increase in proven ore of the same grade; (2) successful research program to recover and produce marketable iron-manganese nodules; and (3) as proven in the Pioche district, the probability of a high-grade orebody surrounded by a halo of low-grade as represented by the Pan American ore, existed.

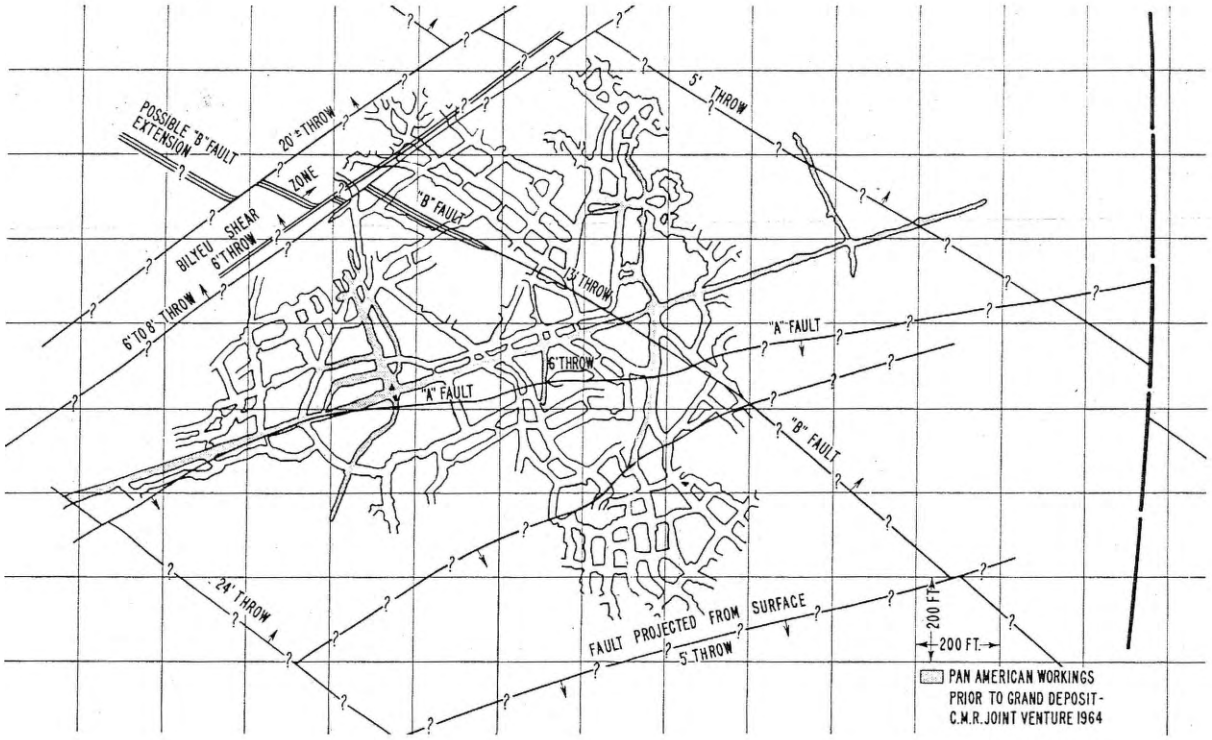
Large tonnages of reserves were indicated by projecting mineralized surface structures underground, which lead to areas of mineralization in the CM beds.

Pan American mine goes mechanized

The personnel, experienced in mechanized mining, and all equipment and supplies were transferred, after completing the Mi Vida mine, to the Pan American mine. A major change in method at Pan American involved the haulage system. The former inclined hoisting arrangement was replaced with diesel truck haulage. This necessitated enlarging the incline to an 11x11-ft section. Mechanized loading replaced slushing.

Room-and-pillar mining is used in the 10° dipping beds with the incline serving as main haul road. Average easterly dip of the CM beds dictated that the drifts from the incline should be started at 45° to dip in order to maintain haulage grade. Any waste areas are left as pillars and drifting is done in ore except for necessary mine ventilation.

Three jumbos with single-man crews doing nothing but drilling, keep muck available for loading and hauling cycles. Two jumbos are International Harvester tractor-



NEW UNDERGROUND WORKINGS are superimposed on map showing fault structure in host rock and area opened by previous mining. Company officials say study of structures indicates the possibility of large tonnage ore reserves beyond present working faces.

mounted and the third is Allis-Chalmers tractor-mounted. Each jumbo has two IR D300 (3 in.) jackhammers. One-inch hexagonal, tapered steel, 10-ft long and 1⅝-in. bits are used for blast-hole drilling. Steel is Sandvik Coromant and bits are carbide one-pass taper socket type. The 10-ft-long blast holes are drilled in headings varying in size from 10x12 ft to 18x25 ft with ground conditions being the determining factor. Ideal width is 22 ft or more since this allows a loader and truck to work side by side. Number of blast holes varies with heading size, but an average of plus three tons of rock is broken per hole. Rounds are blasted with premixed AN/FO. Gelatin primers are 65%.

A diesel truck is available for loading of rounds with nitrate. Specially designed compartments make it possible for the truck to transport caps, nitrate and powder at the same time. The truck replenishes supplies each day from surface magazines.

An underground repair shop helps keep down the high maintenance costs, caused mainly by near-maximum haulage grades.

Shots are all fired electrically at the end of each shift with condenser discharge blasting machines. Safety determines the location of the blasting stations and replacement of shot wire. Temporary shot lines are run 50 to 100 ft from the face using telephone wire which is connected to the blasting curcuit.

Muck is loaded into the nine-ton Koehring Dumptors with a 977 Caterpillar track-loader. Greatest possible use of good rotation of rounds mucked is made to reduce loader moving time. Distance from face to surface bin is 1,000 to 2,500 ft. Trucks are grab sampled.

Until January 1967, the mucking cycle was carried out on a two-shift basis. With this set-up, one loader and three Dumptors were used on each shift. This system produced about 140 loads per day. In an effort to pick up production, a third mucking shift was added to the operation. Using one loader and two trucks on each shift, production was upped to 175 loads per day. Superintendent Bilyeu believes that further improvement on the third shift is the secret to reaching needed production to satisfy mill capacity.

A bonus system used by the mining department has proven satisfactory. All mining personnel share equally in earnings above their job classification level based on a production rate per ton of ore delivered.

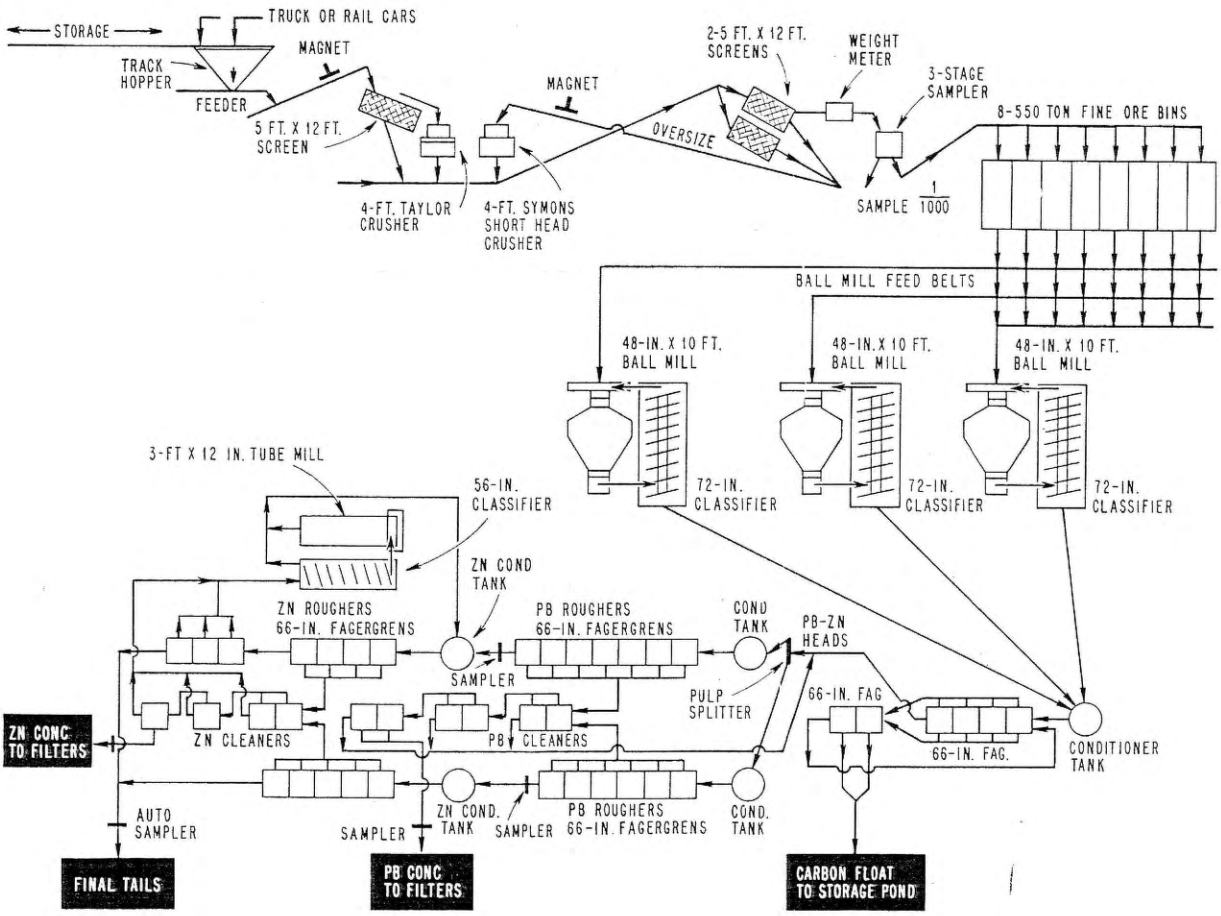
A change of major proportions is being contemplated in

7,313 man-shifts for 311,363 tons of ore

Production 1966		Supplies 1966
Tons ore	311,363.44	746 ft per bit
Tons waste	15,439.00	1,364 ft per steel
		3.44 tons per cap or hole
Total mined	326,802.44	1.67 lb explosive per ton

Job classification	Man-shifts	Tons per man-shift
Drillers	2,393½	235
Dumptor operator	1,298	252
Loader operator	553½	590
Powder man	568	575
Maintenance underground	362	903
Ventilation	58½	
Piping	51	
Total underground	**4,284½**	**76.28**
Surface maintenance	99	
Watch-Janitor	52	
Mechanics	1,536½	
Office	279	
Engineering	280	
Supervision	782	
Totals	**7,313**	**44.69**

NOTE: Excludes all Geological shifts, since personnel are not all full-time employees of Grand Panam Co.



CARBON FLOTATION CIRCUIT ahead of lead roughers has resulted in higher grade lead and zinc concentrates and cut moisture content of filter cake. Carbon content of ore produced a high froth and made it almost impossible to regulate reagent feed.

the haulage layout. This would involve switching from truck haulage to conveyor. A system is being studied which locates a conveyor in the present incline and calls for a new parallel service incline. An underground crusher facility would be a part of the new hauling system.

At present, the Dumptors dispose of ore in storage bins on the surface. Since they occasionaly are filled to capacity, excess muck is dumped near a grizzly. A D6 Caterpillar bulldozer is available for dozing the ore to the bins. Muck is metered to the 85-ton, bottom-dump semi-trailers by actuating two horizontal air-operated guillotine gates. The 50-yd, 12-ft-wide Timpte trailers are pulled with 380-hp Kenworth off-highway tractors. The trucks haul payloads over the 16 miles from mine to mill on a two-shift basis.

Mine operating costs total $1.84 per ton

Operation	Cost per ton
Drilling	$0.263
Explosives	0.278
Loading	0.109
Haulage	0.268
Mechanical maintenance and supplies	0.404
Engineering, geological, office and supervision	0.207
Payroll taxes	0.065
Production tax	0.073
Insurance	0.124
General	0.047
Total mine operating cost[1]	**$1.838**
Trucking cost	0.669
Total cost delivered to mill[1]	**$2.507**

[1]Does not include equipment depreciation, administrative expenses or royalties.

Mill capacity greater than mine

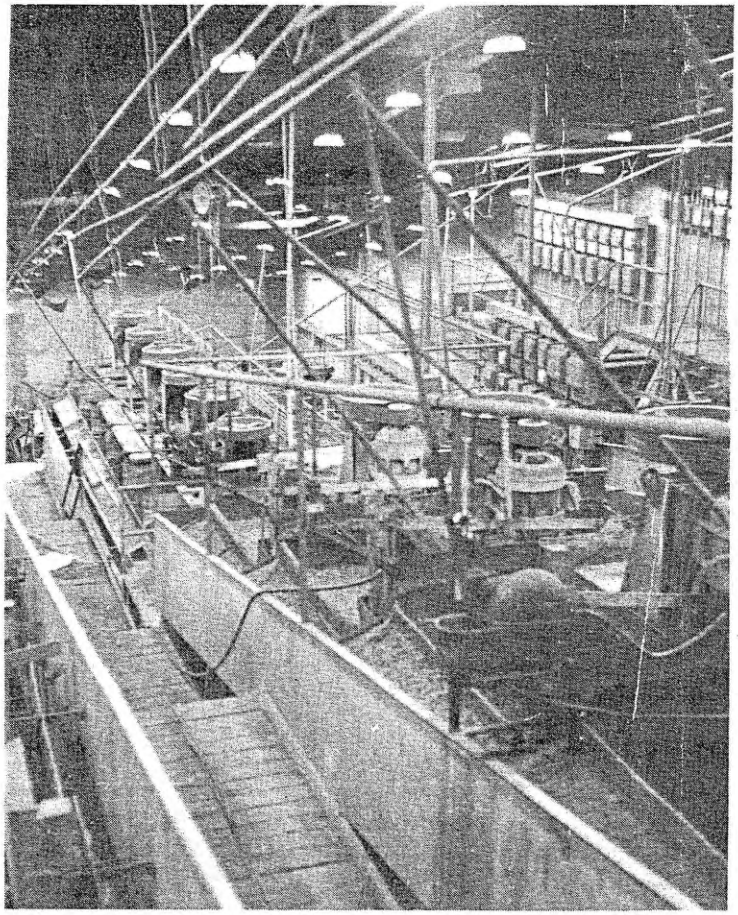
The Caselton mill, after approximately eight years of inactivity, was readied in 1965 to process the Pan American ore.

First flotation circuit, with one grinding unit, was put into service on May 10, 1965, and increased to two grinding units and two flotation circuits on June 14, 1965. The operation was further increased to three grinding units and two flotation circuits on Oct. 27, 1965. This gave a rated capacity of 1,500 tpd.

The mill operates at full capacity and shuts down when ore supply is short. This gives better economics, metallurgy and recoveries. Normally a mill run is based on an eleven-days-on, three-days-off schedule. Downtime is utilized for cleanup, maintenance, and repairs.

During the period the mill is down, the crushing plant continues to operate on a two-shift basis until the eight 550-ton fine ore storage bins are full. Crusher section repairs, maintenance and cleanup is done on downtime. Mine run ore is stockpiled near the grizzly when bins become full.

The ore is dropped through a 10-in. opening grizzly to vibratory screen with 1½-in. slotted openings. Oversize goes to the 48-in. Traylor gyratory primary crusher



LEAD-ZINC FLOTATION follows normal practice of roughing and cleaning. Zinc circuit contains a scavenger section and regrind of middlings.

MINE SUPERINTENDENT, Virgil Bilyeu, looks on as geologist Jay Crawford checks drift line with Brunton.

which is set at 1½ to 2 in. Two 5x12-ft vibratory screens take off a ⅜-in. product. Oversize ore is directed to a 48-in. Symons Short Head secondary crusher. Fine ore is weighed over a belt scale followed by continuous sampling before storage in fine ore bins.

Feed belts from each fine ore bin load the gathering belt which is weighted for each of the ball mill feeds. Akins classifiers (78 in.) are in closed circuit with the three 10x4-ft Hardinge ball mills.

At the beginning of the milling operation, the carbon in the Pan American ore was floated with the lead concentrates but this resulted in low-grade lead and a high moisture content in lead concentrate.

A carbon flotation circuit was placed in operation ahead of the lead flotation on Jan. 19, 1966. This resulted in higher grade lead concentrates and a 10% drop in concentrate moisture. Net smelter return showed improvement. Freight charges per unit of lead decreased as a result of the improved concentrate grade. The carbon concentrates, which contain small amounts of silver, lead, and zinc are impounded for future treatment if the values and tonnage warrant further processing.

Carbon rougher tails are split equally to two conditioner tanks and two rougher lead circuits. Lead rougher concentrates are combined in one lead cleaner section. Lead is cleaned four times. Lead middlings are split equally and returned to the head of each lead circuit.

Lead rougher tails report to two zinc conditioner tanks ahead of two zinc rougher circuits. Zinc concentrates are combined in one zinc cleaner circuit. This is three-stage cleaning with zinc scavenger froth and zinc cleaner tails going to a regrind mill for maximum zinc liberation and higher zinc concentrate grade. This re-ground product is then returned in equal proportions to each zinc rougher circuit. All sampling is automatic.

Final tailings are separated through a D15B Krebs cyclone which gives about a 50% split. Underflow sands are stockpiled and overflow slimes are impounded in storage ponds. Both products are saved for future Mn and Fe recovery. A sprinkling system keeps the stockpile wetted-down in summer months.

Concentrate is filtered with two Eimco, 10-segment, 6x6 filters, and it simply drops to railroad cars below. Concentrates are shipped three times a week by Union Pacific which has a spur line to Caselton from the main line station at Caliente.

Electric power is transmitted directly from the Hoover Dam to the Lincoln County power district sub-station at the Caselton plant.

Virgil Bilyeu, vice president and mine superintendent for Grand Deposit Mining Co., represents the company at the operation. Bilyeu is assisted by geologists Howard Davenport (resident geologist), and Jay Crawford; engineer Phil Hulse; shift bosses Robert Rynio and Dwaine Cowley; lead mechanic Neldon Lemon; and mine clerk Larry Bradshaw.

Combined Metals personnel are manager R. G. Lee, mill superintendent R. W. Frailey, assistant mill superintendent R. N. Werber, mill clerk D. R. Cude, master mechanic William Adair, master electrician Frank Ernst, millwright J. R. Neeley and payroll clerk Mrs. V. F. Wright.

December 29, 1966

1.000 SUMMARY AND CONCLUSIONS

We have inspected the Caselton, Nevada, facilities of Combined Metals Reduction Co. We value these facilities at $5,793,000. This valuation covers the flotation plant, the kiln plant, the perlite plant, all industrial buildings, staff houses, yard facilities, utilities, spare part inventories and mobile equipment. Underground facilities, head frames, compressors and hoists and other equipment strictly related to mining are not included in this evaluation.

The breakdown by area of the overall value is given in Section 5.000.

The method employed in arriving at our evaluation is described in Section 4.000.

Respectfully submitted,

SINGMASTER & BREYER

By: R. Chelminski

R. Chelminski

G. Alexandrovsky

G. Alexandrovsky

April 26, 1957

S U M M A R Y

The Bauer Plant and Camp and the Calumet Mine are located in Rush Valley Mining District, near Stockton, in Tooele County, Utah. Railroad, highway and electric power line connects with the Bauer Plant. Combined Metals Reduction Company acquired the Bauer Camp and Mill Site in 1923. The records show a healthy past performance, as related to development and extraction or ores from the district. A selective flotation mill was built and put into operation in 1924, separating and concentrating the lead and zinc minerals to a product acceptable to the lead and zinc smelters. In 1958, when the Bauer mill was closed down, it had treated 4,402,422 tons of lead-zinc ore.

Combined Metals Reduction Company, currently owns or controls the Bauer plant complex; 185 patented and 83 unpatented mining claims.

Quartzite and limestone of the upper Pensylvanian age, compose the rock formation on the West slope of the Oquirrh Range. Folding on a regional scale is evident by the Pole Canyon Syncline and the Ophir Anticline. Steeply dipping North-South trending faults, and later, porphyry dikes and small irregular intrusive bodies of Tertiary age are exposed on the surface and underground. Ore deposition, as replacement deposits in limestone, have been mined from the surface to a depth of 2500 feet. Pyrite was the first sulphide mineral deposited. Lead and zinc, with additional pyrite, seem to be of later deposition.

Present condition of the underground workings is believed to be fair, except in certain sections of the Monerine drain tunnel and the air raises to the surface.

Several proposals and cost estimates of projects involving re-opening of the Calumet Mine are set forth in this report. Capital expenditure of about $350,000 will be required to reopen and develop for mining an indicated tonnage of 147,154 tons on the Muscatine and Calumet limestone. Net operating margin, after return of initial capital requirement, is estimated at $6.80 per ton, at the present price of metals, namely, $1.29 por ounce of silver, 14¢ lead and 14.5¢ zinc.

A forecast of metal prices at the time Calumet Mine could be scheduled for operation in the latter part of 1969, is: $1.75 per ounce silver, 11¢ lead and 12.5¢ zinc. Net operating margin, calculated from the projected metal prices, will be $4.00 per ton.