

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: NEW CORNELIA

ALTERNATE NAMES:

AJO  
PHELPS DODGE AJO  
FIREFLY GROUP

PIMA COUNTY MILS NUMBER: 3

LOCATION: TOWNSHIP 12 S RANGE 6 W SECTION 27 QUARTER NE  
LATITUDE: N 32DEG 21MIN 14SEC LONGITUDE: W 112DEG 52MIN 04SEC  
TOPO MAP NAME: AJO - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER SULFIDE  
SILVER  
GOLD  
MOLYBDENUM SULFIDE

BIBLIOGRAPHY:

ADMMR NEW CORNELIA FILE  
AZBM BULL 189 P. 83  
GEOLOGY OF THE PORPHYRY COPPER DEPTS SW N.A.  
BY TITLE & HICKS, 1966  
MINING METHODS AND COSTS AT THE NEW CORNELIA  
BRANCH, PD. AJO, AZ. USBM IC 6666, 1932  
ADMMR "U" FILE CU 41  
AZ GEOLOGICAL SOCIETY - SPRING 1997 FIELDTRIP

NUMBER 3	FILE F	CONT 0	CONT1 N	PRINAME NEW CORNELIA						
ALTNAME1 AJO					ALTNAME2 PHELPS DODGE AJO					
ALTNAME3					ALTNAME4					
ALTNAME5					ALTNAME6					
CURSTAT PAST PRODUCER			MNAME AJO - 15 MIN			NLATDEG 32	NLATMIN 21			
NLATSEC 14	WLONGDEG 112		WLONGMIN 52	WLONGSEC 04	TOWN 12 S	RANGE 6 W	SECTION 27	QUARTER NE	COM1 CU	
MODI1		COM2 AG	MODI2		COM3 AU	MODI3	COM4 MO	MODI4 SULFIDE		
SULFIDE										
COM5	MODI5		COM6	MODI6		COM7	MODI7			
BIB1	ADMMR NEW CORNELIA FILE									
BIB2	AZBM BULL 189 P. 83									
BIB3	GEOLOGY OF THE PORPHYRY COPPER DEPTS SW N.A.									
BIB4	BY TITLE & HICKS, 1966									



NEW CORNELIA MINE

ABM Bull. 125, p. 16, 52-58  
" " 129, p. 52-56  
" " 140, p. 97  
" " 141, p.  
" " 180, p. 362

ABM Bull. 189, p. 82, 83, 7 - 10, 48

MILS Sheets sequence numbers 0040190091 (Ajo Consolidated Mine) 0040190092  
(Ajo Cornelia Mine)

Magnetic Properties of Rocks Associated with the  
New Cornelia Porphyry Copper Deposit, Pima Co.,  
Arizona. see geology file (Reprint from Geology  
of the Porphyry Copper Deposits, Southwestern  
N. America in same geology file)

USGS P.P. 209 & Supplement 610, p. 42

MAPS of levels and geologic maps stored upstairs in the top shelf of the flat storage  
area.

USBM Bull. 405, p. 54

MAPS - Upstairs in the ABM rolled file boxes - New Cornelia Copper Co.  
maps of underground, outline of ore body and Ajo mining District claim map  
Economic Geology, Vol. 68, No. 2, March-April  
1973, p. 147-154

Arizona Mining Journal, Sept., 1917, p. 23  
" " " Oct., 1917, p. 1  
" " " Jan., 1918, p. 5  
" " " May, 1918, p. 25  
" " " Aug., 1918, p. 17  
" " " Dec., 1918, p. 15, 20  
" " " June, 1919, p. 28, 77, 78  
" " " July, 1919, p. 24  
" " " Aug., 1919, p. 17  
" " " Sept., 1919, p. 26  
" " " Jan., 1920, p. 19, 27  
" " " May, 1920, p. 52  
" " " Feb., 1921, p. 22  
" " " May, 1921, p. 14  
" " " April, 1919, p. 16, 24  
" " " May, 1919, p. 21

NEW CORNELIA MINE

Desert Magazine, April, 1968, p. 32  
"Rawhides to Riches at Ajo."

Mining World, June, 1960, p. 61  
" " Sept., 1962, p. 67

Metal Mining & Processing, June, 1964, p. 23  
" " " July, 1964, p. 45  
" " " Feb., 1965, p. 38

E/MJ, April, 1965, p. 13  
" Aug., 1972, p. 139  
" February, 1975, p. 117 (ext. of oper. permit)

Skillings Mining Review, July, 1967, p. 13  
" " " April 20, 1974, p. 30  
" " " May 4, 1974, p. 22  
" " " Aug. 17, 1974, p. 24 (info. re: cu sold to Germany in 1937)  
" " " November 2, 1974, p. 18 (10/27/34 info.)  
" " " March 1, 1975, p. 4 (cutbacks)

Metals Week, April 3, 1973, p. 3  
" " February 24, 1975, p. 7 (prod. cutbacks)

NEW CORNELIA MINE

Mining Engineering, April, 1973, p. 46, 75

" " February, 1975, p. 20 (prod. cutback)

Mining Journal, January 24, 1975, p. 57 (work week reduced)

Mineralogy of Arizona p. 15, 16

Quijotoa Mining District Guide Book, Bascom A. Stephens, 1884, p. 22  
(Very interesting comments on the beginnings of Ajo.)

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

PIMA COUNTY (AJO)

Ajo area  
NEW CORNELIA MINE

card #1

MILS #3

2-AJO

New Cornelia Mine (Ajo)

MM-317 Shattuckite  
 318 Pegmatite, w/Bornite & Chalcop-  
 yrite  
 319 Chalcopyrite coated with Chalcocite  
 320 Bornite & Chalcopyrite  
 321 Copper, Native  
 322 Chalcopyrite  
 323 Chalcopyrite in Monzonite  
 324 Cap-Rock  
 325 Bornite  
 326 Chalcopyrite & Chalcocite  
 327 Pegmatite with Bornite  
 328 Waste-Rock  
 329 Chalcocite & Malachite  
 330 Monzonite  
 1570 Ajoite  
 1571 Papagoite  
 3902 Conichalcite  
 3894 Native Copper  
 3902 Ajoite  
 3901 Cuprite variety Chalcotrichite  
 3900 Shattuckite

ARIZONA

PIMA CO. (AJO) area  
NEW CORNELIA MINE

card #2

MILS #3

MM5603 Barite in Chalcopyrite  
 MM5577 Copper, Nugget  
 MM5574 Copper Ash Tray P.D.  
 MM5573 Copper Ash Tray from P.D.  
 MM5570 Gold, Native  
 4208 Chrysocolla  
 4210 Chalcotrichite  
 4211 Ajoite, Shattuckite  
 4213 Molybdenite  
 4217 Chalcocite  
 4224 Bornite  
 4229 Chalcopyrite  
 4232 Native Copper  
 5610 Tenorite, Cuprite, Chrysocolla  
 5593 Malachite, Azurite  
 5600 Copper ore  
 1635 Halloysite  
 5871 Malachite  
 5884 Azurite  
 6570 Native copper  
 5874 Malachite  
 6062 Porphyry with bornite

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

PIMA COUNTY

Ajo area

New Cornelia Mine

Card #3

MS #3

MM-6466 AJOITE

6975 Shattuckite cab

6977 Shattuckite

6978, shattuckite

6994 Shattuckite

7373 Shattuckite cab

8047 Native copper & chrysocolla

MM K055 Chalcocite

MM K057 Chalcopyrite & Bornite

MM K058 Bornite & Chalcopyrite

" K059 Chalcocite

" K060 Copper ore

" K061 Copper ore

" K062 Copper ore

" K063 Copper (native) with cuprite

" K064 Chalcopyrite & Bornite

" K065 Azurite & malachite

" K066 Shattuckite

" K067 Lava(vesicular)

ARIZONA

PIMA CO.

Ajo area

New Cornelia Mine

Card # 4

MS #3

MM-9463 Shattuckite & Ajoite

9875 Ajoite

9876 Ajoite

9877 Ajoite

9878 Olivenite

9879 Ajoite with Barite

9880 Ajoite

9881 Ajoite with Barite

K 594 Shattuckite

K 597 Shattuckite

K 598 Shattuckite

K 867 Papagoite

K 868 Papagoite

K869 Papagoite

K 870 Papagoite

K 871 Papagoite

K 872 Papagoite

K 873 Papagoite

710-15 00-00

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA  
PIMA COUNTY  
AJO  
NEW CORNELIA MINE

CARD # 5

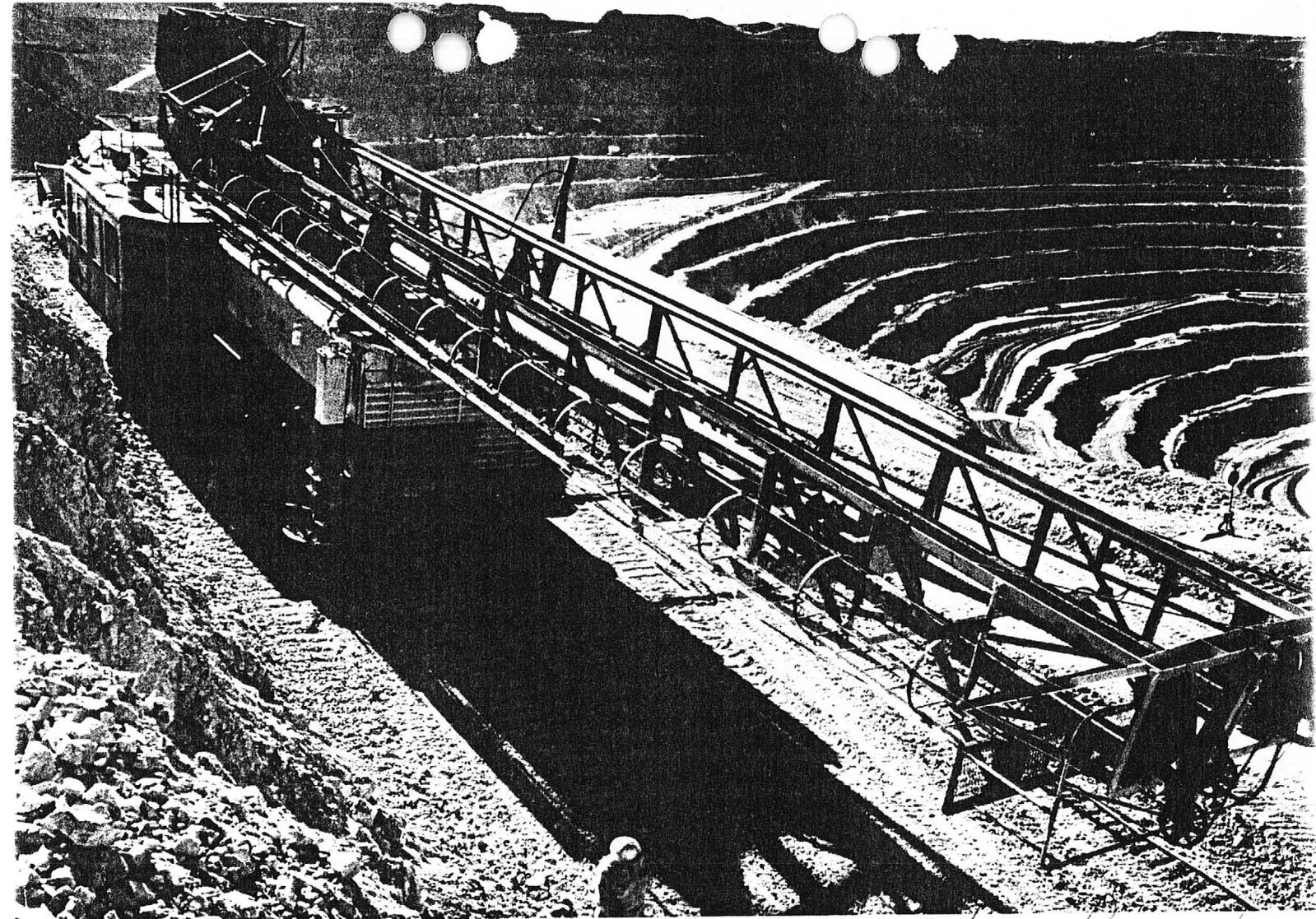
MILS #3

MM K 874	Papagoite
MM K 947	Native copper
MM K 749	Papagoite
MM K 753	Shattuckite
MM K 757	Shattuckite
MM 4234	Calcite
MM4237	Azurite & Malachite
MM-3903	Chonicalcite
MM-3902	Ajoite
MM-L150	Native Copper
MM-L151	Native Copper
MM-L152	Native Copper
MM-L153	Native Copper
MM-L154	Native Copper
MM-L156	Native Copper
MM-L157	Native Copper
MM-L159	Native Copper
MM-L16	Native Copper
MM-L163	Native Copper
MM-L143	Native Copper

Arizona # 6  
Pima County  
New Cornelia mine

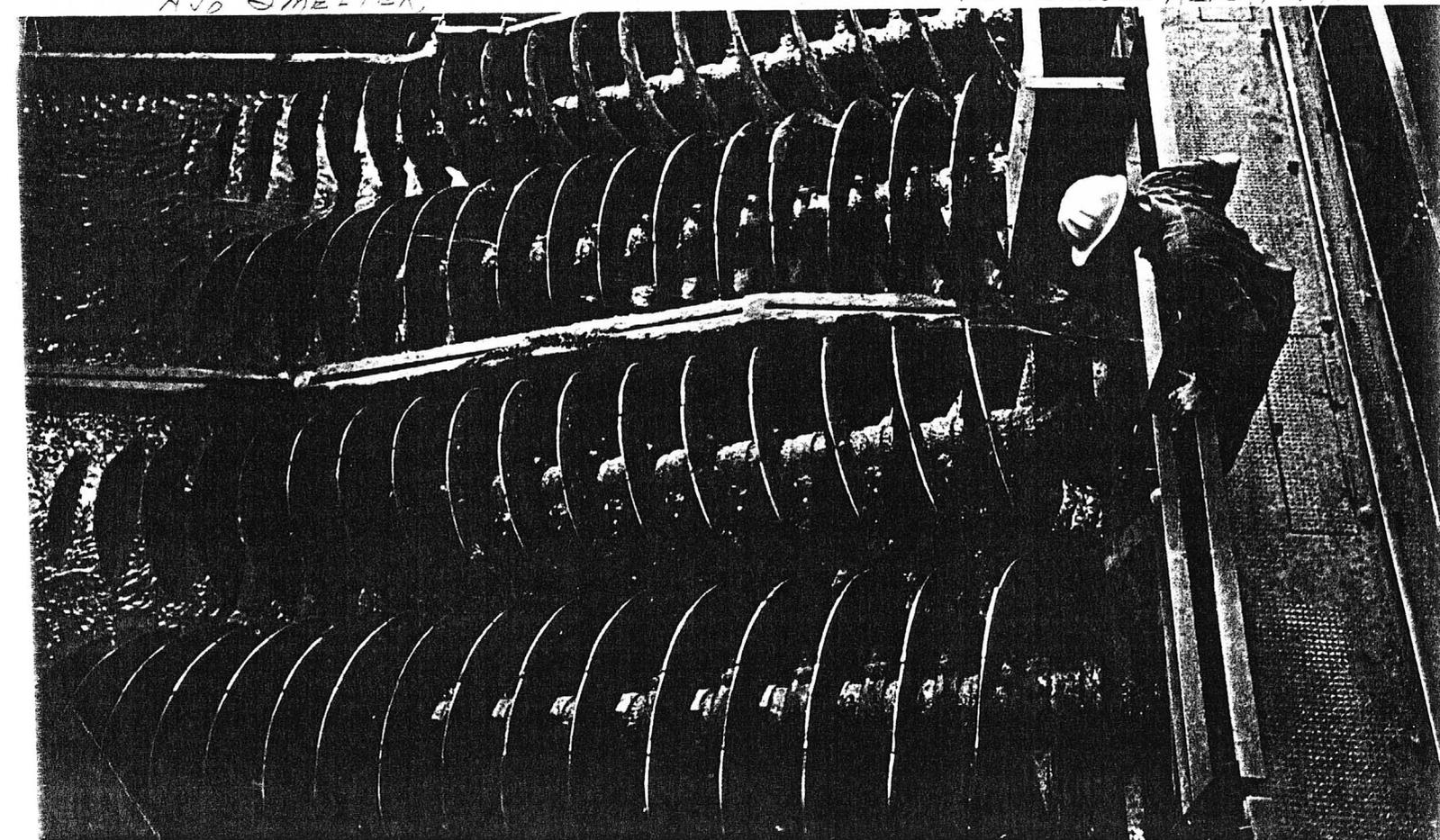
MM L 681	Shattuckite
L 682	Shattuckite
L 683	Shattuckite
L 684	Shattuckite

MILS #3

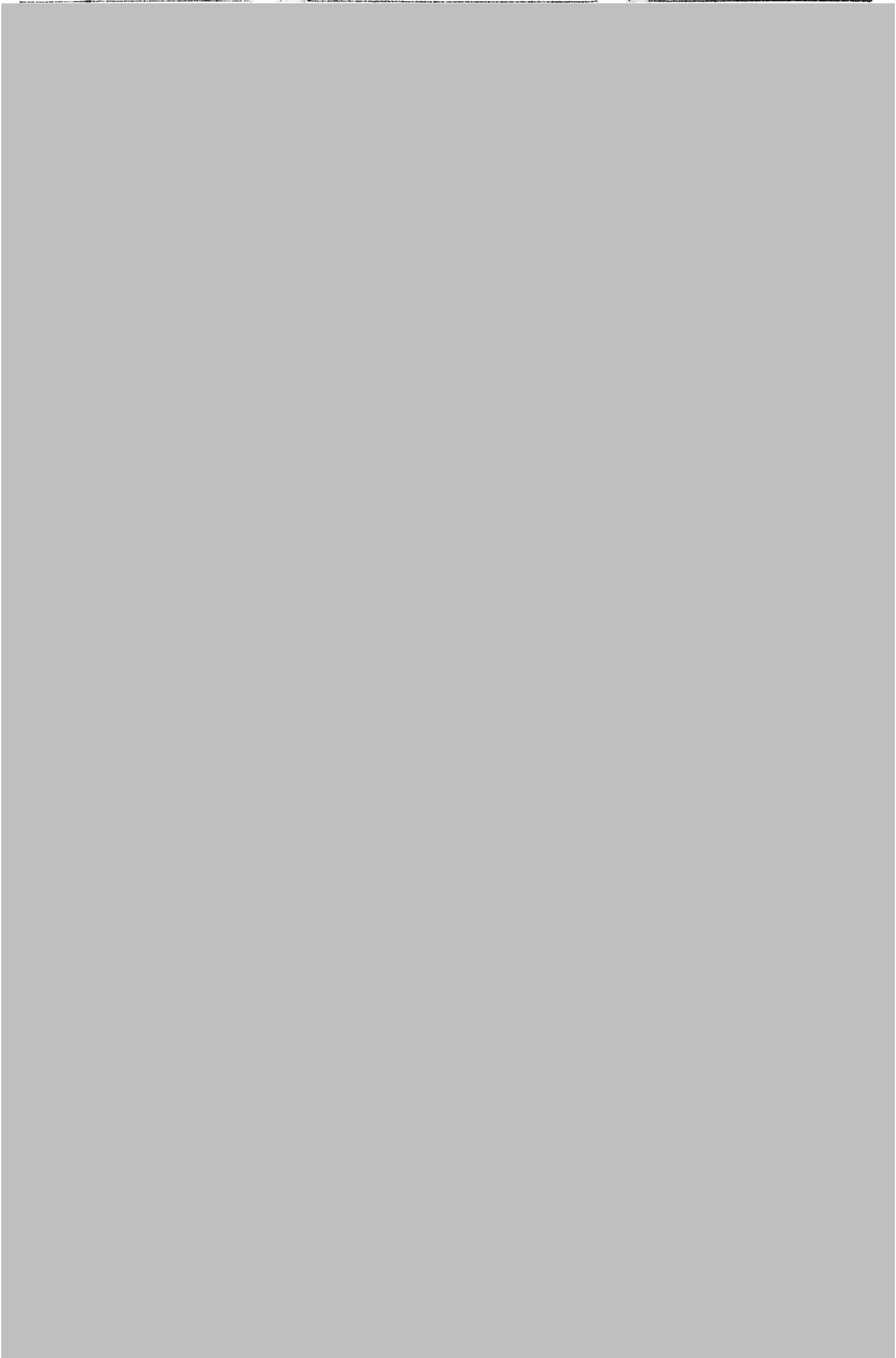


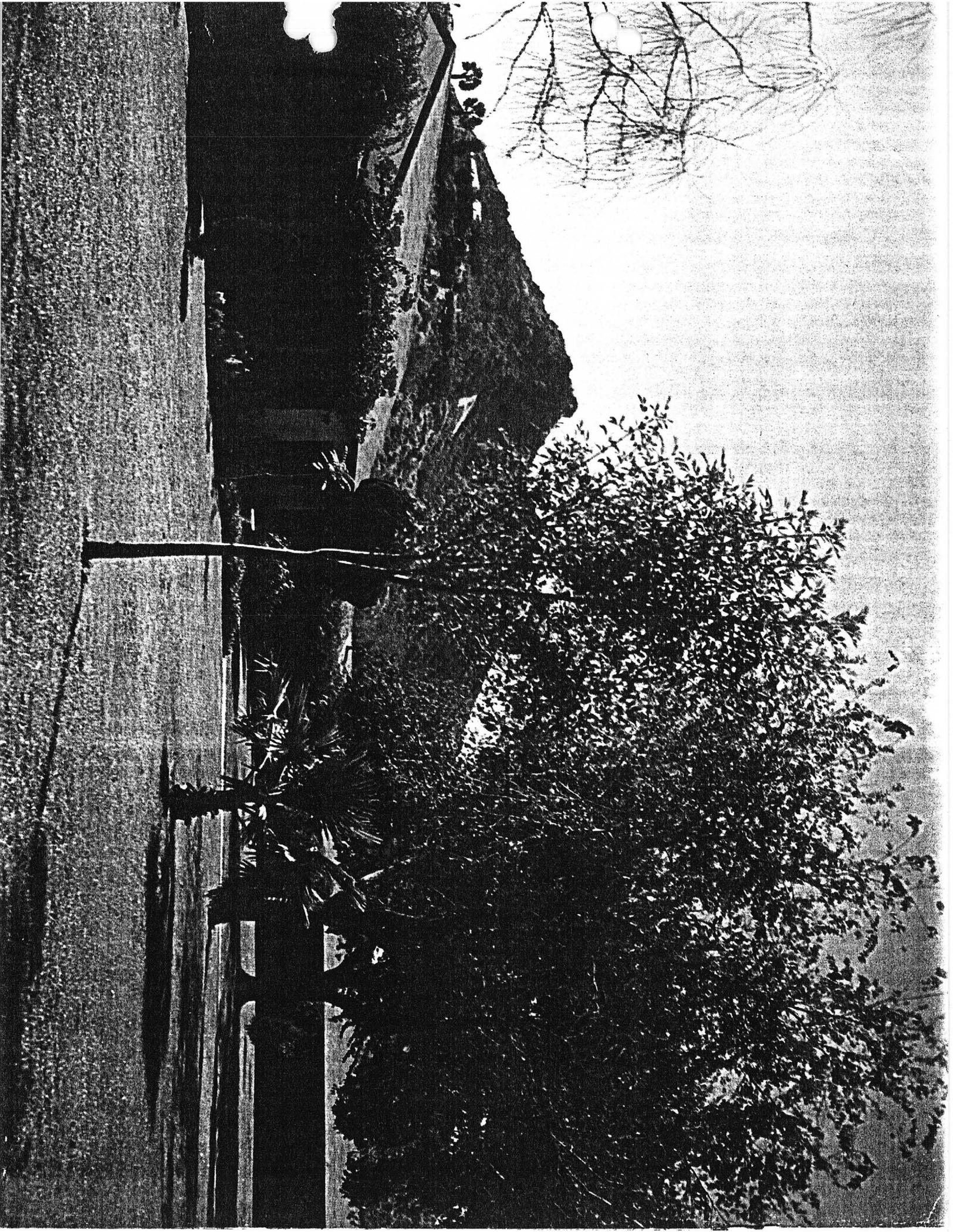
AJO SMELTER,

P.D. ANNUAL REPORT 1966











ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1991

**PHELPS DODGE CORPORATION**

**Corporate Headquarters**

2600 N. Central Ave., Phoenix, AZ 85004-3015 - Phone 234-8100.

Chairman of the Board ..... D.C. Yearley

President, Phelps Dodge Corporation ..... L.R. Judd

**Western Operations**

2600 N. Central Ave., Phoenix, AZ 85004-3015 - Phone 234-8100.

Vice President & General Manager ..... J.L. Madson

Vice President, Manager Engineering Services ..... R.W. Rice

Controller, Phelps Dodge Mining ..... R.G. Peru

Director of Employee Relations ..... S.L. Marcus

Assistant Director of Employee Relations ..... T.D. McWilliams

Director, Materials Management ..... R.G. Mock

Purchasing Agent ..... C.R. Jennings

Traffic Manager ..... J. Sheridan

J. Sheridan

**Western/US Exploration**

P.O. Box 50427, Tucson, AZ 85703-1427 Phone 792-4981.

Manager, US Exploration ..... D.E. Ranta Manager,

Western Exploration Office ..... R. B. Ludden

**Exploration and Development Group**

2600 N. Central Ave., Phoenix, AZ 85004-3015 - Phone 234-8100.

Senior Vice President ..... P.J. Ryan

P.J. Ryan

**New Cornelia Branch T12S R6W Secs. 23, 26, 27**

Ajo, AZ 85321 - Phone 387-7451 - Employees: 24 - Open pit copper mine

- 30,000 TPD concentrator with molybdenum circuit - 190,000 TPD smelter  
with acid plant - All inactive.

Plant Superintendent ..... J.L. Armstrong

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T12S R6W Secs. 23, 26, 27  
Ajo 85321 - Phone 387-7451 - Employees 24 - Open pit copper mine - 30,000  
TPD concentrator with molybdenum circuit - 190,000 TPD smelter with acid  
plant - All inactive.

Plant Superintendent ..... J.L. Armstrong

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1988

**PHELPS DODGE CORPORATION**

**Corporate Headquarters**

2600 N. Central Ave., Phoenix 85004-3015 - Phone 234-8100.

Chairman of the Board ..... G.R. Durham  
President, Phelps Dodge Mining ..... L.R. Judd

**Western Operations**

2600 N. Central Ave., Phoenix 85004-3015 - Phone 234-8100.

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Vice President, Manager Engineering Services ..... R.W. Rice  
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Assistant Director of Employee Relations ..... T.D. McWilliams  
Director, Materials Management ..... R.G. Mock  
Purchasing Agent ..... C.R. Jennings  
Traffic Manager ..... J. Sheridan  
Manager, Western Exploration Office ..... D.R. Ranta  
(P.O. Box 50427, Tucson, AZ 85703-1427)

**Exploration and Development Group**

2600 N. Central Ave., Phoenix 85004-3015 - Phone 234-8100.

Senior Vice President ..... P.J. Ryan

**New Cornelia Branch**

T12S R6W Secs. 23 & 27

Ajo 85321 - Phone 387-7451 - Employees 24 - Open pit copper mine - 30,000  
TPD concentrator with molybdenum circuit - 190,000 TPD smelter with acid  
plant - All inactive.

Plant Superintendent ..... J.L. Armstrong

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1992

*New Cornelia Mines  
Pima County*

**MINERALS RESEARCH AND RECOVERY, INC.**

**Ajo Plant and Slag Stockpile T12S R6W Sec. 23**

Tucson Office and Plant, 4565 S. Palo Verde, Suite 203, Tucson, 85714 -  
Phone 748-9362 - Ajo Plant and New Cornelia Copper Smelter Slag Stockpile,  
Highway 85, Ajo, 85321 - Phone 387-5310 - Employees 54 - Processess copper  
smelter slag for roofing granules, abrassives, filtration media, nuclear  
shielding, and ship balast - Markets in Arizona and exported.

President Manjit Chopro

Plant Manager (Ajo) Joe Fanning, Sr.

Plant Manager (Tucson) Micheal Vick

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1992

*New Cornelia file  
Pima County*

**PHELPS DODGE CORPORATION**

**Corporate Headquarters**

2600 N. Central Ave., Phoenix, AZ 85004-3014 - Phone 234-8100.

Chairman of the Board and President D. C. Yearley

Senior Vice President and President Phelps Dodge Mining Company J. S. Whisler

Sr. Vice President and Executive Vice President Phelps Dodge Mining P. J. Ryan

**Phelps Dodge Mining Company**

2600 N. Central Ave., Phoenix, AZ 85004-3014 - Phone 234-8100.

Vice President & General Manager J. L. Madson

Vice President Engineering Services R. W. Rice

Controller, Phelps Dodge Mining R. G. Peru

Director, Employee Relations S. L. Marcus

Manager, Employee Relations D. E. Brooks

Assist. Director, Materials Management C. R. Jennings

Traffic Manager J. Sheridan

**New Cornelia Branch T12S R6W Secs. 23, 26, 27**

Ajo, AZ 85321 - Phone 387-7451 - Employees: 24 - Open pit copper mine -  
30,000 TPD concentrator with molybdenum circuit - 190,000 TPD smelter with  
acid plant - All inactive.

Plant Superintendent J. L. Armstrong

NEW CORNELIA MINE

PIMA COUNTY

KAP WR 3/28/86: Ron Hanna explained that his A & H Abrasives (card) business is doing quite well with Southern California being the major market area. His major competition is Copperblast produced by Rocky Mountain Energy. The principle product of A & H is ground and sized copper smelter slag used as sand blast media. Slag from Phelps Dodge's New Cornelia Mine (file), Pima County is used for the product. Ron Hanna has a lease from PD for the slag which is processed by Mineral Research and Recovery (card) of Tucson and marketed by Ron's company.

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NJN WR 4/3/87: Stan Espanshade (sp?) of Tucson has subleased the minerals contract from Wayne Thompson, Southwest Minerals Assoc., at the New Cornelia Mine (file) Pima County.

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MG WR 4/17/87: Visited the underground well system at Ajo. The system comprised of a two-compartment shaft, 656.5 feet deep (there is now a second shaft), a pump station, drifts, and pumping equipment was installed between 1913 and 1915 by the Calumet and Arizona Mining Co. The water which supplies the mill and mining operations and the town of Ajo is derived from a vesicular basalt. The large electric Worthington pumps were shut down in 1953. The water is now pumped by electric, Worthington submersible pumps.

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RT

PHELPS DODGE CORPORATION  
New Cornelia Branch

PIMA COUNTY

KAP WR 2/24/84: John Robertson, smelter superintendent, Phelps Dodge New Cornelia Smelter, Ajo, reported he has been assigned the additional position of Western Ore Buying Supervisor for Phelps Dodge. Among his duties are to assure a continuing supply of ores, concentrates and silicious flux for the company's smelters from purchased production. Phelps Dodge's small mines division will continue to be responsible for acquiring and operating small mines to also provide ores, concentrate and flux. Mr. Robertson explained that he can provide some assay services for potential shippers at their lab in Ajo. Further, some geologic and engineering assistance could also be available from PD.

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KAP WR 2/24/84: John Robertson, smelter superintendent, Phelps Dodge, New Cornelia Branch, Pima County, reports the New Cornelia Mine has been selling copper concentrates to Japan and to Asarco.

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KAP WR 3/2/84: A 300 pound sample of copper smelter reverbratory slag from the PD smelter at their New Cornelia Branch, Ajo, was delivered to American Rockwool at their Casa Grande Rockwool Plant, Pinal County. Met with Denis Johnson who is in charge of obtaining raw materials for the plant. They are still looking for just the right basalt. Further, they would like to find some nepheline syenite to try as about 10% of a trial melt. Such rock may provide a more fluid melt and reduce the gravity of free iron which drops out during melting and spinning.

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CJH WR 5/4/84: It was reported that John Whatley (c) has gained a contract with Phelps Dodge Corp., to supply their New Cornelia Branch with silica (containing precious metal values) from the Double Tough Mine, Pima County. Production scheduled within 30 days (June 1).

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MG WR 2/7/86: Learned of a new mining operation. Minerals Research & Recovery, Inc., 4500 E. Speedway, Suite 60, Tucson, Az. 85712, phone (602) 323-3279, is mining and crushing slag produced by the Phelps Dodge smelter at the New Cornelia mine (Pima Co). The principal market is in San Diego where the crushed slag is used as an abrasive for sand blasting hulls of ships. It is sold for \$3.90/100-lb bag or \$65/ton bulk. Mr. Don E. Ryron is president of the company.

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PHELPS DODGE CORPORATION  
New Cornelia Branch

PIMA COUNTY

KP/WR 11/14/79 - Mr. Bob Lilliebridge, Rockwool Industries, reported his firm is still shipping smelter slag from the Phelps Dodge New Cornelia smelter at Ajo. The slag is used to manufacture of mineral wool insulation. Mr. Lilliebridge reported that his firm will be investigating in detail some of the basalt properties sampled in the Spring of 1979 by the Department of Mineral Resources.

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MG/WR 1/25/80 - I learned that two core holes were drilled in 1979 to about 2,000 feet deep north of the New Cornelia pit. Both of these holes were apparently bottomed in barren andesite.

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MG WR 2/8/80: Mr. Ron Gibbs of Phelps Dodge informed me that Pillar and Lowell Consultants of Tucson were responsible for two deep core holes drilled north of the New Cornelia pit in 1979 (weekly report ending January 25, 1980). One hole is in NW $\frac{1}{4}$ , Sec. 6, T12S, R5W, and the other hole is in NW $\frac{1}{4}$ , Sec. 14, T12S, R6W.

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MG WR 4/24/81: Toured New Cornelia Mine at Ajo (Pima Co.). Tour was sponsored by the Arizona Conference (AIME) and Phelps Dodge. Pit expansion on north side is underway, with truck haulage of waste overburden. All other rock, ore and waste, is hauled in 70-ton rail cars. Current mining production is approximately 30,000 tpd ore and 52,000 tpd waste. Mr. R.E. Rhoades, Manager, informed me that he hopes the concentrator can be modernized and expanded in capacity from 30,000 tpd to 50,000 tpd. He believes that will insure survival of the operation.

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KAP WR 9/17/82: Ron Hanna reported he is still involved in handling slag from Ajo for Sandblast Sand.

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KAP WR 2/24/84: Met with John Robertson, Smelter Superintendent at the New Cornelia Smelter of Phelps Dodge at Ajo. Discussions of PD's interest in precious metal bearing and the possible use of reverbratory slag by American Rockwool were held. Approximately 300 pounds of slag were obtained for testing at American Rockwool's Casa Grande Rockwool Plant (fiel) Pinal County.

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KAP WR /224/84: James Bush is operating screening plant on a portion of the New Cornelia smelter slag pile at Ajo. He is currently producing an aggregate type product for septic system leach beds and pits.

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At Ajo visited briefly with Mr. Orr, manager of the New Cornelia branch of the Phelps Dodge Corporation, who said the operations was on an even keel and that the acid plant was progressing on schedule. Talked with Jim Davenport at the smelter who was having difficulty with loss of reveratory gas pressure. He said he had also had trouble that day with the new convertor which tends to explode when charged with matte. GW WR 6/21/72

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Virgil Denning's converter flux operation is progressing satisfactorily. He estimates he has about 3 years reserve of quartzsite remaining. GW WR 6/21/72

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Active Mine List - October 1972 - New Cornelia smelter cap. 300,000 T, =9,244,000 T Ore, 18,198,000 T Waste, 53,000 T Cu, Empl. 1270.

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Visited briefly with Jim Davenport at the Ajo smelter and got their specs for converter flux. The acid plant is on a shakedown basis with most of the construction completed. GW WR 10/19/72

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The new acid plant has been completed at the Phelps Dodge New Cornelia smelter and will be on line by the first of the year. GW WR 12/20/72

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Jim Davenport, Asst. Smelter Supt. of the PD New Cornelia smelter says they are having precipitators difficulties with the new acid plant which is operating at only about half capacity. GW WR 2/21/73

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Jim Davenport at the New Cornelia smelter said they were operating at capacity. He mentioned they use 200 tpm of soda ash in the acid plant which costs about \$60/T and comes from Trona, California. They also use 6 tpm of fireclay at \$15/T. Presently they would like some "slurry" quartz for coating the arch of the reverb. He said they could use about 700 tpm of very hi-grade quartz for this purpose and would pay \$6+/T for it. GW WR 6/20/73

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Robert G. Lillibridge, Manager of Manufacturing, said that present plans are for Rockwool Industries to set up a contractor at Ajo to produce 500-600 tons of slag per week from Phelps Dodge's New Cornelia Branch Smelter pile. Jim Busch, a long time Ajo contractor, is expected to start shipping slag by the end of the third week in June. Initial shipments will be removed in such a manner as to develop a slope where molten slag can be poured such that it will spread out in successive layers to five inches thick. When completely cooled, the bedded slag will be ripped with the hope that the majority of the material will not need crushing. The slag will be shipped to Rockwool's Fontana, California plant.

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V. Denning continues to work to capacity, about 100 tons of converter flux rock per day. Tom Jones would like to dispose of his 30 claims south of the New Cornelia pit. The smelter is working at capacity due to the intake of Tyrone "cons". Stearns-Rodgers has begun construction of the acid plant. Mr. Orr was unavailable. GW WR 4-12-71

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The Phelps Dodge New Cornelia branch has reduced mine production somewhat but the smelter continues at near capacity aided by the receipt of "cons" from the Tyrone operation. GW QR 4-8-71

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At New Cornelia, Mr. Orr was unavailable, but visited with J. Davenport who said the smelter was operating at capacity and that the acid plant construction was continuing on schedule. GW WR 6-7-71

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Visited Dave Orr at New Cornelia; his operations have returned to normal and the acid plant and new converter installations are about 1/3 completed. GW WR 10/26/71

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Directory of Mining - August 1971 - 1,300 men.

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Work at Phelps-Dodge New Cornelia branch in Ajo was curtailed during the period due to the strike; but contract work on the acid plant continued. GW QR 9/71

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Messrs. Denning and Robard continue to supply quartz to the New Cornelia smelter. GW WR 2/16/72

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The New Cornelia branch of Phelps-Dodge Company continues to operate at full capacity. The installation of the new acid plant is somewhat ahead of schedule. GW QR 2/72

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Virgil Denning, Why, is producing his quota of siliceous flux rock for the New Cornelia smelter. GW QR 2/72

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Went to Balesteras' mine, on the way stopped at one of the core rigs drilling about a 1/2 mile SW of the New Cornelia waste dump. The operator said he worked for Longyear Company and had been on the job about a week having been in Mina, Nevada. From the number of rods on the stand, this rig was coring around 100' and was in a dark gray brecciated material. Three other rigs were in sight of the Loop road. Mr. Balesteras was not available but apparently there has been no activity at the mine for some time. Mr. Orr was not available but visited briefly with Jim Davenport in the smelter who said operations were about normal and that they should have the acid plant in operation within the year. Virgil Denning was in Tucson but his son said they were still producing 100 tons a day of flux rock for the Ajo smelter. GW WR 4/19/72

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NEW CORNELIA

PIMA COUNTY

Active Mine List Nov. 1967 - 1300 men

Interviewed Dave Orr, Gen. Supt. New Cornelia - he reported operations were approaching normal following the strike. No outside activity in the area. CLH WR 4-6-68

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Active Mine List April 1968 - 1300 men

James A. Briggs, who has been manager for the New Cornelia Branch at Ajo, is retiring, effective December 1, 1968. William G. Hogue, who has been manager of the Copper Queen Branch in Bisbee, on September 16, 1968 became manager at Ajo.  
Pay Dirt 9-1968

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Active Mine List Oct. 1968 - 1275 men

Active Mine List April 1969 - 1220 men - W.G. Hogue, Mgr.

Approximately 100 tons per day of converter flux is being shipped to the Ajo smelter of Phelps Dodge by Virgil Denning, P.O. Box P, Ajo. The material comes from the Little Chief Silica pit. Other shipments at the rate of about 50 tons per day are being made to the Ajo smelter from the Orizaba mine by A.W. Robart, 3249 W. Dunlap Ave., Phoenix.  
Pay Dirt 6-23-69

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Active Mine List Oct. 1969 - 1250 men - W.G. Hogue, Mgr.

Visited with Mr. Bill Hogue at New Cornelia operation where he is manager. He said he had about 1200 employees and that his production is about the same as of the first of the year, also visited with Jim Davenport, foreman of the smelter. GW WR 6-5-70

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Active Mine List May 1970 - 1220 men - W.G. Hogue, Mgr.

Virgil Denning is still mining and selling converter fluxing rock to the Ajo Smelter. The Phelps Dodge New Cornelia copper operation at Ajo continues to operate with about 1200 employees. GW QR 7-1-70

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Mr. Virgil Denning who is mining and hauling 100tpd of converter flux to the New Cornelia smelter said that A. W. Robard is mining 40-50 tpd of flux for PD. Mr. Hogue was ill but visited with Jim Davenport at the smelter. He says the smelter is operating at capacity and that the new acid plant is being constructed on schedule. GW WR 10-9-70

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Active Mine List Oct. 1970 - 1265 men - W.G. Hogue, Mgr.

Visited with David Orr, new manager of the New Cornelia operation of PD. Work there is about as usual and the construction of the sulphuric acid plant will start soon.  
GW WR 12-4-70

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Went to Ajo. Mr. David Orr, Mgr. New Cornelia Branch of PD, was unavailable but visited J.D. Davenport, smelter supt. He says the smelter is operating at capacity as it is receiving several carloads of concentrates each week from the Tyrone operation. GW WR 2/5/71

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NEW CORNELIA BRANCH  
(Phelps Dodge Corp)

PIMA COUNTY  
AJO DISTRICT

Interviewed Mr. Dave Orr, General Superintendent, New Cornelia Mine. He reported operations are approaching normal following the strike. Not outside activity in the area.

CLH WR 4/6/68

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NEW CORNELIA BRANCH  
(Phelps Dodge Corp)

PIMA COUNTY  
AJO DISTRICT

Conference with David Orr, General Supt. 12/7/66

David Orr said that Kennecott Corp. and Anaconda Copper Co. Geologists were conducting geophysical tests in an area immediately north of and E of the tailings dams. An old test hole revealed that the gravel cover in this area is, in general, deep, probably several hundreds of feet to over a thousand feet in thickness. This operation has the local officials a bit on edge because P.D. had not accurately probed the area themselves.

Otherwise the regular pit etc. operation is normal. However, the 1/3 to 1 step, ~~west~~ Arkansas Mountain face of the pit is now showing serious evidence of instability and it is now thought that this slope will have to be flattened to 1/2 to 1, very shortly. There might be some recovery of ore during the process.

MEMO LAS 12/7/66

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Conference with David Orr, Gen'l Supt., Jim Briggs, Manager and O. Fensi, Chief Engineer 6/6/67.

The new 65-ton Payload trucks are doing very well, so far, on the Arkansas Mountain job. They have been tried at 75 tons and hauled it well. There is not, however, any present plan to use this larger load.

There is, so far, no definite word as to whether a strike will occur this year, but preparations for one are being made, just in case. The demands for fringe benefits are quite high.

MEMO LAS 6/6/67

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Conference with J. A. Briggs, Mgr., and D. H. Orr, General Supt. 10/3/67

At the present time the operation is shut down because of the strike in the copper industry. Their normal complement of men is about 1,250 - 1,300 and they expect to employ about that number when the strike ends.

They reported there is no activity in the area at the present time. The small shippers of silica to Phelps Dodge have suspended operations, at least for the duration of the strike.

Within the past year there has been considerable exploration activity in the area between Ajo and the Mexican boundary, and apparently several holes were drilled, but all have now abandoned the area. Anaconda, American Zinc, Amax, A.S. & R. and a Canadian company named Denisa were all in the area. A.S.& R. was the last one, but they pulled out about two weeks ago. A Phoenix group headed by an attorney named Tognoni have some claims in the Growler Mountains near the Organ Pipe Cactus National Monument, but they are inactive now, presumably because of some legal problems.

MEMO Robt. F. Playter 10/3/67

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Had an interview with Mr. David Orr, General Supt. He gave me Mr. Balasteros address. He said there is no development activity in the area, but that outside exploration companies have been very active during the past year. Mr. Forest Ricard is Smelter Supt. CLH Memo 2/6/68

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DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine NEW CORNELIA PIT

Date 6/2/64

District AJO DISTRICT, PIMA COUNTY

Engineer Lewis A. Smith

Subject: Interview with Mr. West, Chief Engineer 6/2/64

West reported that the average grade of ore from the pit ranges from 0.85 to 0.90 per cent copper. The new diesels have considerably sped up the muck haulage.

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Pit Visit 12/1/64 Conference with Bob West, Chief Engineer.

The new diesel power units are now doing well, despite some initial problems. The present grade is around 0.85 percent copper and about 35 cents in gold per ton. Reserves are around 175,000,000 tons for 20 years. The mining is now fairly evenly distributed over the pit area. The stripping ratio has not been changed much recently.

MEMO LAS 12/1/64

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Visit and Conference with James A. Briggs, Gen. Mgr. 6/1/65

Mr. Briggs stated that the transfer of John O'Neil to Morenci, as assistant general manager, would cause no changes at Ajo. Richard Rhoades, present pit superintendent will continue in this job. The general superintendent's jobs will not, for the present, be filled.

The New Cornelia Branch is working at a 26 day work and 2 day off schedule and at the end of July the annual two-weeks vacation layoff period will come. Mr. Briggs also stated that silica situation is well in hand.

MEMO LAS 6/1/65

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Forrest R. Richard has been named superintendent of Phelps Dodge Corp.'s New Cornelia Branch, succeeding Frank Denny, who has retired.

E & M J July 1966

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Mr. Ballesteros, Ajo was in he said he furnishes some quartz to New Cornelia smelter from a place one and a half miles north of his San Antonio Mine.

LAS WR 8/12/66

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NEW CORNELIA PIT, (Phelps Dodge Corp.)

AJO DISTRICT  
PIMA COUNTY

Conference with James Briggs, Gen. Mgr., R. West, Chief Engr., and John O'Neil, Gen. Supt., at mine office.

The New Cornelia Pit is now concentrating its operations in the S-SE and NW portions, Less work is planned for the E and W sides for the immediate future.

The silica flux supply is quite adequate between the supplies delivered from the White Peak and Orizaba mines. Virgil Denning has taken over the Anderson, Gunsight Hills, Pit. (Jim Briggs).

MEMO LEWIS A. SMITH 6/4/63

Interview with John O'Neil, Gen. Supt. 10/1/63

Operations are proceeding at a normal rate with no notable news to report  
Employment is about the same as last reported.

MEMO LAS 10/1/63

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MEMORANDUM

May 1, 1962

New Cornelia Smelter, Phelps Dodge Corp., New Cornelia Br., Ajo District, Pima County

SUBJECT: Conference with Company Officials

Conference with company officials revealed that the silica flux, purchased during the last quarter, had amounted to more than consumption. This was obtained from the following sources:-

Orizaba Mine (George Freeman) (90 percent, plus).  
White Peak (Virgil Denny) (96 percent (average)).  
Balisferos (88 percent).  
La Victoria (92 percent)

It is planned to stock pile sufficient silica to tide the smelter over the hot summer months.

Joy is drilling test holes for the company under a contract, they stated, about 4 months ago.

Memo-Lewis A. Smith-5-11-62

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See: "MINING WORLD", Sept. 1962, p 67 - Copper reduction.  
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The test hole drilling program has been completed. This was to block out the polygons which had not been drilled. The results were good. New Cornelia is now working 11 days and off 3 days and 12 days and off 2 days, or 1 day less than when the last visit was made.

Silica flux is still being obtained from White Peak, Orizaba (George Freeman), Charles Anderson, and La Victoria. Freeman is delivering two grades - 88-90 per cent silica and 1-2 ounces silver and 95 per cent silica at a total rate of 1500 tons per month. Virgil Denny is delivering 1000 tons per month at 95-97 per cent silica. Anderson is periodically delivering 90 per cent silica, (3000 tons per year). La Victoria is operating also. Jarvis delivered 500 tons in January at 88 per cent silica and some copper (0.2 to 0.3 per cent) as chrysocolla. Tests on local limestone showed that it can not be used so that the lime is still being supplied by Paul's Quarry.

No further information was available on the separation of the molybdenite.

Interviews with Jim Briggs, General Manager, John O'Neil, General Supt., Alonzo Fenzi, Assistant Chief Engineer.

MEMO - LAS - 2-7-63

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NEW CORNELIA MINE

PIMA COUNTY

Phelps Dodge is working 28 days and is off 2 days per month. The resultant copper is being stockpiled at Ajo. It previously was being shipped to Canada. They are not interested in lime unless an appreciable saving can be had under the price now offered by Paul's Quarry. The Paul Quarry material is quite satisfactory as to grade and physical structure.

LEWIS A. SMITH  
11-3-59 WR

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See: MINING WORLD, June, 1960, p 61

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MEMORANDUM

September 6, 1960

• New Cornelia Branch, Phelps Dodge Corp., Ajo, Arizona

Subject: Conference with R. E. West, Chief Engineer, and F.W. Denny,  
Smelter Supt.

This conference disclosed that the smelter is now adequately supplied with silica flux suppliers. These are: -

1. Maurice Hedderman, Allison Mine, Baboquivari District, Pima County.
2. R.W. Hallam, 565 1/2 N. 19th Ave., Phoenix  
Hieroglyphic Mtn. District, Maricopa County, (White Peak).
3. George Freeman, 201 1/4 St., Casa Grande (Orizaba Mine) (Pinal County.)
4. Charles Anderson, Ajo (Gunsight District, Pima County) (Growler District,  
Pima County).
5. Richard Ballesteros, Ajo (Growler District, Pima County).

Hedderman, R.W. Hallam and George Freeman all have secondary values in silver or copper. Freeman ships regularly whereas the others work periodically. The Phelps Dodge silica mine in the Sierra Blanco Mountains still has a small reserve of silica.

West reported that the silica showing on the La Victoria, Growler appeared to have about 10,000 tons of available ore. This property at present is involved in a litigation suit.

This property active 10-1961, 2-1962

May 3, 1962

Joy is test drilling on a contract with Phelps Dodge. They began about 4 months ago and are making a relatively good core recovery. They are doing this work on the south and southwest side of the pit.



## Arizona Department of Mines and Mineral Resources

1502 West Washington, Phoenix, AZ 85007 Phone (602) 255-3795  
1-800-446-4259 in Arizona FAX (602) 255-3777 www.admmr.state.az.us

Summary from a talk given by **Harry "Red" Conger, President Phelps Dodge Morenci** to the AMIGOS luncheon March 10, 2000, Phoenix, AZ by Nyal J. Niemuth, ADMMR Mining Engineer

At present Morenci has 2,550 employees. Everyone, workers and management, is going to benefit equalization, team performance based merit pay, and new work rules. The Metcalf concentrator shut down in August 1999. Prior to the shut down Morenci was mining 840,000 tons/day, now 780,000 tons/day. Tire life is now up to 35,000 miles. The use of the Geographic Positioning System (GPS) on the shovels has greatly reduced misdirected ore i.e. leach rock to mill and vice versa. The new corporate goal is to maximize value in everything they do. Contract labor and supply inventory are being reduced. The key to expanding/changing the Morenci operation is the recently completed land exchange in the northern part of the property that allows expansion of the leach stockpiles.

Regarding the acquisition of Cyprus-Amax. The integration of the two companies is going smoothly, but in itself that generates no benefits to the merged companies. Benefits will come from managing all the mines' equipment as one fleet (the Cyprus GEM idea), for example some of the North American properties recently sent under-utilized mining equipment to Candelaria in Chile. Improvements in sourcing will be important including both purchasing and sharing inventory among nearby mines.

Morenci is being operated to minimize cost once again, as in the late 80's, not maximize production as in early 1990's. Production is targeted to be 780 million pounds this year, not the 1.1 billion pounds of the mid 1990's.

The change to all leaching at Morenci is going forward. The Metcalf mill's crushing plant is still being used, now for crushing leach material, sending 75,000 ton per day to the south leach stockpile. High-grade ore will be leached in 20' lifts. All leach will eliminate the capital and operating costs of many process steps. The goal is lower process costs. In 8 to 9 years the mine will have a large amount of chalcopryrite ore rather than chalcocite so milling will again need to be evaluated.

During the period 1999 through 2001, about \$1,220 million will be invested. Mechanical stackers will be installed. Fine crush leach expertise was gained from the staff at (the formerly Cyprus) El Abra mine in Chile where they worked with mechanical stackers and agglomeration. Morenci hopes to aggressively implement their knowledge into the all leach operation, avoiding problems and accelerate recovery by copying El Abra's success. Agglomeration technology will be incorporated now rather than implementing it later.

Ore will be crushed to 1.5" on permanent lifts to achieve a 70% recovery. If a 0.5" crushed is used an 80% recovery can be obtained. Recovery will occur over a period of 2.5 years from three lifts. It will take 8 months to build a lift and leaching will have 2 cycles per lift. The plan is to achieve a 9-cent per pound reduction in costs. Phelps Dodge like many copper producers is researching to be able leach concentrates. May be able to do some day but not yet. Acid supply will be in near balance with Morenci but will be in shortage when Safford goes on line. Will then make or buy acid.

High fuel costs are hurting operations at present. The mine uses 2.5 million gallons of diesel fuel per month.

### **Other Arizona Operations**

**Safford** Safford continues to be pushed forward. Sometime in 2000 the EIS for the new mine an open pit and heap leach operation should be final. Startup will be dependant on the completion of the land exchange. It took about 5 to 6 years to complete the exchange for Morenci. It is necessary to have a long time frame to successfully plan a new major operation such as Safford.

**New Cornelia at Ajo** New Cornelia may be a future swing operation, operated when copper prices are high. At the present low copper prices (low 80cents/pound) the project is stopped.

# Arizona Department of Mines and Mineral Resources

## Verbal Information Summary

**Mine:** New Cornelia

**County:** Pima

**Location:** T12N, R6W, Sec. 27

**Date:** November 20 , 1997

**Engineer:** Nyal Niemuth

Notes from a program given by Richard Travis of Phelps Dodge to the Maricopa AIME/SME Section meeting on plans for the New Cornelia mine.

### **Project schedule**

In 1997 Phelps Dodge announced plans to reopen the mine. Since its closure in 1984 the mine, mill and smelter have had most of their facilities demolished and removed for recycling. By August of 1997 the feasibility and engineering was completed. The mine is now in a permitting stage and the company hopes to complete it by mid-1998. In late 1998 the company hopes to break ground for the new mill concentrator and by October of 1999 begin operating it.

### **Mine information**

38,000 tons of ore per day will be mined and milled. The strip ratio is planned to be 1.35:1 waste to ore. The mine will have an 11 life year that will result in the pit becoming 600' deeper. Life of mine grade will be 0.56% copper. There will be 4 million tons of pre-production stripping. The mine formerly used trains for ore haulage but will now convert to truck haulage. This will result in the bench heights changing from 40' to 50'. Drilling of the blast holes and also the loading of them with explosives will be done by contractors. Refurbished equipment including 22 yard shovels and 190 ton trucks from the Morenci mine will be used to lower capital costs.

### **Mill information**

While the mine saved money by using mining equipment smaller than optimal for Morenci but appropriately sized for New Cornelia, the mill will be almost all new with few but very large units to produce required operating and staffing efficiencies. The mill will consist of a SAG (semi autogenous grinding) mill, conventional flotation circuit producing a 32% final copper concentrate that may go to Hidalgo by rail or could be trucked to other smelters or ports. The mill will produce 67 ounces of gold per day in concentrate.

The mill will be open i.e. without a roof to reduce cost. A new 54" crusher will supply ore via a used conveyor from Tyrone to a stock pile then via 2 feeders to the SAG mill. It will be 34' diameter by 15' wide (the largest in Arizona) powered by a wrap around drive motor 36' in diameter. This 15,000 horsepower electric motor will be the largest in Arizona. The SAG mill will use 5" balls with expensive liners. To extend their life the mill can be run in both directions. After screening the feed will be supplied to the world largest (more than likely only for a short period) ball mill measuring 24' in diameter by 38' long. It also will have a wrap around motor which is unique at present for ball mills. Very large flotation cells (4.5 or 45 feet in diameter?) will be used. Only one pump will be used in the regrind? circuit. Final concentrate will be filtered to make a 8% moisture concentrate that will be dumped on the ground and handled by loader. There will be only 4 conveyors in the whole plant. No molybdenum will be recovered until the 3rd year when the copper circuit is optimized. The mill is budgeted for 90% availability.

### **Environment, power, labor, housing, etc.**

The project should need only 19 permits; far less than for an entirely new mine. Brief comments on the major permits include the following. The Arizona Department of Environment's APP (aquifer protection permit) is in technical review and should be received by mid-1998. The new powerline requires an Environmental Assessment through BLM as well as a site permit for the line from the

Arizona Corporation Commission. The line will run from Gila Bend to Ajo crossing BLM land and the Goldwater bombing range. Low electric rates (re: the pending electric deregulation) are important to the project's economics. To save on a substation cost the wrap around electric motors will be fed with 46kv electricity.

Water (103 degrees) will be supplied from the existing 650' deep shafts (2) that access an open cavern developed by Colonel Greenway, who first developed the mine as a large scale operation. There is concern about the adequacy of water during the hot summer months as the mine's production rate will be higher than the old production rate by about 12,000 (?) tons per day and water reclamation from the new northwestern tailing dam is uncertain. Water usage is estimated to be about 5,000 gallons per minute.

Phelps Dodge is no longer in the community business, Ajo will not return to being a company town. The downtown plaza and the former miners homes have been sold. The company has announced it is closing its mercantile store. The mine will employ 350 to 400 employees all of them salaried, and work in self-directed teams. Many non-essential tasks including refueling, drilling etc. will be outsourced. Hiring may begin in late 1998 or early 1999. Regarding housing the employees Phelps Dodge hopes to be able to hire people from the Tohono Nation and get some of the retirees in Ajo to sell homes to the miners. Others may live in Gila Bend and commute. If necessary, Phelps Dodge may make some land available for mobile home pads.

**Arizona Department of Mines and Mineral Resources**  
**Verbal Information Summary**

**Mine: New Cornelia**

**County: Pima**

**Location: T12N, R6W, Sec. 27**

**Date: March 22, 1997**

**Engineer: Nyal Niemuth**

**Comments from Steve Rivera, Geologist of Phelps Dodge Corp. Tour leader at New Cornelia for the AGS field trip.**

Demolition of the mill and smelter has been completed to allow construction of a new concentrator.

The Locomotive fanglomerate hosts a chalcocite blanket on the south margin of the pit. Extent of the mineralization is unknown.

The AMF fault and to its west is barren. the HWF fault is heavily mineralized.

There is a nice area on the east slope for oxide specimens. The concentrator hill/George fault may host significant oxide mineralization but its deep , approximately 1,000 feet. We collected brochantite sprays in fractures on Concentrator Hill. This is probably the site of the original copper discovery at Ajo.

A stockpile begun in the mid 1970's totals 85 million tons grading 0.35% Cu as sulfides. No metallurgy has been done to see if it has oxidized and could now be leached.

The reserve/reource is 180 million tons of sulfide mineralization grading 0.55% . The deposit is projected to have an 11 year mine life. A major push back is planned to the south southeast to allow mining hte new reserve. It apears to that this will also involve moving some of the stockpiled material mentioned above.

Information Concerning New Cornelia Branch

(File)

The New Cornelia Branch of Phelps Dodge Corporation is the only significant employer at Ajo, Arizona. The current work force of 1,130 results in an annual payroll of approximately \$18,000,000. Current ore reserves are 126,000,000 tons at an average grade of 0.63% copper. At the current rate of production these are sufficient for about 13 years of production and will yield some 1,300,000,000 pounds of salable copper.

Phelps Dodge is the second largest domestic copper producer. Phelps Dodge's principal business is the production of copper from mines, the sale of most of this copper as refinery shapes or as rods and the fabrication of the remainder (as well as copper purchased from others) for sale as wire, cable and tubular products. It also smelts and refines copper, and rolls copper rod, on toll for others. Phelps Dodge sells its copper refinery shapes and rods primarily to wire and brass mills which process them into wire, cable, sheet, strip and tubular products and sells most of its manufactured products to utilities, communications companies and equipment manufacturers and to distributors for resale. Phelps Dodge had total operating revenues of \$780 million in 1975.

Phelps Dodge owns and operates four open-pit copper mines--the Ajo, Metcalf and Morenci mines in Arizona and the Tyrone mine in New Mexico, and has smelters at Ajo, Douglas and Morenci, Arizona. It has refineries in El Paso, Texas, and Long Island, New York, and rod mills in El Paso, Bayway, New Jersey, and Fort Wayne, Indiana. Phelps Dodge produces its manufactured copper products at twelve plants in the United States and one in Puerto Rico.



STATE OF ARIZONA  
DEPARTMENT OF MINERAL RESOURCES  
MINERAL BUILDING, FAIRGROUNDS  
PHOENIX, ARIZONA 85007



April 4, 1968

MEMORANDUM

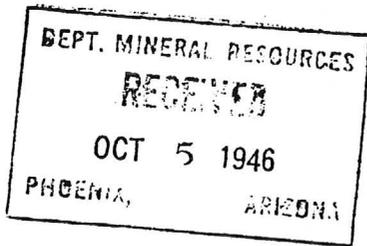
To: Frank P. Knight, Director  
From: C. L. Hoyt, Field Engineer  
Subject: Interview with David Orr, General Superintendent, New Cornelia Mine,  
Ajo, Arizona, on April 2, 1968

Mr. Orr reported that operations are settling down to normal, but that there is still a shortage of journeyman mechanics.

On resuming operations only about 90 men did not return. About 40 of these have been replaced.

On the 1st of April there were 1010 day pay and 200 salary employees at work.

Silica purchases from local supplier are back to normal.



# PHELPS DODGE CORPORATION

UNITED VERDE BRANCH, MINES DIVISION

JEROME, ARIZONA

October 4, 1946

Mr. C. H. Dunning, Director  
Arizona State Department of Mineral Resources  
Phoenix, Arizona

Dear Mr. Dunning:

In connection with geological work at the New Cornelia Branch, I am very anxious to obtain all possible information regarding prospect drilling in the outlying area around the mine.

The Arizona Mining Journal for January, 1920, describes work then under way by the Cornelia Consolidated Copper Company and mentions you as engineer in charge. There is also a photograph showing an E. J. Longyear Company drill rig on the southwesterly toe of Arkansas mountain. This hole is on what is now the Bull Dog claim, one of two patented claims belonging to Mr. Emil Zitlau and family. He is an old employee of the company and has an informal understanding in regard to selling to the Phelps Dodge when and if they want the ground. A long time ago, he told me what little he knew about the old work and authorized me to make inquiries in his name. There is also an old diamond drill hole about 2,700 feet in a northwesterly direction from the Arkansas mountain hole, on the Occidental claim which now belongs to the Phelps Dodge Corporation.

I presume the Cornelia Consolidated Company is no longer in the picture and that you must have a certain amount of general information in regard to their prospecting campaign which you are free to let me have. Any information such as the location and extent of the ground then controlled, details of the shallow shaft and tunnel work, and the number, location and depth of the drill holes, as well as specific assay and, or geological data from the drilling would be very welcome and deemed a courtesy to the Phelps Dodge Corporation. Should there be enough such material to involve the question of office expense for the duplication of maps or records I will be glad to assume responsibility to you or to the Mineral Resources Department for such expense, or personal responsibility for the return on any material which you might lend to us.

If you have a detailed record of the drilling, or believe that the Longyear Company may have, but still deem such record confidential, please advise as to whom a request for permission to obtain such record should be addressed.

Mr. C. H. Dunning

- 2 -

October 4, 1946

I trust that you will feel that the preservation of such information and making it available to interested parties is one aspect of the responsibilities of the Arizona Department of Mineral Resources, and thus take a real interest in trying to help us out in this connection.

Very sincerely yours,

*Louis E. Reber, Jr.*

Louis E. Reber, Jr.

P. O. Box 455

Jerome, Arizona

October 8, 1946

Mr. Louis E. Reber, Jr.  
P. O. Box 455  
Jerome, Arizona

My dear Reber:

I have yours in regard to exploration work at the old Cornelia Consolidated.

I have looked through my old files and find the assay records and some maps, etc. that might interest you, and take pleasure in sending them to you. You need not return them.

The No. 1 hole was on the Bull Dog claim but I cannot recall where the No. 2 hole was located. Neither hole showed commercial ore although I recall that when we first hit the sulphides it looked very good, but was merely a coating of chalcopyrite on pyrite.

Mr. Jack Harding, who has been with you at Clarkdale for several years, represented the company for this drill work, and with the aid of a map could probably spot the holes.

You can rest assured that both myself personally, and the Department, are glad to cooperate in matters such as this, as long as we are not violating a confidence or trust.

Yours very truly,

Chas. H. Dunning  
Director

CHD:LP  
Enc.

people is dependent in some way or another upon the New Cornelia mine. The Company's payroll last year (1956) was over eight million dollars.

Ore reserves are not published, but the mine is unquestionably good for many years' life. The erection of an eight million dollar smelter in 1950 indicates that.

The ratio of waste to ore has been roughly 1.50 to 1 the past four years. Before that, it ranged from less than .50 to 1 up to 1.20 to 1.

When one considers the many failures in the early attempts to make the mining district pay, (proving that it was no bonanza in its earlier years), New Cornelia is impressive as another example of how vision and capital have converted a mountain of rock into copper metal. It should be a source of pride for all the company employees to be a part of an enterprise which is creating wealth every day. New Cornelia is another Arizona mine that was made, not found - a monument to the memory of Capt. Greenway and Dr. Ricketts and to their worthy successors.