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TAB

1950 thru 1955

KEEP THIS ON TOP

File No.

Subject: R. F. WELCH FIELD TRIP REPORTS
1950 thru 1955

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

December 6, 1955

K. R. K.G.P.
3/14/56

DEC 8 1955

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - NOVEMBER 1955
ARIZONA - NEW MEXICOJHC - BSA - KGP
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS New Mexico

1. Great Eastern Mines, Inc. During the past few months El Paso Plant has received about 950 tons of siliceous copper ore produced by Great Eastern Mines at the San Miguel property southeast of Cuba, New Mexico. This flux assays from 1% to 4.7% copper with 75% to 82% silica. I visited the San Miguel Mine on November 18th and found the operators occupied in stripping the hanging wall from the rather steeply dipping sandstone bed. Shipments from dumps have been suspended pending publication of the reduced freight rate Mr. Blake is processing which will yield about \$1.00 per ton more return for the shipper. There remain about 1500 tons of dump ore that can be shipped to El Paso with the lower freight rate. Mechanical loading and scraping by bulldozer have diluted the product so that the shipper now loses about \$1.50 per ton. It is expected that on reaching the ore horizon better ore will be available for shipment as indicated in drill holes, and mine ore will be mixed with the dump material in order to assure moving the above tonnage. The ore occurs as copper replacement petrifacts in sandstone. Sorted ore--17 tons--shipped to El Paso assays 22% Cu.

2. Temexucol Uranium-Vanadium Exploration Development Co. has located 140 mining claims in the Cuba area, operating as a limited partnership headed by Lee A. Smith, General Manager, who is an oil geologist. Mining is contracted to C.J. Parker with two large caterpillars, front-end loader, compressor and two 18-ton tandem trucks on the property. Ten men are employed for the operation. A trial car received at El Paso in October assays 1.62% Cu, 64% SiO₂, 1.5% Fe, 7.1% CaO, 10.6% Al₂O₃. Two more cars of similar grade have been shipped. At the time of my visit to the property they had hauled in excess of 200 tons about 105 miles to the rail siding which I was obliged to reject for shipment to El Paso. The copper occurs in flat-lying shaley sandstone. Mechanical equipment employed to mine and load has not been satisfactory inasmuch as the sandy member is only about 3 feet thick and the remaining shaley material produces an abundance of soil. Without proper mining experience this became an earth-moving operation. The management has now resorted to hand sorting the copper-bearing material. Future plans call for diamond drilling the favorable horizon, but I doubt if this project will be successful.

3. Aztec Copper Mines, Inc., headed by Lucien R. Skeels of Espanola, N.M., shipped a trial car of siliceous ore to El Paso the latter part of October assaying 1.05% Cu, 87.5% SiO₂, 1.6% CaO, 0.7% Al₂O₃. Skeels is organizing a stock company, no doubt for the purpose of promotion. No work has been done underground and this shipment comes from a dump and reject material at an old millsite. On completion of the organization Skeels expects to ship a few hundred tons of dump while copper price is high. Other mining interests have approached him for an underground lease. Aztec Copper Mines holds five-year leases on Aztec-Jumbo group and other claims in Copper Hill District, Taos County.

4. Taos Uranium & Exploration Co. Max Evans of Taos has organized this company financed by people at Lubbock, Texas. This is another case of inexperienced management promoting from uranium to copper without knowledge of ore values. Four cars have been shipped to El Paso from this operation, three from the Anaconda No. 3 claim assaying from 3.68% to 5.23% Cu, about 50% SiO₂, 3% Fe, 2% CaO, 14% to 16% Al₂O₃; one car from the High Line Group assaying 1.3% Cu with 64% SiO₂, 11% Al₂O₃. The ore occurs in schist and is not suitable for converter flux treatment rate and therefore must be sorted for shipment. Contract mining is conducted by people from Texas with no previous mining experience and the first approach to the problem has been to make this a tonnage proposition. I advised Mr. Evans that he should increase the value of the ore and reduce tonnage.

5. Western Mines, Inc., Pennsylvania-Tom Payne Mines. This operation has shipped about 170 tons of lead-zinc ore to Deming Mill. The program calls for exploration of the two groups under lease. The ore is good grade and Deming will receive a limited tonnage of the development ore.

6. San Pedro Mine: I am advised that Col. Charles F. Williams, one of the owners of the San Pedro Group, Santa Fe County, has brought suit against Mr. Beers, lessee, for non-performance of contract, and the lessee has filed countersuit. It is expected the property will be available for new leasing arrangement in about 30 days and prospective lessees are standing by pending clearing of the title.

7. Henry Clay-Atwood Mine: Mr. Charles L. Hershman of Lordsburg has obtained Canadian financing to retimber the Henry Clay shaft. He has put up the headframe and is getting ready to install shaft timber. On completion of the timbering job in the Henry Clay, work will be started in the Atwood shaft. The project calls for complete diamond drilling program of the vein in the Henry Clay property. It is expected that some ore will be shipped from the old workings of the Atwood mine while drilling is in progress. At the time Hershman obtained the Henry Clay-Atwood lease, Moseley's ore from the Wilson claim became so low in copper value he could no longer continue the operation. The last cars received at El Paso from the Wilson claim carried excessive alumina and it would have been necessary to shut off this tonnage in any event.

Arizona

8. Cerro de Pasco-Exploration Wickenburg Area: I am advised that Cerro de Pasco has taken over property near Wickenburg, reported to be the old Camp B and adjoining ground. Robert James and E.L. Spencer, Jr., engineer, are now residing at Wickenburg carrying on an exploration program for copper.

9. Bagdad Copper Corporation is producing 116,000 tons of ore per month. During the recent smelter strike Bagdad mill was operating on about 1% heads and accumulated around 3,000 tons of concentrate assaying in excess of 40% copper. Bagdad benefited by about \$200,000 by the time the stockpile had been shipped to the smelter as a result of increase in copper price following the strike. Ore presently mined from the bottom of the pit assays 0.5% to 0.6% Cu with very little tonnage coming from the north side.

Bagdad has been stripping the north rim at the rate of one million tons per month which must be carried on for three years for continued mining on that side of the pit. Present stripping ratio is 9 waste to 1 ore. Bagdad equipment is in good shape, with five shovels, two operating in ore. Bagdad has recently purchased a Joy rotary drill for blasting the stripping area.

In stripping to the north large tonnage of 3% to 4% Cu oxidized ore has been encountered. Some experimental smelting of this product is being done at Hayden Plant and terms are outstanding for trial shipment of 500 to 600 tons.

Dorr Company is building a 5-ton per day fluosolid plant, this experimental plant no doubt financed by Dorr. Dickie is very hopeful this will lead to a larger plant that will produce not only electrolytic copper but also acid to leach the oxidized ore.

10. Black Pearl Mine: Messrs. Lincoln and Dickie have purchased the Black Pearl property, operated in the past for tungsten by Cazier and Schultz. With the assistance of a DMEA loan a shaft is being sunk about 150 feet under contract by Boyles Bros. of Salt Lake City. The ore at the Black Pearl is pegmatitic vein in granite carrying beryllium as well as minor amounts of bismuth. The operating contract calls for producing tungsten concentrate and it is expected about 1.5 tons per week of 20% Bi concentrate will be produced. Further laboratory tests are being conducted in preparation for production of the bismuth concentrate. I am advised the mill also will produce pyrite which will be used to make acid for the leaching operation at Bagdad.

11. Cyprus Mines, Inc.-Old Dick Mine: Cyprus Mines has been cleaning up underground drifts and surface plant at the Old Dick mine. Development in preparation for construction of the mill involves running a raise to the surface for powerline, airlines, etc. and to permit use of both shaft compartments for sinking below the 450 level. Cyprus has decided to use the old shaft instead of sinking a new one. Metallurgical test work and mill design are being carried on by Southwestern Machinery Co. Arrangements have been made with Mr. Dickie to use Bagdad tailing pond water for the Old Dick mill and to extend the power line from the Bagdad substation to the Old Dick property, about two and a half miles.

12. McFarland & Hullinger, Pinafore Mine. McFarland and Hullinger have taken a lease and option on the Pinafore Mine located about 14 miles southwest of Bagdad. Examination is now under way before deciding upon exploration work to be carried out. The Pinafore orebody is reported to be in schist, assaying 4% to 8% Cu, 15% Zn, with widths in excess of 10 to 12 feet.

13. Shattuck Denn Mining Corp. The Iron King mine has recently completed negotiation of a new labor contract for increase of 12 cents per hour with 1 $\frac{1}{4}$ ¢ fringe benefits. (The original demand was for 30 cents increase.) If zinc goes to 13.5¢, there will be an increase of 2 cents per hour across the board and another 2 cents labor increase on 1 $\frac{1}{4}$ ¢ zinc price.

Expansion for increased tonnage has been completed as far as the shaft and level driving is concerned and the bottleneck now is in the mill. With installation of a sink-float plant 20% additional ore can be mined and milled per day without increasing personnel in mine or mill. Preliminary test of sink-float process would reject the schist country rock which assays less than present mill tailings. Mr. Mills is very optimistic about producing a minimum of 1,000 tons of ore per day at Iron King.

14. Arizona Giant Mining Corp., financed by Minnesota capital, has an option on Charles Lockridge's Blue Bonnet claims north of Williams, Arizona. Robert Butler, General Manager, has asked for a schedule for shipment to Hayden of handsorted product he believes will assay around 5% Cu. I visited the property early in November with Butler. He has a Plateau-type uranium portable drill he has been using for drilling uranium claims. Butler claims he has developed about 200,000 tons of 1% Cu on the Lockridge property. His program calls for strip-mining about 30 feet of dolomitized limestone. Previous receipts at Hayden from this property assay from 2.5% to 7.5% Cu with about 12% MgO, 25% CaO. Shipments from Lockridge were suspended because of the MgO. Butler has been advised the ore is not suitable for smelting but is proceeding with mining low grade which will be crushed, passed over conveyor belt and sorted to shipping grade with Indian labor. No commitment has been made for purchase of this material for Hayden or El Paso delivery.

15. West Coast Minerals Co. has done experimental work with a pilot plant at the Iron King Mine on sandstone copper and uranium ore which under certain circumstances may lend itself to concentration by this process. The plant is made up of a hammer mill, a drier and wind classifier in closed circuit whereby the fines are separated from the sand particles. The sandstone copper deposit in the Navajo Indian reservation owned by Spencer Shattuck and Claude F. Thompson at Copper Mine Trading Station lends itself to treatment in this type of plant and as a result leases have been obtained and a 500-ton per day plant is now being constructed for treatment of sandstone copper ore to be mined by open cut. Samples of concentrate obtained from the pilot mill indicate 10% to 12% Cu. This product presents a problem in shipping because it is fine-grained and dry. In conjunction with the concentrate, a screened classified product will be shipped to El Paso as converter flux. The new plant is expected to be in production by the latter part of February 1956.

16. Fontaine-Cupel Mine in the Wallapai Mining District, north-east of Kingman is being developed by Fontaine-Cupel Uranium Company, a stock company organized by G.P. Williams of Boise, Idaho. Williams is now doing development work on the vein from which one carload of ore has been shipped to El Paso assaying 11.85% Pb, 12.5 oz. Ag, 2.9% Zn.

17. Golconda Mine, Cerbat District: I am advised that John Sherman Bagg is engaged in development work at the Golconda property driving the Peach tunnel about 5000 feet to the Golconda shaft, has encountered milling ore, and contemplates construction of a mill. This development work, I understand, is financed by substantial mining interests; rumors that come to me indicate Dorr Company and American Cyanamid are interested in this operation.

18. Duval Sulphur and Potash Co., since May 1955, has been drilling west of Twin Buttes on the New Year's Eve and adjacent ground held by C. D. Wilson. The company has a large acreage under option and has concentrated exploration in an area about 600 by 1500 feet with some apparent success in finding disseminated copper. Mr. Messer, Duval's chief engineer in charge of this exploration, has asked for smelter quotation for concentrate assaying 20% to 25% Cu. Metallurgical tests have been performed at the University of Arizona on a few drill sludge samples. In talking recently with Mr. George Zoffman, President of Duval Sulphur and Potash Company, he would not confirm his company's discovery in the Twin Buttes area, but I was led to believe an announcement would be made in about two months regarding the success of this exploration. I am advised that Mr. Messer has purchased the sample plant constructed at Pima Mine by Cyprus Mines in which samples will be cut from ore mined in a projected 1000 foot crosscut adit.

19. Pima Mining Company. As of November 1st Cyprus Mines, through its partner Utah Construction Company, started excavation at the Pima Mine. They are moving about 8,000 yards per shift and on completion of powerlines to the pit a double shift will be started with expansion to calculated requirements of 20,000 yards per day. Stripped material is being moved to state ground held under commercial lease by Pima Mining Company and on which Asarco has application for mineral lease. Prior to withdrawing from underground operation in the Pima Mine, crosscuts were run to the south on the 4th and 5th levels to check the arkose mineralization indicated by churn drill holes. These crosscuts were extended a few hundred feet and encountered marginal ore, on which mill tests at the University produced 24% Cu concentrate. Pima Mining Company does not know how far to the south this mineralization may extend.

20. Banner Mining Company has encountered another ore shoot east of the Daisy shaft on the 400 level. About a month ago this showing was wider than drift width and assayed 15% to 18% sulphide Cu. The heart of this orebody is being mined and mixed with Mineral Hill low grade to increase grade of the mill feed. No drilling or crosscutting of this ore zone has been done by Banner, and it may be a lens of high grade in the Pima ore zone similar to that encountered on the 400 level of Pima Mine. There has been no further negotiation between Banner and Cyprus for the purpose of extending the open pit into Banner ground. Banner is now drilling the second hold on its claims north of Asarco holdings on Section 36, in which Banner has encountered some copper mineralization.

21. Sam Knight Mining Lease during the past year has been doing some diamond drilling and a small amount of underground work in the Bonanza Mine at Duquesne. Extension of the 325 level beyond Elayer's stope has encountered more copper and zinc-copper ore. The zinc ore has been selectively mined for delivery to Trench Mill and the copper for shipment to El Paso. Production by the Knights to date is as follows:

	<u>Tons</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Trench Mill	256	3.0	.86	4.0	20.6
El Paso Plant	149	5.0	-	12.5	4.0

The zinc-copper ore is now being diverted to Denning mill for production of copper concentrate.

Although there are indications of good grade copper ore that should be shipped at this price, the Knights are very slow in producing, principally because their lease calls for minimum \$500 per month royalty to Jas. P. Nash. With the small tonnage now available the Knights are holding back production, shipping only enough tonnage during their exploration program to meet the minimum royalty payment.

REED F. WELCH

cc: JDMacKenzie CFPollock
 SHLevison DJPope
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 31, 1956

Mr. B. D. Roberts, Manager
EL PASO PLANT

K. R.
FEB 6 1956

SOUTHWEST PRODUCTION-1955
RECEIPTS EL PASO, HAYDEN, DEMING
AMARILLO & CORPUS CHRISTI

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

Lead Department

	<u>Tons Received - Total 12 Months</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	15,360	8,206	23,566
February	12,187	8,985	21,172
March	16,097	9,377	25,474
April	15,006	4,308	19,314
May	14,621	14,377	28,998
June	16,082	14,657	30,739
July	1,208	397	1,605
August	12,657	6,393	19,050
September	19,279	10,784	30,063
October	22,579	7,853	30,432
November	18,727	11,100	29,827
December	14,486	14,315	28,801
Total	178,289	110,752	289,041

Copper Department

January	19,049	2,899	21,948
February	20,686	4,097	24,783
March	20,959	4,047	25,006
April	24,749	3,622	28,371
May	24,660	5,187	29,847
June	19,479	3,008	22,487
July	3,068	310	3,378
August	14,030	2,641	16,671
September	23,275	5,690	28,965
October	25,430	2,194	27,624
November	19,870	2,273	22,143
December	19,030	2,346	21,376
Total	234,285	38,314	272,599

Fluxing Situation and Stocks (From Semi-Monthly Reports)

Lead Department

	<u>Total - Year</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>1-1-56</u>
Lead Concentrate	137,041	136,860	7,713	8,558
Pyrite "	117	117	7,569	7,609
Residue	77,387	76,595	6,813	7,981
Dust	18,331	18,822	1,116	280
Siliceous lead	8,973	11,358	3,703	1,528
Total	241,849	243,752	26,914	25,956

El Paso Fluxing Situation, con't. - Lead Dept.

Siliceous lead fluxing requirements for 1955 have come from smelter slag in the absence of any available tonnage of siliceous leady ore.

Copper Department

	Total - Year		On Hand - Tons	
	Received	Smelted	1-1/55	1-1/56
Concentrate	163,185	162,158	1,872	2,187
Residue	13,951	14,006	1,511	2,182
Matte	23,766	23,394	132	--
Sulphide	12,624	10,873	564	2,156
Serap	2,100	1,704	11	--
Reverb Flux	10,304	10,061	93	150
Converter "	63,236	51,561	17,975	29,292
Total	289,166	273,757	22,158	35,967

Converter Flux intake has been satisfactory with about three months' stock on hand at the end of the year. New operations in sandstone copper deposits in northern Arizona are expected to supply considerable tonnage of high-silica copper-bearing flux with satisfactory smelter margin, depending on duration of high copper price.

HAYDEN PLANT

Summary of Monthly Receipts (From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	21,103	July	--
February	16,855	August	10,125
March	22,194	September	17,857
April	19,592	October	21,439
May	19,921	November	19,148
June	17,693	December	21,674
Total First Half	117,358	Total Year	207,601

Fluxing Situation and Stocks (From Semi-Monthly Reports)

	Total - Year b		On Hand-Tons	
	Received	Smelted	1-1-55	1-1-56
Concentrate	173,560	172,027	1,330	2,863
Reverb Flux	40,332	41,525	7,517	6,314
Converter "	27,049	23,315	2,688	6,572
Total	240,941	236,867	11,535	15,749

Concentrate: In addition to Ray concentrate, 8342 tons of Silver Bell and 2041 tons of Bagdad concentrate was smelted.

Converter Flux: Custom tonnage has met requirements for siliceous flux during the last half year with only 2250 tons of Ray crude received. Chilito Mine supplied 2568 tons of copper-bearing siliceous flux with approximately 2000 tons of high-silica ore from miscellaneous shippers in the last half.

Southwest Production
Year 1955

3.

DEMING MILL

Summary of receipts at Deming since the mill resumed operation in March through December is shown below.

	Tons Milled - 1955		Total
	Ground Hog	Custom Ore	
March	3,550	20	3,570
April	6,806	514	7,320
May	7,118	1,072	8,190
June	8,713	377	9,090
July	8,208	132	8,340
August	8,230	-	8,230
September	8,000	-	8,000
October	7,470	180	7,650
November	7,803	146	7,950
December	8,331	539	8,870
Total	74,229	2,981	77,210

Receipts from Tom Payne and Bottom Dollar mine, operated by Western Mines, Inc., brought in about 500 tons of custom ore in the last quarter. It is expected that this operation will continue shipments to the mill and some milling ore may come from Baca's lease on New Jersey Zinc Company's Kelly Mine at Magdalena. Purchase terms were offered for treatment of Old Dick Mine ore at Deming pending construction of flotation plant at the property, but Cyprus Mines decided to hold the ore for their own mill.

ZINC CONCENTRATE

Summary Receipts Southwest Producers
Amarillo and Corpus Christi

<u>Tons Zinc Conct</u>		<u>Tons Zinc Conct</u>	
January	2,619	July	5,516
February	3,877	August	5,016
March	3,121	September	4,636
April	5,402	October	5,955
May	6,605	November	5,822
June	6,201	December	6,616
Total 1st Half	27,825	Total Year	61,386

Southwest zinc production for 1955 included:

Asarco Units	34,754 tons
Custom Shippers	26,632
Total	61,386

COMMENTS ON SHIPPERS

Athletic Mining Company, Aravaipa District, Graham County, Arizona: Lead production for 1955 totals 1277 tons with assays averaging about 11 Ag, 48.5% Pb, 4.3% Cu, 18% Zn. The zinc output is going to Athletic's plant at Fort Smith.

Southwest Production -1955

4.

Comments on Shippers, con't.

B.S. & K. Mining Company, Silver Bell District, Pima County, Arizona, confined mining to the copper orebody in the Atlas Mine, producing 1236 tons of concentrate-average grade 27.6% Cu with .099 Au, 7.8 Ag. Mill cleanup in January 1955 resulted in shipment of 250 tons to Amarillo assaying 56% Zn. A two-year contract renewal has been signed for the copper output from the Atlas Mine; this agreement also covers up to 100 tons per month zinc concentrate that may be produced in the last half of 1956.

Bagdad Copper Corporation - 1955 production 31,689 tons with average assay approximately 34.75% Cu, 1.5 oz Ag (this includes 2041 tons diverted to Hayden Plant). Present mill feed is coming from a new bench at the bottom of the pit assaying 0.6% Cu, current concentrate assaying about 28%. E.R. Dickie's death on December 14th has brought about renewed Company interest in acquisition of the property, as Mr. Lincoln is now anxious to negotiate a sale of Bagdad holdings.

Banner Mining Company, Mineral Hill Group, Pima District: Concentrate production for 1955 totals 13,255 tons -- average assays about 25% Cu with 5.8 Ag. Daisy shaft production at the rate of 1200 to 1500 tons monthly assaying up to 12% Cu has been purchased by International Smelting Company at Miami, with the exception of 373 tons shipped to El Paso in the first quarter of 1955. The major part of 1955 production was released by General Services Administration for sale on the open market. Negotiations are under way for extending the Pima open pit into the orebody in Banner ground.

Miser's Chest copper production for 1955 totals 7445 tons averaging: Au .09, Ag 9, Cu 28.5%. Exploration connecting the Bonnie and Miser's Chest workings has developed new ore shoots, providing two years ore reserve at the Lordsburg property. Banner is now considering the advantage in deepening the Bonnie shaft.

Copper Butte Mine near Ray resumed shipments to Hayden in March with 1955 deliveries totaling 5952 tons average grade 2.85% Cu, 63% SiO₂, 6.6% Fe, 11.4% Al₂O₃. Since 1917 this mine has produced in excess of 108,000 tons of 2.5% to 3% copper ore.

L.A. Cornejo started shipments to Hayden in April 1955 from the Empire-Arizona Mine near Parker, Arizona. Production for 1955 - 836 tons averaging: Au .27, Cu 2.2%, SiO₂ 79%, Fe 4.3, Al₂O₃ 2.7%.

Coronado Copper and Zinc Co. Copper production at Johnson Camp, Cochise County, Arizona, for 1955:

	<u>Tons</u>	<u>Ag-oz</u>	<u>Cu-%</u>
Concentrate	5525	4.5	29.5
Crude ore	1825	1.0	12.5

Zinc concentrate production continues to move to Bartlesville, since Amarillo does not have capacity for this tonnage. Ore reserves in the Republic Mine have been improved during the last half of 1955.

Comments on Shippers, Con't.

Eagle Picher Co., San Xavier Mine, Pima District: Production at Sahuarita Mill for 9 months of operation in 1955, concentrating ore mined by McFarland and Hullinger.

	<u>Tons</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	1719	21.5	56.0	6.4	7.8
Zinc "	2298	1.8	3.0	.6	56.3

This mine was in worse condition than anticipated when the lease was taken by McFarland and Hullinger. The last nine months of 1955 have been devoted to mining above the 6th level, average ore production about 1300 tons per month.

G.R. French has sold his interest in Ray Silver-Lead Mine in the Dripping Springs District and suspended operation in September 1955 -- average grade for 725 tons shipped in 1955: Au .035, Ag 1.4, Pb. 18.0%. The property is now idle.

Great Eastern Mines Inc., operating the San Miguel Mine, Sandoval County, New Mexico, delivered to El Paso 1548 tons of copper-bearing high silica flux from dumps and mined ore during five months of operation in 1955. Great Eastern in December sold its interest in this property to General Minerals Corporation, which firm is conducting a drilling exploration program. So far results are not encouraging.

Sam Knight Mining Lease at the Duquesne Bonanza Mine, since September delivered 351 tons to El Paso assaying: Ag 4.1, Cu 9.5%, Zn 3.6%. One carload shipped to Deming as a test lot assayed Ag 6 oz, Pb 2.5%, Cu 4.0%, Zn 15.39%. Since the Knights took over operation Bonanza Mine has delivered approximately 236 tons of zinc-lead-copper ore to Trench Mill.

Ira Moseley suspended shipment from the Wilson claim at Lordsburg at the end of November 1955 and moved his equipment to the Anita Mine dump for trial shipment -- 1407 tons delivered to El Paso in December assayed: Au .02, Ag 1.3, Cu .46, SiO2 71.3, Fe 4, CaO 3, Al2O3 6.7. The operation was not profitable and Moseley is now prospecting for siliceous ore near Animas, New Mexico.

Murray and Wainwright, Chilito Mine, Banner District, Gila County, have been delivering siliceous copper-bearing flux to Hayden Plant. Since August 1955 2568 tons received assay about 1% Cu, 80% SiO2, 2.7% Fe, 8% Al2O3.

Shattuck Dena Mining Corp.-Iron King Mine production for 1955:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	22,471	.11	5.5	2.7	.3	49.3
Lead "	18,503	.86	32.5	23.8	1.1	8.8

Production increase has been effected by improvements in metallurgy and in mill equipment. Further increase in production is possible if a sink-float unit is installed.

Comments on Shippers, con't.

Steeplerock Exploration Syndicate has been shipping desirable siliceous ore from East Camp Mine in the Steeplerock District - 2371 tons received in 1955 assay: Au .15, Ag 11.3, Cu .1, S102 73.5.

Sunrise Mining Co., Glove Group, Pima County, in 1955 produced 2168 tons with average assays: Au 6.8, Pb 30.3%, Zn 8.5%. The Austin group sold their interest to Mr. Pollard Simons of Dallas, who is financing the present operation.

West Coast Minerals in August started shipment of copper-bearing sandstone from the Navajo Copper property in Coconino County, Arizona, and through December delivered to El Paso 699 tons assaying around 3.4% Cu with 85% S102.

Mexico Custom Production

	<u>Tons Received-1955</u>
Lead Ore - West Coast Sonora	3,266
Nacozari District	900
	<u>4,166</u>
Copper Ore - West Coast Sonora	57
& Conct. Nacozari District	217
Other Mexico(excluding company units)	27,068
	<u>27,342</u>
Zinc Concentrate - Sonora	<u>1,579</u>
Total	33,087

In addition to custom tonnage from Mexico, El Paso Plant received 1239 tons of copper concentrate from Cuba.

REED F. WELCH

cc: JDMackenzie	CPPollock
SHLevison	FVRichard
RLJourdan	WRLandwehr
WGRouillard	TASnedden
FJDowney	KRichard

1st Half 1955

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 5, 1955

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION--FIRST HALF 1955
RECEIPTS EL PASO, HAYDEN, DEMING
AMARILLO & CORPUS CHRISTI

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-First Half</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	15,360	8,206	23,566
February	12,187	8,985	21,172
March	16,097	9,377	25,474
April	15,006	4,308	19,314
May	14,621	14,377	28,998
June	16,082	14,657	30,739
Total First Half	89,353	59,910	149,263

<u>Copper Department</u>			
January	19,049	2,899	21,948
February	20,686	4,097	24,783
March	20,959	4,047	25,006
April	24,749	3,622	28,371
May	24,660	5,187	29,847
June	19,479	3,008	22,487
Total First Half	129,582	22,860	152,442

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

Lead Department

	<u>1st Half</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>7-1-55</u>
Lead Concentrate	72,136	66,871	7,713	13,181
Pyrite "	-	-	7,569	7,569
Residue	38,033	42,784	6,813	3,124
Dust	11,381	11,753	1,116	394
Siliceous Lead	4,514	6,844	3,703	1,661
Total	126,064	128,252	26,914	25,929

Siliceous Lead stocks were further reduced in the second half in spite of some increase in receipts; fluxing requirements met with mined slag.

Southwest Production
1st Half 1955

2.

El Paso Fluxing Situation, con't.

Copper Department

	<u>1st Half</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>7-1-55</u>
Concentrate	88,986	86,316	1,872	3,671
Residue	5,732	6,895	1,511	785
Matte	12,829	11,949	132	707
Sulphides	11,584	6,026	564	5,907
Scrap	1,316	829	11	221
Reverb Flux	7,709	6,174	93	1,309
Converter "	<u>34,875</u>	<u>28,512</u>	<u>17,975</u>	<u>23,988</u>
Total	163,031	146,701	22,158	36,588

Concentrate intake increased slightly during the second quarter, Silver Bell receipts averaging 6675 tons per month for the first half.

Converter Flux stocks increased since January 1st, coming principally from Ira Moseley's Wilson Claim at Lordsburg shipping about 4400 tons monthly. Miscellaneous shippers delivered about 950 tons average monthly.

HAYDEN PLANT

Summary of Monthly Receipts
 (From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>	
January	21,103	April	19,592	
February	16,855	May	19,921	
March	<u>22,194</u>	June	<u>17,693</u>	
Total 1st Qtr.	60,152	Total 1st Half	117,358	

Fluxing Situation and Stocks
 (From Semi-Monthly Reports)

	<u>Total - 1st Half</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>7-1-55</u>
Concentrate	97,475	96,274	1,330	2,531
Reverb Flux	21,454	22,167	7,517	6,744
Converter "	<u>17,904</u>	<u>14,650</u>	<u>2,688</u>	<u>6,142</u>
Total	136,833	133,091	11,535	15,417

Siliceous Flux stocks were increased during the second quarter with tonnage from the Silicon Lode claim and Ray crude and small tonnage of high-silica ore from miscellaneous shippers.

Southwest Production
1st Half 1955

3.

DEMING MILL

Summary of receipts at Deming since resumption of milling operations in March through June 1955 is shown below.

	<u>Tons Milled-1st Half 1955</u>		
	<u>Ground Hog</u>	<u>Custom Ore</u>	<u>Total</u>
March	3,550	20	3,570
April	6,806	514	7,320
May	7,118	1,072	8,190
June	<u>8,713</u>	<u>377</u>	<u>9,090</u>
Total	26,187	1,983	28,170

Most of the custom tonnage delivered to date has come from the Old Dick Mine at Bagdad. Purchase of this property by Cyprus Mines shuts off this supply of ore for Deming Mill. A few miscellaneous operations in New Mexico may supply small tonnage for Deming. We have received inquiries from the Cananea district in Sonora and a few hundred tons may be received from that source.

ZINC CONCENTRATE

Summary of Receipts at Amarillo and
Corpus Christi from Southwest Producers

	<u>Tons Zinc Conc.</u>		<u>Tons Zinc Conc.</u>
January	2619	April	5402
February	3877	May	6605
March	<u>3121</u>	June	<u>6201</u>
Total 1st Qtr.	9617	Total 1st Half	27,825

COMMENTS ON SHIPPERS

Sonora Shippers

Tons Shipped 1st Half 1955

Out

Fcc. del Pacifico - Lead Ore	1867
Fcc. de Nacozari - Lead Ore	147
Copper Ore	<u>349</u>

Total receipts from Sonora El Paso Plant 2,363

Minas de Guatamo continues operation at Batuc, Sonora, in spite of adverse tax situation in Mexico resulting in poor return. Zinc concentrate is shipped to Amarillo--receipts for first six months of 1955 - 716 tons assaying 55.6 Zn with 4.2 oz Ag, 4% Pb, 1.7% Cu. The lead product is delivered to Mazatlan smelter.

REED F. WELCH

cc: JDMackenzie CPPollock
SHLevison FVRichard
RLJourdan WRLandwehr
EMcLTittmann TASnedden
FJDowney KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 28, 1955

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-SECOND QUARTER 1955
REED F. WELCHNew Mexico

1. Lester Millhouse at High Rolls has been prospecting for uranium and during this work has encountered an old discovery of copper-bearing sandstone. Because of analysis of a small trucklot delivered to El Paso in March--Cu 3%, SiO₂ 70%--I visited the property in April. It is very remotely located about five miles beyond the Calkins property. The sandstone bed carrying copper mineralization is only about two feet in thickness and would require hand sorting and underground mining methods. Under the circumstances I could not encourage Mr. Millhouse to explore the horizon as a source of siliceous ore for El Paso.

2. D. Bruce Leake, Gunnell Mine: Recent correspondence and conversation with Earl Strong indicated the possibility of obtaining siliceous ore from the Gunnell Mine located about 17 miles east of Isleta. Accompanied by Messrs. Strong and Leake I visited the mine and saw where Leake had taken samples recently sent to El Paso with average assay: Au .175, Ag .55, Cu .5, SiO₂ 88%. This deposit on mining would contain about 80% SiO₂. However the freight to El Paso of around \$4.25 per ton and 17-mile truck haul rules out the operation as a source of siliceous flux for the time being.

3. Great Eastern Mines, Inc., managed by Edward P. Chase of Albuquerque, is reopening the San Miguel Mine in the Nacimiento Mining District. The immediate objective of Great Eastern Mines is to open out the copper-bearing sandstone and sort for shipping product. The sandstone is about 50 feet thick, dipping about 40°. With selective mining and sorting a small tonnage of converter flux can be produced. Former underground operations, which attempted to concentrate the ore, accumulated a few thousand tons of dump. On my visit to the San Miguel property I requested the lessees to sample the dumps which may contain sufficient copper to justify shipping direct, or with some sorting or screening the larger part of this material may be available for flux.

4. S.S. Thurmond at Magdalena is doing assessment work on the "Sixty Copper" claims, from which we received a few cars in 1953 assaying around 1% Cu with 70% SiO₂ and 10-12% Al₂O₃. Although this is not ideal converter flux, I encouraged Thurmond to ship the ore he produces during assessment work which will give us analysis on ore deeper on the vein exposure than previous shipments. Present work will be in deepening the open cut on the vein.

Arizona

5. Banner Mining Company in the Pima District is mining and milling 400 tons per day, most of the tonnage coming from the Mineral Hill Mine with some sulphide ore from the Daisy shaft. Banner was released from the government contract for sale of 6 million pounds of copper on the open market and that production will be completed by the end of June. Beginning July 1st Banner's copper production must be handled for General Services account. There remains about 10 million pounds to be delivered to stockpile under the G.S.A. contract. Present production from Mineral Hill and Daisy shaft is 700,000 to 800,000 pounds of copper per month. Banner has installed larger hoist and two steel ore bins at the Daisy and deepened the shaft to 400 feet, providing the operation with several working faces, and production will be increased.

International Smelting Company has a contract with Banner Mining Company to accept 50,000 tons of oxidized ore from the Daisy shaft and this is being shipped to Miami at a rate of 1500 tons per month. Oxide ore production in excess of Miami's contract obligation goes to El Paso-- 500 tons shipped to El Paso in 1955 averages 5% Cu

Exploration work in the Daisy shaft is progressing on the 300 and 400 levels northeast. On the 300 level about 500 feet east of the Daisy shaft Banner has opened up a sulphide ore body 40 feet wide assaying in excess of 4% Cu with decreasing assay value in the walls. Banner has not had time to develop the Daisy ore body by drilling from the surface, but one drill has been kept busy in that area. Mr. Bowman reports the North-South fault in the Daisy shaft has offset the Daisy-Pima ore zone to the south on a westerly extension, indicating possible continuation of Pima type ore toward Mineral Hill. He believes his drilling program is proving this to be the case. Adjacent to Mineral Hill No. 4 shaft another ore body is now being developed by surface drilling with ore probably similar to the Mineral Hill.

Cyprus Mines, optionee of Pima Mine, talked with Banner Mining Company a number of times regarding extension of the proposed Pima Mine pit on Banner ground. There has been a wide difference of opinion in these discussions, inasmuch as Cyprus has not acknowledged the possibility of additional tonnage that could be mined on Banner ground.

Banner Mining Company has been very active in acquiring additional ground in this area and has staked new claims north of the Daisy shaft. Present activity is devoted primarily to location of new claims in the Twin Buttes area south of the Glance-Copper Queen claims and extending into the gravels to the east. I am advised that Banner has entered into a participating agreement with Kern County Land Company with the latter firm financing the drilling on claims south of the Glance Mine and on the two Bullion claims.

Banner has also acquired from United Geophysical the Republic group of claims in the Twin Buttes area and United Geophysical has a contract for drilling this group and Kern County Land Co. claims. I understand a small percentage of ownership in the Republic claims is retained by United Geophysical Co.

6. Pima Mine: I understand Cyprus Mines is taking the option on Pima Mine after four or five extensions, the last one involving an additional \$10,000 for assessment work. Rumors indicate that Cyprus has sold part of its interest in Pima Mine to Utah Construction Co. During the past several months, while Cyprus Mines held the option, Pima Mining Company has maintained a four-man crew working underground and shipped approximately 3000 tons to El Paso assaying 5% to 9% Cu.

7. Duval Sulphur and Potash Co. has acquired the claims west of Twin Buttes held by C. D. Wilson. I understand Duval paid \$100,000 for the option. In addition, Duval has acquired a large acreage and has diamond and churn drills working immediately east of the New Years Eve Mine. This work is under the direction of B.G. Messer who has an office at Twin Buttes.

8. Eagle-Picher Company, San Xavier Mine. Early in February of this year McFarland and Mullinger obtained a lease on Eagle-Picher's San Xavier Mine which provided for mining above the 580 level, Eagle-Picher Company to operate the Sahuarita mill on a flat per ton charge. Recently Eagle-Picher extended the lease to cover the entire mine and McFarland and Mullinger have purchased a submersible pump to unwater the lower levels. Eagle-Picher's operation at San Xavier produced about 0.7 ton per man shift with about 220 men on the payroll. Present lessees employ 25 men and produce about 3 tons per man shift, and have improved the grade over 50% effected by cleaner mining and gobbing of waste in the stopes. Combined lead-zinc-copper from the present operation is 20-22%. Sahuarita mill output is under contract for delivery to El Paso and Amarillo--receipts for April and May 353 tons 55% lead concentrate and 437 tons 57% zinc concentrate

9. Nash Mines, operating at Duquesne, has located about 35 claims in the Twin Buttes area east of the Republic Group. To date no drilling or other exploration work has been done on the Nash claims.

At Duquesne Sam and Frank Knight have taken a lease from J.P. Nash on the Bonanza Mine and revised the D.M.E.A. loan formerly obtained by Carl Elayer. The loan has been increased for additional exploration work with funds available about June 1st. Prior to obtaining the loan the Knights did some drilling from surface and from the 235 level. One hole from the surface encountered a considerable amount of limonite and another penetrated zinc ore, thickness not known. The area of exploration is south of the Bonanza shaft looking for continuation of the Elayer stope.

Other lessees at Duquesne are producing a small amount of ore for the Trench mill coming from the Kansas, Estella and Holland mines. Under Don Gilbert's direction Nash is retimbering the shaft and unwatering the Maine Mine. At the same time Gilbert is carrying on some leasing work at the Belmont Mine.

10. Ventures, Ltd. For the past two years Ventures has been interested in the Sunnyside property in the Patagonia district owned by Santa Cruz Copper Co. About 800 feet of drifting, raising and crosscutting has been done by Ventures exploring for ore under the outcrop where Lee Farrell sank his shaft. This work disclosed the ore mined by Farrell pinched out 10 feet below the stope where he stopped mining from the shaft. Exploration since that time has been by diamond drilling. At present there is one drill underground and one on the surface. Results obtained so far indicate about 0.25% Cu.

Ventures has taken an option on the Mowry Mine. A new interpretation of faulting at the east end of the mine has resulted in cleaning out the old workings followed by diamond drilling looking for an extension of the old Mowry ore body. This work is under the direction of H. M. Kingsbury who is presently residing in Patagonia.

Under the direction of Dan Stranahan, local representative, Ventures, Ltd. has acquired gold-bearing claims known as the San Miguel Mine located 4 or 5 miles west of Alamos springs and a short distance north of the IXL Mine in Yuma County. Work is being done there to fulfill 1954 assessment requirements and will be continued into July to be credited against 1955 assessment work. A shaft is being sunk on a vein which may result in a small tonnage of ore.

In Mexico, Ventures has spent considerable money at the San Alberto Mine about 35 miles north of Alamos, Sonora. During one year of exploration work at this mine 600 feet of crosscut, raises and drifts developed an interesting tonnage of tungsten reported to carry about 1% WO₃. The property developed ownership conflicts, however, and a clear title was not available. According to Mr. Stranahan the Ventures option was dropped for this reason.

11. Newmont Mining Company, since the first of April, has placed Tombstone Mining and Development Company on a standby basis. Considerable diamond drilling was done from the 600 level of the West shaft to deeper limestone horizons and interesting ore intercepts were encountered in the Naco limestone. Don Hargrove who was in charge of the Tombstone operation told me he did not know why Newmont elected to place the property on standby basis. Mr. Hargrove has moved to Grand Junction or Salt Lake City where he will represent the Uranium Mining Division of Pacific Northwest Gas Line Company, in which Newmont may be part owner. The new line will begin in the San Juan basin and continue through the plateau area north to Wyoming.

12. Peru Mining Company has reconditioned the Shannon Mine to the 200 level and started unwatering the lower levels and will soon reach the 500 foot level. Surface plant and buildings have been erected, including crusher and ore bin, and the first ore was shipped about June 1st, hauled by Strong and Harris to Cochise rail siding, for concentration at Peru mill.

13. American Zinc Lead and Smelting Company, after spending considerable time and money in reconditioning the Hilltop Mine, Cochise County, and opening up about 50,000 tons of lead-zinc sulphide ore, concluded the mine is too small for company operation. Sam and Frank Knight are negotiating for a lease and Mr. Calhoun recently advised me he expected in the near future to be able to turn the mine over to them on an agreeable lease arrangement. Production by the Knights should be available for Deming mill.

14. Inspiration Copper Company for the past two years has been engaged in exploration at Christmas Mine under option from Riviera Mines Company. I understand Inspiration has spent in excess of \$400,000 in underground work and surface and underground drilling. Sufficient encouragement was obtained in this work to justify sinking the shaft from the 900 to the 1400 level to check findings from diamond drilling. Mr. Allison, owner of Riviera Mines, advised me that on June 16th Inspiration Copper Company paid in full the cash requirements on the transaction. Mr. Allison retains 12.5% paid up interest in the company. Inspiration Copper has located 60 new claims north of the Christmas Mine. The mill on the property can be put into operation for test purposes.

15. Glove Group, Amado. Edward Mack, leasing the Glove Group from Sunrise Mining Co., recently ran into a new ore shoot discovered by deepening the winze. Mr. Mack reports the ore is 4 to 5 feet wide, opened in excess of 100 feet in length. During the past few months he has shipped approximately 500 tons assaying in excess of 30% Pb and hopes to buy out the Austin owners in Sunrise Mining Co. and incorporate his own company.

16. Dean Nicholson is resuming operation at the Sein Fein Mine in the Aravaipa District. When he left this property three years ago he had mined out the ore above the 5th level and at that time could not finance sinking to a lower level. New financing is now available and Nicholson is engaged in sinking to the 6th level.

17. Copper Hill Group, Yavapai County. Kern County Land Co. has acquired a lease and option on Fred Gibbs' property in Copper Basin and is presently drilling the copper-molybdenum ore body.

18. Cyprus Mines recently purchased the Old Dick Mine at Bagdad from Larson and Weisenburg for a cash price of \$750,000. The program for Old Dick operation has not been disclosed but I presume that mine will be worked in conjunction with the adjoining Copper Queen Mine owned by Cyprus Mines.

19. Bagdad Copper Corporation, during the month of May, mined 110,000 tons of ore from which 2511 tons of concentrate assaying 27% Cu was delivered to El Paso Plant. Before mining this ore 770,000 tons of stripping was completed. In the near future Mr. Dickie expects to strip in excess of one million tons per month.

A small area in the northeast corner of the pit remains to be mined representing approximately 1.2 million tons of 1% Cu. This block of ore is about 300 feet wide and requires at least 10 to 1 stripping. Stripping has been started but no further activity is being carried on in this block at the present time and attention is focused on the north side of the pit. After the 1.2 million tons in the northeast corner have been mined the grade will drop to 0.5, .6 and .7% Cu head assay. The bottom of the pit is now in .5% Cu and Dickie expects to take another bench in this position.

Bagdad Copper Corporation has 40 trucks, all 30-ton Euclid and Dart, which allows the management to keep the equipment in good repair with steady operation. About two months ago a new P.H. 9-yard electric shovel started operating on the north side stripping the mesa. This equipment cost \$300,000 and is needed to accelerate stripping which is far behind mining.

In stripping the north side an area was encountered containing oxidized ore. To date 5,000 tons have been piled on the leaching dump. At my request one car representing low grade and one high grade were shipped to Hayden with assays as follows:

<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Al2O3</u>	<u>Fe</u>	<u>CaO</u>
68	.02	3.73	64.5	14.0	2.7	1.2
65	.17	8.55	66.0	11.0	2.4	0.9

Mr. Dickie believes there may be 50,000 to 100,000 tons of 4.5 to 5% Cu ore that could be crushed with the coarse ore crusher and stockpiled for shipment at a rate of 50 tons per day if it is of value at the smelter.

Because of insufficient cars and unsatisfactory rail equipment Bagdad has been forced to stockpile concentrate at the mill during the past two months. The car situation is improving but there still remains about 800 tons in the stockpile.

Excavation has been completed for erection of a pilot fluo-solids plant, designed to handle 5 tons of concentrate per 24 hours, operated on an experimental basis in conjunction with the Dorr Company. Mr. Dickie reports the plant should be in operation by October. Water is at a premium just now and this condition will continue until the summer rains start.

20. Shattuck Denn--Iron King Mine is treating about 800 tons of ore per day with concentrate production for the month of May 1663 tons lead, 2007 tons zinc. Exploration work is presently centered at No. 7 shaft, sinking from the 1750 to the 2100 level. The shaft is being concreted.

Navajo Copper: Shattuck Denn is considering taking over a dry concentrator on the Navajo Indian reservation in Coconino County. The concentrating process was developed by West Coast Minerals Company. A pilot plant was installed at Iron King resulting in production of 10% to 14% Cu concentrate and a siliceous crude screened product assaying around 4% Cu. In the event Shattuck Denn does not take over management at Navajo Copper, West Coast Minerals Company will carry on the operation. In the past week West Coast Minerals started shipment of crude siliceous ore to El Paso for flux. Mr. Henry Records, President of West Coast Minerals advises he has about 500 tons of classified material crushed and screened but shipment is held up because of the necessity for road improvement.

This dry concentrator is being applied also to uranium sandstone deposits and Shattuck Denn has conducted numerous experiments with encouraging results for uranium concentration.

St. Francis property: Shattuck Denn has drilled two holes on the St. Francis property, about 30 miles west of Tucson on the Ajo road, which was called to Shattuck's attention by Mr. Ed Stone of Tucson. Mr. Stone is supervising the drilling looking for copper. The first two holes encountered no values. The exploration program calls for one to two more holes.

REED F. WELCH

cc: JDMacKenzie	CPPollock
SHLevison	DJPope
RLJourdan	FVRichard
EMcLTittmann	WRLandwehr
	TASnedden
	KRichard-2

K. R.

MAY 25 1955

1st Quarter

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 20, 1955

Mr. B. D. Roberts, Manager
EL PASO PLANT

SOUTHWEST PRODUCTION--FIRST QUARTER 1955
RECEIPTS EL PASO, AMARILLO & CORPUS CHRISTI

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-First Quarter</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	15,360	8,206	23,566
February	12,187	8,985	21,172
March	16,097	9,377	25,474
Total First Quarter	43,644	26,568	70,212
<u>Copper Department</u>			
January	19,049	2,899	21,948
February	20,686	4,097	24,783
March	20,959	4,047	25,006
Total First Quarter	60,694	11,043	71,737

Fluxing Situation and Stocks
(From SemiMonthly Reports)

<u>Lead Department</u>	<u>1st Quarter</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>4-1-55</u>
Lead Concentrate	33,125	33,943	7,713	6,952
Pyrite "	-	-	7,569	7,569
Residue	18,112	22,981	6,813	2,552
Dust	6,180	5,832	1,116	1,181
Siliceous lead	1,671	3,143	3,703	2,250
Total	59,088	65,899	26,914	20,504

Siliceous Lead Ore stocks were further reduced during the first quarter year, the principal tonnage of diluent supplied from El Paso slag dump. Intake of leady siliceous ore may be increased somewhat for the next quarter with renewed activity in Sonora.

Southwest Production
First Qtr. 1955

2.

Copper Department

	<u>1st Quarter</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>4-1-55</u>
Concentrate	43,353	36,288	1,872	8,454
Residue	3,079	2,903	1,511	2,234
Matte	6,487	5,941	132	617
Sulphide	6,171	5,092	564	1,605
Scrap	217	161	11	90
Reverb Flux	3,395	2,024	93	1,280
Converter "	16,822	12,653	17,975	21,961
Total	79,524	65,062	22,158	36,241

Concentrate receipts from Silver Bell average in excess of 6,000 tons per month amounting to approximately 43% of copper concentrate intake for the first quarter.

Reverb Flux has come from Banner's Daisy Shaft, Coronado Copper and Zinc crude ore and Pima Mining Company, with a small build up in stocks during the first quarter.

Converter Flux has been supplied principally from the Wilson Claim near Lordsburg operated by Ira Moseley, supplemented by about 1200 tons from Avino Mine in Mexico and tonnage from miscellaneous shippers. A group in Albuquerque has recently taken over the San Miguel Mine and hope to ship considerable tonnage of siliceous ore from this sandstone copper deposit. An additional source of siliceous flux is expected from classifying equipment now being installed on Spencer Shattuck's sandstone copper claims in the Navajo Indian reservation north of Flagstaff. This material will be classified to plus 1/4 inch and will contain 4% to 5% Cu, 70% SiO₂. This product will begin moving to El Paso early in June at a rate of about 3 to 4 cars per week.

ZINC CONCENTRATE

Summary of Receipts at Amarillo & Corpus Christi from Southwest Producers

	<u>Tons Zinc Conc.</u>
January	2619
February	3877
March	<u>3121</u>
Total 1st Quarter	9617

First Quarter-Asarco Operations (Deming, Trench, El Paso Fume) 3,765
 Southwest Custom Shippers 5,852
9,617

COMMENTS ON SHIPPERS

Bagdad Copper Corp. production for the first quarter totals 7211 averaging 40% Cu, 1.5 oz Ag.

Banner Mining Company, Pima District, concentrate production:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
Concentrate	2711	5.5	26.0
Daisy Shaft ore	319	1.0	5.3

It is expected that oxidized ore shipments from the Daisy shaft to El Paso will be increased during the next few months.

Coronado Copper and Zinc Co., Johnson Camp production for the first quarter of 1955:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
Copper Concentrate	1296	4.0	29.0
Crude Ore	611	1.2	15.8

Manhattan Cons. Mines Development Co. El Paso receipts from Old Dick Mine for the first three months of 1955 total 1231 tons with average assays 6% Cu, 12.5% Zn. With resumption of operations at Deming zinc-copper ore mined by Manhattan Consolidated will be shipped to the mill. Cyprus Mines takes over operation of the Old Dick Mine in May and it is expected a mill will be constructed to handle ore from the Old Dick and adjoining Copper Queen Mine.

Pima Mining Company has been shipping cleanup tonnage pending decision by Cyprus Mines to undertake open-pit development of the property. First quarter shipments from Pima Mine - 1345 tons averaging 6.2% Cu.

Shattuck Denn Mining Corporation: Iron King Mine production for first quarter 1955 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Concentrate	5194	.13	5.9	2.8	0.5	49.0
Lead	4332	.84	29.5	23.0	1.0	9.0

REED F. WELCH

cc: JDMacKenzie CFPollock
SHLevison FVRichard
RLJourdan WRLandwehr
EMcLittmann TASnedden
 KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 20, 1955

K. F.

APR 21 1955

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
FIRST QUARTER 1955

Following is my report on Hayden Plant receipts and fluxing situation for the first quarter of 1955.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>
January	21,103
February	16,855
March	22,194
Total 1st Quarter	60,152

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>Total - 1st Quarter</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-55</u>	<u>4-1-55</u>
Concentrates	51,945	50,076	1,330	3,199
Reverb Flux	11,574	11,371	7,517	7,720
Converter "	6,855	6,871	2,688	2,672
Total	70,374	68,318	11,535	13,591

Concentrate receipts for the first quarter average 17,315 tons per month, including some tonnage from Bagdad Copper Corporation diverted from El Paso.

Reverb Flux has been smelted as received, most of the custom tonnage coming from the Clarkdale smelter cleanup shipped by Erle P. Halliburton. Copper Butte mine resumed shipments late in March and will supply smelter requirements for this material.

Siliceous Flux has been obtained from the Silicon lode deposit near Hayden, supplementing Ray crude.

COMMENTS ON SHIPPERS

Copper Butte Mining Company resumed mining late in March with delivery of 113 tons assaying 3.16 Cu, 67% SiO₂, 3.9% Fe, 11.9% Al₂O₃. The operation will be restricted to smelter requirements for this type of fluxing ore.

HAYDEN PLANT
1st Qtr. 1955

2.

Erle P. Halliburton for the past six months has been shipping cleanup material from the old Clarkdale smelter, the higher grade material going to El Paso Plant and ore bin cleanup to Hayden. A few carloads remaining will complete this salvage operation.

REED F. WELCH

cc: CPPollock JMacKenzie
 FVRichard RLJourdan
 WRLandwehr EMcLTittmann
 TASnedden FJDowney
 KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 1, 1955

MAILING DEPT.

Mr. B. D. Roberts, Manager
EL PASO PLANT

FEB 8 1955

TUCSON

SOUTHWEST PRODUCTION 1954
RECEIPTS EL PASO & AMARILLO

K. R.

MAR 9 1954

EL PASO PLANTSummary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-1954</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	10,887	10,330	21,217
February	10,489	3,152	13,641
March	10,311	10,046	20,357
April	8,980	8,619	17,599
May	11,354	9,040	20,394
June	10,359	5,846	16,205
July	11,077	7,459	18,536
August	13,214	11,866	25,080
September	9,412	12,575	21,987
October	14,066	3,731	17,797
November	16,966	6,864	23,830
December	14,365	11,875	26,240
Total year	141,480	101,403	242,883

<u>Copper Department</u>	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	18,879	2,930	21,809
February	13,116	3,113	16,229
March	10,893	3,592	14,485
April	12,572	3,095	15,667
May	16,136	2,956	19,092
June	17,165	3,279	20,444
July	13,790	2,332	16,122
August	19,990	3,619	23,609
September	17,270	4,418	21,688
October	23,034	4,267	27,301
November	21,354	3,463	24,817
December	26,961	3,703	30,664
Total year	211,160	40,767	251,927

Fluxing Situation and Stocks (From Semimonthly Reports)

<u>Lead Department</u>	<u>Total 1954</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-54</u>	<u>1-1-55</u>
Lead Concentrates	121,450	116,944	2,768	7,713
Pyrite "	389	--	8,611	7,569
Residue	68,559	63,125	716	6,813
Dust	19,364	18,804	307	1,116
Siliceous lead	9,743	18,417	12,706	3,703
Total	219,505	217,290	25,108	26,914

Lead Dept., Con't.

Concentrate stocks have increase approximately 5000 tons since the first of the year. Foreign production accounts for about 78% of lead concentrate receipts during the past year.

Siliceous lead: Sonora shippers have supplied about 2000 tons of leady siliceous ore; the balance of intake comes from a number of small operations in Arizona and New Mexico.

<u>Copper Department</u>	<u>Total 1954</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-54</u>	<u>1-1-55</u>
Concentrates	150,748	150,389	2,549	1,872
Residue	18,951	31,977	13,825	1,511
Matte	19,773	21,396	1,901	132
Sulphide	6,846	10,977	4,031	564
Scrap & Misc.	4,314	6,399	3,390	11
Reverb Flux	16,543	22,465	6,119	93
Converter "	45,925	59,157	34,636	17,975
Total	263,100	302,760	66,451	22,158

Concentrate: Silver Bell production for 9 months of 1954 has come in at the rate of approximately 6,000 tons per month; concentrate has been smelted as received.

Reverb Flux: Aside from a small amount of crude ore from operations in Arizona, reverberatory tonnage is made up of by-products.

Converter Flux: The Stauber Mine operation closed down at the end of 1954. Ira Moseley will continue shipment of siliceous flux from the Wilson claim near Lordsburg, currently supplying 5,000 to 6,000 tons per month. No dependable source of siliceous flux has been developed to replace the Stauber ore. In the event Illinois Zinc Company takes over the Tejon Mine at Gleeson we may receive some siliceous ore from that operation. Since starting shipments to El Paso in August 1954 from the Avino Mine dump in Durango, Mexico, Ernesto de la Torre has delivered 3300 tons of siliceous ore with average assays: Au .036, Ag 6.4, Cu 0.69, SiO₂ 74%, Fe 6.3, S 2.4, Al₂O₃ 2.4%. This is desirable flux with good margin but has not come in as fast as anticipated.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
from Southwest Producers

	<u>Tons Zinc Conct</u>		<u>Tons Zinc Conct</u>
January	2,771	July	2,765
February	3,783	August	3,324
March	2,875	September	4,517
April	3,061	October	4,077
May	2,936	November	3,978
June	2,705	December	3,305
First Half	18,131	Total Year	40,097

COMMENTS ON SHIPPERS

Arizona Miscellaneous

Athletic Mining Company's lead production from the Head Center Mine at Aravaipa for 1954 totals 1975 tons assaying: Ag 8.1 oz, Pb 40.6%, Cu 3.9%, Zn 18.6%.

B.S. & K. Mining Co. for the past year, during low zinc price, has been doing exploration and development work at the Atlas Mine with the mill operating on about 50% basis. Production on this curtailed basis is 859 tons shipped to Amarillo assaying 58% Zn with 1.4% Cu, 0.8 oz Ag and 79 tons delivered to El Paso assaying 26.5% Cu, .06 oz Au, 5.4 oz Ag. It is expected the new orebody now being developed will produce more copper concentrate than shipped in the past.

Bagdad Copper Corp. Production for 1954 totals 32,212 tons averaging 28.3% Cu with 1.5 oz Ag. For about 6 months of the year mill feed was coming from the low grade northwest section of the pit. The last two months' concentrate average 38.5% Cu. I understand Cerro de Pasco is now making an examination of the Bagdad property.

Banner Mining Company, Pima District. The Mineral Hill mill during six months of operation in 1954 produced 7338 tons of concentrate assaying 24.3% Cu, 5.2 oz Ag. Since the increase in copper price, part of this copper production has been released by General Services Administration for sale on open market. The Daisy shaft oxide production in 1954 was shipped to Miami at a rate of 1200 to 1500 tons per month. A contract has recently been signed to take at El Paso any Daisy shaft oxide ore in excess of tonnage Miami smelter can handle. This ore assays 6% to 7% Cu.

Coronado Copper and Zinc Co. Copper production at the Republic-Mammoth property is as follows for 1954:

	Tons	Ag	Cu	Zn
Concentrate	6221	3.0	29.0	8.5
Ore (4 months)	1089	1.3	13.9	3.7

Drilling at Johnson camp over the past six months has failed to pick up any new ore. Present reserves at current rate of production will continue the operation for about two years with no new ore.

Giacoma Brothers continue shipment of one to two cars per month from the Defiance Mine in the Turquoise Mining District with delivery of 1283 tons in 1954 averaging .02 oz Au, 7.5 oz Ag, 14.3% Pb.

Gordon R. French has been a steady shipper since resuming operations late in April 1954 at the Ray Silver-Lead Mine near Globe. Eight months production received at El Paso - 2432 tons - averages .04 oz Au, 1 oz Ag, 21.6% Pb.

Manhattan Cons. Mines Dev.Co.-Old Dick Mine- since April 1954 has been shipping development ore from the 480 level - 4050 tons received at El Paso assays: Ag 0.8 oz, Cu 8%, Zn 15%. Cerro de Pasco Mining Co. has a 90-day option and is drilling the Old Dick property in conjunction with their investigations in the Bagdad area.

Arizona Misc., Con't.

Shattuck Denn Mining Corp.-Iron King Mine production for 1954:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	14225	.99	33.4	28.8	1.2	9.9
Zinc "	20937	.10	6.3	2.6	.4	49.8

C.E. Stevens has shipped about 400 tons per month from the Molinar y Alaska property near Clifton with total production for 1954 5241 tons assaying 3.6% Cu, 50% SiO2, 15% Al2O3.

Sunrise Mining Co. Operation of the Glove Group has been taken over by Edw. A. Mack. Shipments for 1954 total 864 tons assaying 5 oz. Ag, 22% Pb, 9.1% Zn. The Glove group adjoins the uranium property recently acquired by Utah Construction Company.

New Mexico, Miscellaneous

Banner Mining Co. at the Miser's Chest operation near Lordsburg produced 7379 tons of 28% Cu concentrate.

Quentin Drunzer gave up operation of the Stauber Mine at the end of 1954 after shipment of 7673 tons during the past year assaying from .64% to 3.59% Cu with average silica 79%, alumina 5.8%. I understand Mr. Drunzer will not attempt to find another source of siliceous flux for El Paso, since he is out looking for uranium.

Ira L. Moseley has been supplying the principal fluxing tonnage for El Paso Copper Department since the middle of 1954 from the Wilson claim near Lordsburg--21,652 tons shipped in the last six months averages .6% Cu, 75% SiO2, 7% Al2O3.

Sonora, Mexico

Receipts in 1954 from Sonora are summarized below.

	<u>Short Tons</u>
Lead Ore: Fcc del Pacifico (Minerales, S.A. & Lemas) Nacozari District	2,036 721
Copper Ore: Nacozari District	2,757
Zinc Conct-Minas de Guatamo, S.A.	3,381
Total tonnage - Sonora	6,629

REED F. WELCH

cc: JDMacKenzie CPPollock
 SHLevison FVRichard
 RLJourdan WRLandwehr
 EMcLTittmann TASnedden
 REShinkoskey KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 25, 1955

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
YEAR 1954

Following is report on Hayden Plant receipts and fluxing situation for the year 1954.

Summary of Monthly Receipts
(From Metal Purchase Reports)

<u>Tons Received</u>		<u>Tons Received</u>	
January	19,558	July	17,334
February	14,286	August	10,632
March	18,719	September	15,495
April	22,346	October	19,353
May	15,258	November	15,554
June	<u>20,961</u>	December	<u>15,842</u>
Total 1st Half 111,128		Total year 205,338	

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>Total - Year</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-54</u>	<u>1-1-55</u>
Concentrates	156,565	158,329	2,944	1,330
Reverb Flux	48,504	49,436	8,590	7,517
Converter "	<u>19,200</u>	<u>19,862</u>	<u>3,365</u>	<u>2,688</u>
Total	224,269	227,627	14,899	11,535

Concentrates: Ray Mines monthly production for 1954 has averaged about 12,430 tons. A small tonnage of Bagdad concentrate was diverted to Hayden--3451 tons March-May 1954.

Reverb Flux: Since Copper Butte Mine shut down at midyear Christmas tailings have supplied the bulk of reverberatory flux--approximately 18,000 tons smelted during the year.

Converter Flux has come from the Ray pit and barren quartzite at Ray, except for a small tonnage from custom shippers. We have been offered some siliceous gold tonnage by the Burton Bros. at Mojave, California. This may bring in a minimum of 3,000 tons.

K. R.

MAR 9 1954

HAYDEN PLANT
Year 1954

-2-

COMMENTS ON SHIPPERS

Burns and Smith: In spite of the low grade tenor of the ore Bagdad-Chase Mine at Ludlow continues to ship a few cars per month-- 1374 tons received in 1954 average: Au .10 oz, Ag 0.57 oz, Cu 1.18%, SiO2 75%, Fe 5.5%, Al2O3 7%.

John L. Riggins makes occasional shipments from his Yellow Jacket claim near Yarnell--425 tons delivered in 1954 average: Au .76 oz, Ag 0.5 oz, SiO2 87% Fe 1.8%, Al2O3 4.7%

REED F. WELCH

cc: CPPollock JDMacKenzie
FVRichard RLJourdan
WRLandwehr EMcLTittmann
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FMStephens

for Room 809

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 19, 1955

K. R

MAR 7 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-JANUARY 1955
REED F. WELCH

1. Pima Mine, Cyprus Mines Option. Through a reliable source I have learned that Utah Construction Company has completed its estimate on ore reserves at the Pima Mine, which I am advised is within 5% of the tonnage estimate in Ira Joralemon's final report. Utah Construction Company has credited Pima Mine with 17 million tons of 1.3% Cu for a total of 442 million pounds of copper.

Utah Construction Co. reports that 4000 tons per day crude ore production would be most economical for the mill, with output of 200 tons per day 27% concentrate, ratio of concentration about 20 to 1. It is expected that about 18 months will be required to put the mine into production.

I understand Utah Construction Co. would like to join Cyprus Mines in ownership of the Pima Mine in the event Cyprus Mines exercises the option and invites Utah to join. Although Cyprus Mines advised me the metallurgical data would be ready this week, I have not yet had a request for purchase terms.

Allan Bowman of Banner Mining Co. has advised me that Cyprus Mines made a proposal to Banner for mining the Daisy shaft orebody from the Pima Mine open pit. The proposal must have been too low because Banner Mining Co. refused to accept Cyprus Mines' terms.

2. San Xavier Mine: Last week Eagle Picher Mining Co. entered into negotiations with McFarland and Hullinger of Tooele, Utah, for a lease on the San Xavier Mine. Although the contract is not yet signed, it is in the process of writing and will entitle McFarland and Hullinger to operate the mine above the 580 level, the first operating level above water level. The contract binds them to produce a minimum of 60 tons of ore per day which will be concentrated in the Sahuarita mill operated by Eagle Picher. The contract reportedly will give McFarland and Hullinger six months option to take over operation of the mill.

The average grade of ore mined at San Xavier in the past has been:

Ag 3.0 oz Pb 5.0% up to 1% Cu Zn 10%

Samples of stopes available for mining assay:

Sample	Ag	Pb	Cu	SiO ₂	Fe	CaO	Zn	S	Al ₂ O ₃
420 Level	3.2	21.8	0.3	12.8	7.5	8.0	26.5	11.5	1.5
" "	2.0	13.4	.2	23.8	6.8	17.0	12.5	5.6	3.0
500 "	2.2	11.8	.9	27.2	10.0	18.0	9.0	9.4	2.3

San Xavier Mine, con't.

Inasmuch as there is some high grade ore, the probability is that McFarland and Hullinger will produce a better grade of mill ore than past production.

3. Christmas Mine, Inspiration Copper Co. Option. On the 18th of January Mr. Downey and I made a trip to the Christmas Mine. Allison's representative George Freeman was not in camp and Mr. Thomas in charge of exploration work for Inspiration was not available. However, the bookkeeper verified reports that Inspiration has located 60 claims to the north and adjacent to the Christmas Mine.

Exploration work in the Christmas Mine continues with advance of at least two headings. On the 770 level the Christmas fault breccia zone has been encountered. Specimens shown to me from that area are garnetized limestone carrying native copper. This area requires heavy timbering. Four drills are at work underground and one diamond drill is working from the surface. There is an unverified rumor that Inspiration is considering sinking a new shaft at the Christmas Mine.

Present employment is about 40 men and the work is admittedly understaffed at the present time.

NEED F. WELCH

cc: JMacKenzie
SHLevison
RLJourdan
EMcLittmann

CPPollock
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

December 10, 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

K. R

DEC 14 1954

FIELD TRIP REPORT-REED F. WELCH
NOVEMBER-DECEMBER 1954

1. Riviera Mines Co.-Christmas Mine. W.L. Allison advises me that Inspiration Copper Company is continuing with development at Christmas with 60 to 70 men employed at an estimated expenditure of about \$40,000 per month which has extended over the past 6 months.

Inspiration Copper Company has developed some mineralization but the ore is scattered and selective of certain limestone beds with no assays as high as ore mined by Riviera Mines. Current work is on the 770 level heading easterly in an attempt to contact the Christmas fault projected from the 300 level. The 770 level heading is 125 feet ahead of the projected position of this fault with no indication of that structure showing up as yet. The objective in this area is weak mineralization in the limestone, which may suggest a displaced orebody on the hanging wall side of the Christmas fault.

Mr. Allison has not yet been advised if Inspiration will exercise its purchase option. In the event the property is turned back to Riviera Mines, all engineering data obtained during the present exploration program will be available to Allison.

Drilling and underground work done by Inspiration is checking very closely with results obtained by the Bureau of Mines at the time that Department did work in the Christmas Mine. Drilling below the 900 level also checks reports by the Bureau.

Inspiration Copper Company continues to hold its option on the London-Arizona property in the Banner District. The only work done this year has been assessment work on the road but Inspiration is looking into geological possibilities for exploration on the London-Arizona property.

2. B. S. & K. Mining Co. at the Atlas Mine, Silver Bell District, is carrying on with a minimum of 16 men which permits mining on a limited basis and operation of the mill less than 50% of the time. Diamond drilling carried on during the past several months has encountered a new ore showing. Mr. Kalaf tells me one flat hole encountered 18 feet of mineralization assaying: Au .03, Ag 4, Cu 6%. Another hole cut the same ore 40 feet down the dip with assays: Au .04, Ag 4, Cu 7.5%. Each of these samples shows about 1.5% Zn. This orebody is quite different from the ore mined over the past two years inasmuch as zinc is almost lacking. A crosscut is being driven to the ore encountered by the drill and on completion of this development work, B. S. & K. expects to increase the crew to 20 or 25 men to operate the mill at greater capacity. When they start mining the new orebody it is expected production will be 4 to 5 cars of copper concentrate and about 3 cars of zinc concentrate per month.

3. Old Reliable Mine, Copper Creek: P.G. Flumerfelt of Phoenix and associates of Roseburg, Oregon, have taken over the Old Reliable Mine and mill on a purchase agreement effective last August. The new operation is under the name Copper Creek Copper Co. In two or three weeks of operation the mill has produced 50 to 60 tons of concentrate. A 23-ton lot delivered to Hayden on November 29th assays: Au .007, Ag 1.7, Cu 33.4, SiO₂ 16.8, Al₂O₃ 5%, S 23, Fe 14.1, moisture 17.9%. The mill is designed to handle about 100 tons per day but was forced to treat only about 40 tons daily for maximum efficiency in producing this first run of concentrate. Mr. Flumerfelt admits such operation cannot be economically sustained, particularly when plans call for hoisting ore from below the tunnel level. He is now engaged in negotiations to obtain additional financing to increase the mill capacity to 250 tons per day. Frank Wicks of Los Angeles has made an examination of the property for the purpose of supplying expansion money. Plans call also for leaching in place. In preparation for leaching Copper Creek is cleaning up drifts on the tunnel level and guniting the workings to collect the leaching solution.

4. Control-Daily Mines, Old Hat District. J. E. Mowinckle of Arizona Copper Mines has given a lease and option to American Exploration Mining Co. of San Francisco and Placers Development, Ltd. (Canada) on his properties in the Old Hat Mining District, including the Control, Daily, Hartman and adjoining locations. The new owners have embarked upon a diamond drilling program and are doing a small amount of underground exploration.

5. Pima Mine: Cyprus Mines, in conjunction with Utah Construction Co., is engaged in completing examination of the Pima Mine. Presumably Utah Construction Co. is evaluating the property on the basis of an open pit operation. Cyprus Mines has about 35 men employed, operating two churn drill on the surface and two underground diamond drills. They are also doing some drifting and crosscutting to check drilling results. The entire round is put through a small sample mill constructed on the property. These samples, with others taken through the stoped area, are producing about one ton of sample pulp per day. The field work will be completed this month. Cyprus Mines option expires at midnight March 20, 1955.

6. Santo Nino Lease: Floyd Bekins, W.S. Talcott and W.W. Patrick are operating the Santo Nino Mine in the Patagonia District. W.S. Talcott and C.W. Keith held the original lease on this mine. Keith sold his interest to Bekins and Patrick at a reported price of \$25,000 cash. Mr. Talcott asked us to mill the copper-molybdenum ore at Deming and when we advised him we could not accommodate him the lessees made an arrangement to treat the ore in the Holmestake mill at Winterhaven. Holmes changed the mill to handle the Santo Nino ore and 700 tons were shipped for milling. The railroad established a rate of \$6.25 per ton for this movement but over 300 tons were shipped prior to the effective date of the rate at a cost of \$13.25 per ton. Samples of the ore taken at the Winterhaven mill assayed .05 to .67% MoS₂ with less than 2% Cu. Shipment to the mill resulted in a loss of about \$30.00 per ton to the lessees. A contract with Holmes calls for delivery to Winterhaven of 10,000 tons with milling charge \$7.00 per ton plus costs. As a result of suspension of delivery to the mill Holmes is now suing the group for \$40,000 damages.

Early in October Santo Nino lease started shipping to El Paso--187 tons received in October assay 4.43% Cu. I am advised that 4.25% Cu is required to pay mining, trucking, freight and smelting.

7. Duquesne District: James P. Nash, owner of Nash Mines, is negotiating a lease on the Bonanza Mine with Frank and Sam Knight. Operating terms are now fairly well established and application has been made for D.M.E. funds. The Knights expect to continue the development started by Carl Elayer by drifting north on the 235 level and raising in the back of the stope where Elayer stopped work.

8. Coronado Copper & Zinc Co. The management at Johnson Camp is quite concerned over ore reserves in the Republic Mine. Since June 1954 Coronado has had Consolidated Drilling Company under contract operating two drills underground and one on the surface, averaging about 1500 feet per month. During the past 6 months no new ore has been picked up by the drills. Present ore reserves will carry the operation for one and a half to two years. The last orebodies mined have been small in total tonnage which has been discouraging to the management.

For the month of November the mine produced and the mill treated 5311 tons averaging 2.2% Cu, 5.7% Zn. From this mill feed 446 tons of zinc concentrate and 356 tons of copper concentrate were produced. In addition, Coronado shipped 272 tons of crude copper ore averaging about 15% Cu. The oxidized copper ore is at approximately the 300 foot level, worked through a 50° inclined raise from the 500 level. Little is known about the possibilities of this oxidized ore but the management believes there will be about 2,000 tons total available for shipment.

The mine employs 115 men underground with 158 total employment at Johnson Camp. As a result of recent labor negotiations with Mine-Mill Union, labor has been given a 7-cent per hour increase with no shift differential. The base for miners, including the 7-cent increase, is \$1.62 per hour. The Johnson Camp operation has net \$2,000 to \$3,000 per month which will be consumed by the recent labor increase. By January 1955 Coronado expects to increase production.

9. Tombstone Development Company. During the past summer Newmont Mining Co., operating as Tombstone Development Co., has cleaned up the 600 level of the West Side shaft workings and started diamond drilling to the lower Naco limestone horizon. I understand Newmont has encountered encouraging mineralization in at least three holes.

10. Ari-Tex Company, Bisbee. R. A. Craig of Morris, Ill., has taken over the Shattuck Denn Bisbee mill and plans to treat manganese ore from properties near Tombstone and from the Courtland-Gleeson and Patagonia districts. He expects to concentrate to at least 21% Mn which grade can be sold to the government stockpile at \$2.30 per unit. Mr. Craig has headquarters at Lowell Trailer Court and has organized a company -- The Arizona Material Service. The manganese mill will be operated in the name Ari-Tex Co., Box 667, Bisbee.

11. Bagdad Copper Corporation: Kennecott Copper Company's second 30-day option renewal on the Lincoln family's Bagdad Copper stock terminated on December 1st. Kennecott offered to negotiate a counter proposal, presumably considerably less than the \$20 per share offer made by Lincoln, which was rejected. Some time during the week of December 6th Cerro de Pasco Copper Corp. made an examination of the Bagdad mine under the direction of H. A. Kursell. Mr. Kursell and party left Bagdad on December 12th. Apparently Lincoln has made an offer to Cerro de Pasco.

12. Shattuck Dann-Iron King Mine will complete its expansion program within the next 30 days which involved sinking of the No. 4 shaft and enlargement of the mill. The mine will then operate on a basis of 800 to 900 tons per day. Although zinc is the major constituent of the orebody and of relatively low value on present zinc price, the management believes that Iron King Mine must be made to produce at a profit on present metal prices

13. Yucca Mining & Milling Co. There is no underground mining at the Antler property at this time. The tailings dump is being sold as fertilizer or soil conditioner. It is reported that for the month of November and December 15 cars have been sold. With reported \$13 per ton sales price for the tailings the metal content in the mine becomes a by-product. There is a rumor of an examination being made on the Antler property for the purpose of purchase but I have no confirmation regarding this.

14. Charles Lockridge, owner of the Blue Bonnet claim in Coconino County shipped 290 tons of copper ore to Hayden in 1954 averaging about 4% Cu with 5.5 SiO₂, 2 Fe, 15 to 28 CaO and 10 to 14% MgO. Lockridge was seeking an outlet for 3 to 4 carloads per week but because of the high magnesia content we refused this tonnage for Hayden. Lockridge has become associated with Superior Equipment Company in Phoenix and has done nothing with the Blue Bonnet claim since last July, following an unsuccessful attempt to dispose of the ore at Ajo. J.D. Lowell, a geologist from Stanford University, examined the property during the past summer and estimates about 5,000 tons available for shipment from the surface showings.

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20. Cia. Minera Benwilco: Ben Williams continues operation at the Virginia and Guadalupe claims near Nacozari, Sonora, in the name Cia. Minera Benwilco, treating the ore in the Churinibabi mill leased from Comision de Fomento Minero. Through August 1954 Williams produced 1,250,000 pounds of copper and expects to have 1.5 million pounds by the end of this year. Forty-six cars of copper concentrate--50 tons each--have been sold to Phelps Dodge at Douglas and 150 tons of concentrate in excess of 98% MoS₂ with 0.2% Cu have been sold. From December 1953 through November 1954 Benwilco has had gross returns for the two products of \$479,440.61 with \$40,000 receivable for concentrate in transit. Mr. Williams advises net profit after taxes on this production is \$120,000. He claims to have 200,000 tons of 3% to 3.5% Cu and 0.8% MoS₂ in this property.

Aanconda Copper Company is still drilling from the surface on Benwilco property.

21. Santo Domingo Mine at Nacozari is still producing copper concentrate, sold to Phelps Dodge at Douglas. This year's production, about 1,000 tons, averages 27% Cu. Mill heads assay around 4% Cu. For the past two months the tungsten content in the ore has picked up considerably and returns from sale of tungsten have more than justified installation of the tungsten circuit in the mill.

REED F. WELCH

cc: JDMackenzie	EMcLittmann	WRLandwehr	
SHLevison	CPPollock	TASnedden	AABrown(Sonora operations)
RPreese, Jr.	DJPope	KRichard-2	
RLJourdan	FVRichard	FMStephens	

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

December 10, 1954

K. R

DEC 14 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
NOVEMBER-DECEMBER 1954

1. Riviera Mines Co.-Christmas Mine. W.L. Allison advises me that Inspiration Copper Company is continuing with development at Christmas with 60 to 70 men employed at an estimated expenditure of about \$40,000 per month which has extended over the past 6 months.

Inspiration Copper Company has developed some mineralization but the ore is scattered and selective of certain limestone beds with no assays as high as ore mined by Riviera Mines. Current work is on the 770 level heading easterly in an attempt to contact the Christmas fault projected from the 300 level. The 770 level heading is 125 feet ahead of the projected position of this fault with no indication of that structure showing up as yet. The objective in this area is weak mineralization in the limestone, which may suggest a displaced orebody on the hanging wall side of the Christmas fault.

Mr. Allison has not yet been advised if Inspiration will exercise its purchase option. In the event the property is turned back to Riviera Mines, all engineering data obtained during the present exploration program will be available to Allison.

Drilling and underground work done by Inspiration is checking very closely with results obtained by the Bureau of Mines at the time that Department did work in the Christmas Mine. Drilling below the 900 level also checks reports by the Bureau.

Inspiration Copper Company continues to hold its option on the London-Arizona property in the Banner District. The only work done this year has been assessment work on the road but Inspiration is looking into geological possibilities for exploration on the London-Arizona property.

2. B. S. & K. Mining Co. at the Atlas Mine, Silver Bell District, is carrying on with a minimum of 16 men which permits mining on a limited basis and operation of the mill less than 50% of the time. Diamond drilling carried on during the past several months has encountered a new ore showing. Mr. Kalaf tells me one flat hole encountered 18 feet of mineralization assaying: Au .03, Ag 4, Cu 6%. Another hole cut the same ore 40 feet down the dip with assays: Au .04, Ag 4, Cu 7.5%. Each of these samples shows about 1.5% Zn. This orebody is quite different from the ore mined over the past two years inasmuch as zinc is almost lacking. A crosscut is being driven to the ore encountered by the drill and on completion of this development work, B. S. & K. expects to increase the crew to 20 or 25 men to operate the mill at greater capacity. When they start mining the new orebody it is expected production will be 4 to 5 cars of copper concentrate and about 3 cars of zinc concentrate per month.

3. Old Reliable Mine, Copper Creek: P.G. Flumerfelt of Phoenix and associates of Roseburg, Oregon, have taken over the Old Reliable Mine and mill on a purchase agreement effective last August. The new operation is under the name Copper Creek Copper Co. In two or three weeks of operation the mill has produced 50 to 60 tons of concentrate. A 23-ton lot delivered to Hayden on November 29th assays: Au .007, Ag 1.7, Cu 33.4, SiO₂ 16.8, Al₂O₃ 5%, S 23, Fe 14.1, moisture 17.9%. The mill is designed to handle about 100 tons per day but was forced to treat only about 40 tons daily for maximum efficiency in producing this first run of concentrate. Mr. Flumerfelt admits such operation cannot be economically sustained, particularly when plans call for hoisting ore from below the tunnel level. He is now engaged in negotiations to obtain additional financing to increase the mill capacity to 250 tons per day. Frank Wicks of Los Angeles has made an examination of the property for the purpose of supplying expansion money. Plans call also for leaching in place. In preparation for leaching Copper Creek is cleaning up drifts on the tunnel level and guniting the workings to collect the leaching solution.

4. Control-Daily Mines, Old Hat District. J. E. Mowinckle of Arizona Copper Mines has given a lease and option to American Exploration Mining Co. of San Francisco and Placers Development, Ltd. (Canada) on his properties in the Old Hat Mining District, including the Control, Daily, Hartman and adjoining locations. The new owners have embarked upon a diamond drilling program and are doing a small amount of underground exploration.

5. Pima Mine: Cyprus Mines, in conjunction with Utah Construction Co., is engaged in completing examination of the Pima Mine. Presumably Utah Construction Co. is evaluating the property on the basis of an open pit operation. Cyprus Mines has about 35 men employed, operating two churn drill on the surface and two underground diamond drills. They are also doing some drifting and crosscutting to check drilling results. The entire round is put through a small sample mill constructed on the property. These samples, with others taken through the stoped area, are producing about one ton of sample pulp per day. The field work will be completed this month. Cyprus Mines option expires at midnight March 20, 1955.

6. Santo Nino Lease: Floyd Bekins, W.S. Talcott and W.W. Patrick are operating the Santo Nino Mine in the Patagonia District. W.S. Talcott and C.W. Keith held the original lease on this mine. Keith sold his interest to Bekins and Patrick at a reported price of \$25,000 cash. Mr. Talcott asked us to mill the copper-molybdenum ore at Deming and when we advised him we could not accommodate him the lessees made an arrangement to treat the ore in the Holmestake mill at Winterhaven. Holmes changed the mill to handle the Santo Nino ore and 700 tons were shipped for milling. The railroad established a rate of \$6.25 per ton for this movement but over 300 tons were shipped prior to the effective date of the rate at a cost of \$13.25 per ton. Samples of the ore taken at the Winterhaven mill assayed .05 to .67% MoS₂ with less than 2% Cu. Shipment to the mill resulted in a loss of about \$30.00 per ton to the lessees. A contract with Holmes calls for delivery to Winterhaven of 10,000 tons with milling charge \$7.00 per ton plus costs. As a result of suspension of delivery to the mill Holmes is now suing the group for \$40,000 damages.

Early in October Santo Nino lease started shipping to El Paso--187 tons received in October assay 4.43% Cu. I am advised that 4.25% Cu is required to pay mining, trucking, freight and smelting.

7. Duquesne District: James P. Nash, owner of Nash Mines, is negotiating a lease on the Bonanza Mine with Frank and Sam Knight. Operating terms are now fairly well established and application has been made for D.M.E. funds. The Knights expect to continue the development started by Carl Elayer by drifting north on the 235 level and raising in the back of the stope where Elayer stopped work.

8. Coronado Copper & Zinc Co. The management at Johnson Camp is quite concerned over ore reserves in the Republic Mine. Since June 1954 Coronado has had Consolidated Drilling Company under contract operating two drills underground and one on the surface, averaging about 1500 feet per month. During the past 6 months no new ore has been picked up by the drills. Present ore reserves will carry the operation for one and a half to two years. The last orebodies mined have been small in total tonnage which has been discouraging to the management.

For the month of November the mine produced and the mill treated 5311 tons averaging 2.2% Cu, 5.7% Zn. From this mill feed 446 tons of zinc concentrate and 356 tons of copper concentrate were produced. In addition, Coronado shipped 272 tons of crude copper ore averaging about 15% Cu. The oxidized copper ore is at approximately the 300 foot level, worked through a 50° inclined raise from the 500 level. Little is known about the possibilities of this oxidized ore but the management believes there will be about 2,000 tons total available for shipment.

The mine employs 115 men underground with 158 total employment at Johnson Camp. As a result of recent labor negotiations with Mine-Mill Union, labor has been given a 7-cent per hour increase with no shift differential. The base for miners, including the 7-cent increase, is \$1.62 per hour. The Johnson Camp operation has net \$2,000 to \$3,000 per month which will be consumed by the recent labor increase. By January 1955 Coronado expects to increase production.

9. Tombstone Development Company. During the past summer Newmont Mining Co, operating as Tombstone Development Co., has cleaned up the 600 level of the West Side shaft workings and started diamond drilling to the lower Naco limestone horizon. I understand Newmont has encountered encouraging mineralization in at least three holes.

10. Ari-Tex Company, Bisbee. R. A. Craig of Morris, Ill., has taken over the Shattuck Denn Bisbee mill and plans to treat manganese ore from properties near Tombstone and from the Courtland-Gleeson and Patagonia districts. He expects to concentrate to at least 21% Mn which grade can be sold to the government stockpile at \$2.30 per unit. Mr. Craig has headquarters at Lowell Trailer Court and has organized a company -- The Arizona Material Service. The manganese mill will be operated in the name Ari-Tex Co., Box 667, Bisbee.

11. Bagdad Copper Corporation: Kennecott Copper Company's second 30-day option renewal on the Lincoln family's Bagdad Copper stock terminated on December 1st. Kennecott offered to negotiate a counter proposal, presumably considerably less than the \$20 per share offer made by Lincoln, which was rejected. Some time during the week of December 6th Cerro de Pasco Copper Corp. made an examination of the Bagdad mine under the direction of H. A. Kursell. Mr. Kursell and party left Bagdad on December 12th. Apparently Lincoln has made an offer to Cerro de Pasco.

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REED F. WELCH

cc: JDMacKenzie EMcLTittmann WRLandwehr AABrown(Sonora operations)
SHLevison CPPollock TASnedden
RPReese, Jr. DJPope KRichard-2
RLJourdan FVRichard FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 19, 1954

K. R.
DEC 8 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION NINE MONTHS 1954
RECEIPTS EL PASO & AMARILLO PLANTS

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-Nine Months 1954</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	10,887	10,330	21,217
February	10,489	3,152	13,641
March	10,311	10,046	20,357
April	8,980	8,619	17,599
May	11,354	9,040	20,394
June	10,359	5,846	16,205
July	11,077	7,459	18,536
August	13,214	11,866	25,080
September	9,412	12,575	21,987
Total 9 Months	96,083	78,933	175,016
<u>Copper Department</u>			
January	18,879	2,930	21,809
February	13,116	3,113	16,229
March	10,893	3,592	14,485
April	12,572	3,095	15,667
May	16,136	2,956	19,092
June	17,165	3,279	20,444
July	13,790	2,332	16,122
August	19,990	3,619	23,609
September	17,270	4,418	21,688
Total 9 Months	139,811	29,334	169,145

Fluxing Situation and Stocks
(From Semi-monthly Reports)

<u>Lead Department</u>	<u>Nine Months-Total</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-54</u>	<u>10-1-54</u>
Lead Concentrates	93,501	85,940	2,768	10,434
Iron "	389	--	8,611	9,000
Residue	43,335	43,536	716	959
Dust	13,984	14,116	307	423
Siliceous lead	7,457	15,469	12,706	4,468
Total	158,666	159,061	25,108	25,284

Southwest Production
Nine Months 1954

2.

Lead Dept., Con't.

Concentrate stocks have built up since the first of the year with heavier receipts in the third quarter.

Siliceous lead ore intake is low with no adequate custom source of diluent. Stocks have been reduced in excess of 8000 tons since the first of the year. During more favorable conditions adequate tonnage of leady siliceous ore comes into the plant from a number of small properties that are unable to operate on low metal price.

<u>Copper Department</u>	<u>Nine Months-Total</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-54</u>	<u>10-1-54</u>
Concentrates	104,953	102,374	2,549	4,167
Residue	14,248	26,185	13,825	2,429
Matte	12,496	14,525	1,901	280
Sulphide	5,079	6,974	4,031	2,425
Scrap & misc.	3,478	5,589	3,390	90
Reverb Flux	15,224	20,805	6,119	465
Converter "	<u>23,241</u>	<u>42,323</u>	<u>34,636</u>	<u>12,218</u>
Total	178,719	218,775	66,451	22,074

Concentrate stocks remain fairly constant. Silverbell concentrate has been received at an average rate of about 5000 tons per month since May 1954.

Reverb flux tonnage is low with very little tonnage coming in currently. Since the first of the year stocks have been reduced 5654 tons.

Converter Flux tonnage is down to about two months supply as of October 1st. Quentin Drunzer is cleaning up remaining available fluxing material at the Stauber Mine. Ira Moseley is currently shipping 4,000 to 5,000 tons per month from the Wilson claim at Lordsburg. The Avino Mine dump in Durango, Mexico, started deliveries to El Paso in August at the rate of about 1000 tons monthly. This ore carries good values and yields a satisfactory margin. Other shippers in this area are searching for sources of fluxing ore for El Paso but to date no dependable tonnage has developed.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
from Southwest Producers

	<u>Tons Zinc Conct</u>		<u>Tons Zinc Conct</u>
January	2,771	July	2,765
February	3,783	August	3,324
March	2,875	September	<u>4,517</u>
April	3,061	Total - Nine	
May	2,936	Months	28,737
June	2,705		
First Half	<u>18,131</u>		

COMMENTS ON SHIPPERS

Arizona Miscellaneous

Bagdad Copper Corporation production for the past several months has come from the low grade northwest corner of the pit. Average concentrate grade for the first nine months of 1954 is 25.6% Cu on 23,042 tons delivered to El Paso and Hayden. The Lincoln family shares of Bagdad Copper are under option to Kennecott Copper Corporation to December 1st.

Banner Mining Co., Pima District: Concentrate production at the Mineral Hill property for the past four months totals 3913 tons averaging 24.5% Cu, 5 oz Ag. The Banner mill is now treating 440 tons per day assaying 2.5% to 2.6%. Development work in the Daisy shaft is producing about 1,000 tons per month of sulphide ore for the mill. 1500 tons per month of oxide ore from this shaft is under contract to International Smelting Company at Miami. Exploration work in the Oxidized orebody requires production of an additional 500 tons per month. We are now negotiating for this excess tonnage with El Paso delivery. Shipments to Miami have been assaying between 6% and 7% Cu.

Coronado Copper and Zinc Co., Johnson Camp. The oxidized copper ore recently developed in the Republic Mine is moving to El Paso at the rate of about 300 tons per month. Ore shipped to date, in excess of 500 tons averages 15.3% Cu, 4.3% Zn and 1.3 oz. Ag. This oxidized ore was encountered by diamond drill at about the 250 level. As yet no information is available regarding the extent of this orebody.

Concentrate production continues with the copper product going to El Paso--4925 tons January through September 1954 average 29% Cu.

Manhattan Consolidated Mines Development Co. continues to ship a small tonnage of development ore from the 460 level of the Old Dick Mine. Receipts of crude ore at El Paso for 1954--2393 tons averaging 8.4% Cu, 15.5% Zn. The Old Dick Mine has operated on a split check leasing system since March 1954.

Shattuck Denn Mining Corp. Iron King Mine production for the first 9 months of 1954:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conc	10,860	.99	33.3	29.0	1.2	10.3
Zinc "	18,142	.10	6.5	2.5	0.4	50.0

New Mexico Miscellaneous

Banner Mining Co. is mining and milling 250 tons per day at the Miser's Chest property. The Bonney shaft is being retimbered with steel sets and gunite in the bad sections. Production for 9 months of 1954 - 5538 tons averaging 28% Cu, 6.8 oz Ag.

Southwest Production
Nine Months 1954

4.

New Mexico, Misc. Con't.

Quentin Drunzer has moved back to the Stauber Mine to clean up the remaining low grade fluxing material at that property. Receipts in September and October totaling 2570 tons average 0.80% Cu. In August Mr. Drunzer made a trial shipment of 1085 tons of .52% Cu from the Parker-Doyle property near Scholle. This ore was too low in grade and drilling was not encouraging for tonnage possibilities so the operation was abandoned.

Ira L. Moseley since the middle of July has been shipping from the Wilson claim, a short distance east of the Atwood Mine. Through September 6163 tons delivered to El Paso average 0.70% Cu, 78% SiO₂. October receipts exceeding 4000 tons average about 0.6% Cu.

REED F. WELCH

cc: JDMacKenzie	CPPollock
SHLevison	FVRichard
RPreese, Jr.	WRLandwehr
RLJourdan	TASnedden
EMcLTittmann	KRichard
REShinkoskey	FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

October 22, 1954

K. R

OCT 27 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT - RECEIPTS AND ORE CONDITIONS
FIRST NINE MONTHS - 1954

Following is report on Hayden Plant receipts and fluxing situation for the first nine months of 1954.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received		Tons Received
January	19,558	July	17,334
February	14,286	August	10,632
March	18,719	September	15,495
April	22,346		
May	15,258	Total 9 Months	154,589
June	20,961		
Total First Half	111,128		

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	Total Nine Months		On Hand-Tons	
	Received	Smelted	1-1-54	10-1-54
Concentrates	115,700	116,691	2,944	2,103
Reverb Flux	36,794	37,147	8,590	8,096
Converter "	13,695	14,389	3,365	2,656
Total	166,189	168,227	14,899	12,855

Concentrates: Ray Mines has been producing approximately 13,000 tons per month and it is expected production will continue at about this rate for the balance of the year.

Reverb Flux: Pima Mine production has been shut off and Copper Butte Mine has suspended shipments indefinitely. At the present time Hayden Plant is receiving only occasional shipments of general copper ore.

Converter Flux continues to come from the Ray pit with a few cars per month from custom shippers. Bagdad Chase Mine has been shipping about one car a month. The Cleopatra Mine operation proved unprofitable and has been shut down.

COMMENTS ON SHIPPERS

Burns and Smith, leasing the Bagdad-Chase Mine at Ludlow, delivered 958 tons of low grade fluxing ore during the period March through September. Most of this tonnage was unprofitable for the shippers but they continue to ship about one car per month.

HAYDEN PLANT
Nine Months 1954

-2-

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Copper Butte Mine has been shut down since June. C. F. Mitchell, owner, advises he does not expect to resume production at this time.

Moores & Bayles in the third quarter delivered 311 tons of siliceous flux from the Cleopatra Mine, after which operation was abandoned. Mr. E. M. Moores reports his costs were higher than anticipated and his sampling indicates insufficient value to warrant continued shipments from the section of the property he has been working.

Pima Mine: Receipts at Hayden for the first 9 months of 1954 total 15,345 tons with 10,535 tons delivered to El Paso during this period - arithmetic average 6.2% Cu. The mine is now under 6-months option to Cyprus Mines and production was discontinued at the end of September. A small tonnage of cleanup production by Pima Mining Company has been shipped since that date, but it is not expected that the smelters will receive any more tonnage during the option period, as Cyprus Mines will confine work to mine examination.

REED F. WELCH

cc: CPPollock	JDMacKenzie
FVRichard	RLJourdan
WRLandwehr	EMcLTittmann
TASnedden	FJDowney
KRichard	
FMStephens	

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

September 1, 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-R.E. SHINKOSKEY
JULY-AUGUST 1954

1. Bagdad Copper Corporation. On a visit to Bagdad August 25th I talked to Mr. George W. Colville, Assistant General Manager, since Mr. Dickie was out of town. Mr. Colville advises that beginning about September 15th and for the balance of the year Bagdad will produce 3000 tons per month of 30% Cu concentrates. This is based on mining a good quantity of the higher grade ore from the east side.

The past few months have been lean ones for Bagdad, partly because of preparing the east side for mining in June and having the gravel overhead cave in and cover two 60-foot ore benches. Considerable work has been done the past two months again preparing this area for production. Current production is coming from the southwest. At Mr. Dickie's request we recently increased advances on Bagdad concentrates from \$3000 to \$4000 per car.

Mr. J. C. Lincoln, majority stockholder of Bagdad Copper Corporation, advised the management he had given a purchase option on his Bagdad stock to Kennecott, the option to expire September 1st.

Bagdad certainly does not want for equipment. New hauling units in evidence at the pit include:

1. 60-ton twin diesel Dart truck
- 1 50-ton twin diesel Euclid truck
- 9 25-ton diesel Dart trucks
- 1 E50 Tournarocker (2 older E-40's in use also)

Bagdad still talks fluo-solids, acid production, etc., but is pretty much in the air right now until the outcome of Lincoln's stock sale is settled.

2. Shattuck Denn Mining Corp. I visited Mr. H. F. Mills, General Manager Iron King Mine, at Humboldt on August 26th. The new 4-compartment No. 7 shaft will probably be hoisting ore in another two months. All compartments are concreted through the 600 level and are concrete ringed at stations to the bottom at 1800 feet. The ore hoist and bin are operating. The gyratory crusher, screen and mill belt are being set now. Only two shaft compartments will be used at present, one for ladders, conduit, etc., the other for ore. No. 6 shaft will be used for men and supplies.

Additional lead cells have been added to the mill since my last visit but are not in use. Production can be raised to 900 tons a day on completion of No. 7 shaft if the metal market warrants.

Additions to the cyanide circuit have resulted in much improved gold recovery. Mr. Mills advised me he probably would not again consider running the pyrite flotation circuit for gold recovery.

Production for the balance of the year is estimated at 2000 tons zinc and 1200 tons lead concentrates per month.

While in this area I visited the old Humboldt smelter site. Mr. Archie Poarch, a Prescott mill man, has obtained a purchase option on the Iron King tailings dump containing about $1\frac{1}{2}$ million tons. This dump is about 35% pyrite and contains 75,000 ounces gold and $1\frac{1}{2}$ million ounces silver. According to the agreement Mr. Poarch pays a monthly fee to Iron King and must come up with a workable process and start using the tailings in quantity by January 1, 1957, or the option is void.

It is Mr. Poarch's idea to develop a process for the recovery of gold and silver and a market for the pyrite as soil additive. He seems to be short on technical know how but does have some financial backing. I estimate he has spent about \$50,000 on the old smelter site in buildings, grading, etc., in the last several months. Two old smelter stacks are available for use on this property.

3. Manhattan Consolidated Mines Development Co., Old Dick Mine. I was unable to find Mr. Ken Erickson, Superintendent of the Old Dick Mine near Bagdad, and was told he had moved to Henderson, Nevada, about the middle of August. Three or four men are working off and on at the Old Dick, mostly on the 400 level, and ship 4 to 5 cars a month to El Paso of 8% Cu, 16% Zn ore.

There is no interest or activity at present around the Hillside Mill.

4. Riviera Mines Company. Mr. W. L. Allison, President of Riviera Mines Company, told me in Phoenix last week that Inspiration Copper Company still has a large crew at the Christmas Mine on exploration and development. He advised it is very doubtful if Riviera will produce any concentrates the balance of this year.

Riviera Mines contract with General Services Administration calls for 1.2 million pounds of returnable copper in 1954. Since Riviera Mines suspended operations in June, their total copper returned (produced in May and June) amounted to only 336,526 pounds.

5. Banner Mining Company. The Banner mill is now up to full capacity of 400 tons a day on ore from the Mineral Hill-Plumed Knight Group in the Pima District. Primary and secondary crushing is all done in about 7 hours on the day shift only. Humphrey spirals and a Wilfley table are recovering about 1 pound of tungsten per ton mill feed as 60% WO₃ content scheelite. Mr. Bowman, General Manager, advised me he has a guaranteed government price of \$3.25 per pound tungsten and that the 1 pound tungsten recovered per ton mill feed just about covers his whole milling cost. Shipments are running about 700 tons per month averaging 24.8% Cu, 4.9 oz Ag per ton.

About 130 men a day are working now in the Banner mine and mill. The N.L.R.B. held elections August 5th and 19th to determine the bargaining unit. Although the outcome apparently rests on several contested votes, the Mine-Mill is leading the Steelworkers.

Mining of 1000 tons a month of oxide ore continues from the Daisy shaft. This tonnage is under 3-year contract to International at Miami. Banner has been advised that Miami will be in a position to handle up to 2000 tons a month of this oxide after the first of the year. Perhaps this ties in with Copper Cities mill coming into production the latter part of 1954.

While drifting northward on the 200 level it was found this oxide ore merged with a separate and distinct sulphide vein which has widened from an original 8 feet to present 25 feet. The sulphide is dominantly chalcopyrite averaging about 7% Cu. This sulphide ore had been intersected by diamond drill hole at a depth of 350 feet but its present location and strength was a distinct surprise. This ore is being mined and blended into the mill circuit to raise the heads. Banner's contract with G.S.A. states that all sulphide ore must be milled.

6. Siliceous Flux-Copper Department: With Silver Bell at full production it appears likely El Paso copper department will operate at maximum tonnage until possibly the second quarter of 1955 when the third converter at San Luis is expected to start. On this basis converter flux requirements will probably be around 4000 tons per month.

The two major shippers of siliceous flux for the copper department in past years have been Quentin Drunzer at the Stauber and Ira Moseley at the Atwood. Drunzer has recently pulled the pillars and abandoned the Stauber. Moseley has discontinued mining the Atwood and has shipped all available surface crops adjacent to the Atwood.

Drunzer is at present completing a 1000 ton trial shipment of low grade sandstone on the Parker-Doyle lease near Scholle, New Mexico. It is very doubtful we will continue this operation, since the trial shipments have been very low grade. Mr. Byron Hardie, Geologist for the Southwestern Mining Division, was at Scholle the end of August and we will await his report before making a decision.

Moseley is presently working the old Wilson claim near Lordsburg, New Mexico. This operation looks fairly encouraging for about 2000 tons a month.

We have started receiving good converter flux from the Avino Mine dump, Durango, Mexico. This dump is reported to contain 12,000 tons and is being shipped at the rate of 1000 tons a month.

Mr. C.E. Stevens of Clifton, Arizona, is actively seeking siliceous flux in the Steeplerock Mining District some 25 miles southeast of Clifton. Mines being sampled include the Norman King, Alabama and Carlisle.

The Alpine Development Company is starting shipments of siliceous flux on a small scale from the Princess Group near Dagoon, Arizona. Mr. Odell Still is expected to ship a few cars of siliceous flux a month from the Copper Plate Mine near Tombstone, Arizona.

7. Siliceous Flux-Lead Department: El Paso will require about 3000 tons a month of siliceous ore for the lead department. This is based on using as much dump slag as possible and holding zinc in slag to about 16.5%.

We are at present offering the open lead rate and waiving the lead deficiency as an incentive but at 14-cent lead there is not much interest. The best prospects are:

Aravaipa Mining District, Sein Fein Mine (west of Safford, Ariz.) Dean Nicholson, who operated this mine in 1951-52, has a new lease and option and is seeking financial assistance to sink the shaft and carry on development work required to resume shipments. During the period 1947 through 1953 the Sein Fein shipped approximately 8000 tons to El Paso assaying about 15% Pb with 45% SiO₂. This property adjoins the Head Center Mine of Athletic Mining Company and there is a possibility of increasing zinc content with depth.

Swisshelm Mining District (north of Douglas, Arizona): J. W. Pursley, lessee at the Scribner Mine, is shipping only an occasional car of lead ore and it is doubtful if more tonnage can be expected on present lead price. The Chance Mine adjoining the Scribner has been shut down since the middle of 1951 as a result of dispute over fractional ownership. In past years the Chance has been a steady shipper but the mine will take considerable financing to reopen when and if the case is settled.

Arivaca Mining District (south of Tucson): Vogel Mining Company has a lease and option on the Tiger (Amado) group near Arivaca and reports some tonnage of leady siliceous ore. Mr. Vogel indicates he will sublease the lead workings consisting of two tunnels and a shaft. A 600-ton dump on the property is reported to carry shipping values.

8. Hayden Plant Shippers

Copper Butte Mine, about 4 miles west of Ray, Arizona, has shipped to Hayden steadily since 1943 at an average rate of about 9000 tons a year. This ore contains 3% Cu and although the 12% alumina is higher than desired, the ore is suitable for reverb flux. This mine has been down for the summer but Mr. Mitchell will resume shipments in September at the rate of 1000 tons per month.

Pima Mining Company: The Pima Mine tonnage has been diverted to Hayden since February this year to relieve stocks of general copper at El Paso. Production has been as high as 4000 tons a month but we are at present holding shipments to 2500 tons per month, since the ore contains considerable magnetite and had given trouble at both El Paso and Hayden. Since the beginning of operations at Pima in May 1952 we have received approximately 58,000 tons of ore, monthly receipts assaying from 4.8% to 9.4% Cu.

Cleopatra Mine is an old mine about 50 miles due south of Kingman, Arizona. Mr. Ira Moseley recently sampled it as a possible source of converter flux for El Paso. The silica grade was high but since the ore must be trucked 60 miles east to Congress Junction, the values contained were not sufficient to warrant shipment to El Paso. Since that time Mr. Moores and Mr. Bayles, equipment men from Phoenix, have secured a lease and are going to ship 600 tons per month to Hayden on a trial basis.

Bagdad Chase Mine: Burns and Smith Consolidated Mines took a lease on the Bagdad Chase Mine at Ludlow, California, early in 1954 and since March have shipped 825 tons to Hayden with average assays: Au .10 oz, Ag .5 oz, Cu 1.0%, SiO₂ 75%, Fe 5.5%, Al₂O₃ 7%. To date the operation has shown a loss but is continuing with the expectation of better grade ore.

R. E. SHINKOSKEY

cc: JDMacKenzie DJPope
SHLevison CPPollock
RPreese, Jr. FVRichard
RLJourdan WRLandwehr
EMcITittmann TASnedden
 KRichard-2
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 22, 1954

K. R.

JUN 23 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
JUNE 1954

1. Riviera Mines Company. Anaconda Copper Mining Co., through their Arizona organization Inspiration Copper Company, is continuing exploration work at the Christmas Mine, presently engaged in drifting and crosscutting with several thousand feet of diamond drilling, mostly underground. W. L. Allison, President of Riviera Mines, has been optimistic over the possibility that Inspiration would take the property. In view of the fact that the mine required considerable development work to keep the mill in operation, Riviera has abandoned mining leaving the development work to be done by Inspiration. Within 60 to 90 days it is possible Inspiration Copper Company will make the decision whether or not to exercise the option on the Christmas Mine. During this interval it is not expected that Riviera Mines will produce copper concentrates. This year's mine production through the month of April totals 2167 tons of concentrates delivered to El Paso assaying 28% Cu. This tonnage was sold at the market price with the idea of continuing operations to fulfill the government contract obligation of 1,200,000 pounds of copper in 1954. Beginning with mine production in May the copper was allocated for General Services delivery with about 640 tons of concentrates delivered to El Paso Plant before mining was suspended. It is obvious that Riviera Mines will not be able to meet this year's obligation for delivery of copper to the government.

2. Ray Silver-Lead Mine. For the past two years G. R. French has been carrying on exploration work at the Ray Silver-Lead Mine in the Dripping Springs District. With assistance of DMEA matching funds he sank a 150-foot winze in the east end of the mine looking for the ore zone on the downdrop side of the Mala Suerta Fault. On completing the winze insufficient funds were available to explore for the ore zone and French went back to the old workings and resumed shipments. Beginning about the middle of April through May he delivered to El Paso about 485 tons of 18% to 22% Pb. Additional funds have been requested to complete exploration from the winze and it appears this work will be accomplished with government matching funds or through French's own financing. It is expected a few hundred feet of crosscutting will be necessary; the actual distance is not known.

3. B.S. & K. Mining Company. The Atlas mine and mill has been shut down for several months because of low zinc price. During this interval exploration work and diamond drilling have been carried on resulting in development of granite-lime contact replacement ore assaying 6% to 7% Cu for a width of 18 feet. Another intercept shows 5 to 6 feet assaying 10% to 11% Cu with 2 ounces silver and about 2% Zn. There is some question as to whether this ore should be milled or shipped for direct smelting and calculations will be made to determine the best outcome. This will depend on mining and further sampling and assaying. In June B.S. & K. Mining will produce about 150 tons of zinc concentrates from cleanup of stopes and ore bins in preparation for handling copper ore. Unless zinc price reaches 12 cents no further production of zinc is expected and mining will be confined to copper ore.

4. King-Exile Group. Over the past year R. E. Chilson has been doing exploration work on the King Exile property in the Helvetia Mining District with DMEA matching funds, the loan amounting to \$27,150. The program involved three stages: 1) 300 to 400 feet of crosscutting on the tunnel level, 2) 600 feet of diamond drilling, and 3) 100 feet of drifting to the east and 200 feet of drifting to the west. Stages 1 and 2 were carried along with government matching funds, but at the point of continuing with the third stage DMEA engineers did not concur with Chilson's exploration theories and refused payment on some of the diamond drilling Chilson had undertaken. With his own funds Chilson continued with stage 3 and notified DMEA he would proceed in spite of their refusal to authorize this work. Chilson completed the drift 200 feet to the west and did an additional 1,000 feet of diamond drilling resulting in discovery of a new ore shoot. Chilson is now seeking termination of the DMEA contract inasmuch as they did not go along with him through the three stages. In the event they wish to remain in the picture he asks additional expenditure of \$250,000 to prospect and operate the King-Exile property. With this expenditure he believes sufficient tonnage will be developed to warrant a mill. I understand DMEA has suggested that the original contract might be modified to provide for this additional work.

The new ore discovery on the Lewisohn claims is 150 feet along the granite contact and Chilson has diamond drilled 100 feet down dip. Grab samples assay 3% to 5.5% Cu, but by selective mining Chilson expects to ship not less than 6% Cu. While carrying on this exploration work in the west end of the King-Exile tunnel Chilson has continued to mine ore in the east end and is currently shipping about 150 tons per week to International Smelting Company at Miami.

Pima Mining Company. Since the first of the year Pima Mining Company has been engaged in an exploration program which has increased the importance of the mine. The management is now continuing exploration eastward on the 400 and 500 foot levels and doing 2,000 feet of diamond drilling per month underground at 100 foot intervals easterly along the new work. This drilling north and south with flat holes is for assay purposes. So far this work has increased the width of the ore to the east and the management feels it is now approaching the future possibilities of the property as an open pit mine. Concurrently with underground exploration, churn drilling is being done from the surface with five holes completed, the most easterly being about 800 feet from the shaft.

Mr. Spaulding is now Vice President and Director of Pima Mining Company and I am advised the company will become a subsidiary of Union Oil Company and will be taken away from United Geophysical. The purpose of this change, I understand, will be to confine United Geophysical Company to geophysical survey work. Although the property needs additional drilling to prove its extent for open pit mining, it appears that Union Oil Company will soon be in a position to decide on what to do with the Pima property. Negotiations relative to the Pima Mine will be carried on by a director of Union Oil Company, Mr. Brandt of Dillon and Reed, an investment firm in New York City. Companies interested in acquiring the mine or in its operation, in addition to our company are Anaconda Copper Co., Consolidated Copper Co., Duval Sulphur and Potash, Brown and Root (J.P. Nash), and Utah Construction Co. Because of the extended possibilities of mineralization at the Pima property it is believed that Union Oil Company will be interested in retaining an interest in the mine ownership and an operator will be chosen from the group mentioned above, the one presenting the best deal and offering the best operational management.

This information regarding transfer of Pima Mine to Union Oil Company and negotiations with Mr. Brandt was given to me in confidence and should be treated as such. United Geophysical Company will in due time advise all parties interested in the mine of this transfer.

6. Banner Mining Company at the Mineral Hill property is steadily increasing mill tonnage, now treating 400 tons per day assaying about 2.5% Cu. Mine production in excess of this goes on stockpile. Total employment at the Mineral Hill, including some construction and surface work, is 140 men with 80 men used underground. At this production rate Banner will ship about 1000 tons of concentrates monthly assaying 25% Cu.

Operation at the Daisy shaft is going on under contract. Inasmuch as Banner has an obligation with International Smelting for 1,000 tons per month of oxidized ore they are mining along with shaft sinking. Mining is carried on at the 100 foot level only, average 5.3% Cu for the past few months and five-car lots at times assaying in excess of 9% Cu. The oxidized ore as intercepted by diamond drill will continue to the 250 level. The Daisy shaft is down to the 400 level, to be continued to the 450 level which will compare in elevation with the west end of the Pima Mine 400 level. A station and drifting is in progress on the 200 level and it is planned to cut a station at the 300 level in preparation for mining.

7. New Years Eve Mine. In July of 1953 General Mines, Ltd. acquired a lease on the New Years Eve property at Twin Buttes. This partnership subsequently incorporated under the name General Mines, Inc., with mining operation under the direction of W. E. Iseman financed by people in Minnesota. General Mines erected a headframe over the shaft and unwatered the mine to the 200 foot level. This level required about 24 sets of timbers and cleaning up of 600 feet of drift but no ore was found. Inasmuch as former operators had shipped from a section near the 136 level, two raises were run from the 200 to the 136 level. In December 1953 El Paso received 56 tons of 4.93% Cu and in March 1954 203 tons of 2.65% Cu were shipped from the New Years Eve Mine. General Mines, Inc. was obligated to pay minimum royalty of \$500 per month to Sierrita Mining and Ranching Company, owners of the property. With the disappointment on the 200 level and discouraging outcome on shipments from the 136 level General Mines abandoned the operation as of June 16th after having spent \$31,000.00.

8. Santo Nino Mine in the Patagonia District is under lease to W. S. Talcott. \$1,000 cash was paid for the lease with 10% to 20% royalty on shipments. Talcott is seeking an outlet at Deming mill for the copper-molybdenum ore. He claims 20,000 tons of ore with 5,000 tons broken in the mine. Inasmuch as an outlet is not available at Deming Talcott proposes to purchase the mill at Tombstone to treat Santo Nino Mine ore. He and his associate Mr. Keith are financed by Mr. Floyd Bekins, one-third owner of Bekins Van & Storage. Bekins is interested in acquiring mining properties to use the mining equipment he has purchased. I am advised that Bekins has purchased the mill near Sells, formerly owned by Picacho Mines, which he has partially reconditioned and expects to use for treatment of manganese ore.

9. Coronado Copper and Zinc Co. In diamond drilling from the surface at the Republic Mine at Johnson Camp the drill penetrated oxidized copper ore and work is in progress from the 500 level to reach this ore. This involves driving an inclined raise 280 feet, 200 feet of which has been completed, to explore the diamond drill intercepts at approximately the 350-foot level. One drill cut 7 feet of 20% Cu and another 12 feet of 8% Cu. Inasmuch as the holes were at an angle to the mineralization, the actual width of the ore is not know. In addition to this oxidized ore the 500 level has showings of 4% to 5% Cu where mineralized faults and fissures have been oxidized. Within the next 60 days Coronado expects to start shipments of several cars per month of copper ore, in addition to their usual production of copper concentrates. No change in mill production is expected in the immediate future, which for the month of May was in excess of 600 tons of copper concentrates and 900 to 1,000 tons of zinc.

Labor negotiations have been completed at the mine and Coronado succeeded in obtaining a very favorable contract.

10. Shannon Mining Company. In Silver City I visited J. H. Taylor, Manager of Peru Mining Company, who advised me Illinois Zinc Company has taken over the Shannon Mine at Gleeson, Cochise County, Arizona. Subsequent press releases have verified this report. Mr. Taylor tells me they will proceed cautiously operating under the name Shannon Mining Company and will attempt to enlarge present ore reserves of 30,000 tons of lead-zinc ore. He states they hope to expand the ore-body into a copper producer on the fringes of the ore reserves and in depth. Jerry Faust is in charge of the Shannon Mine operation, living at Tombstone.

REED F. WELCH

cc: JDMacKenzie DJPope
SHLevison CPPollock
RPreese, Jr. FVRichard
RLJourdan WRLandwehr
EMcLTittmann TASnedden
 KRichard-2
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

MINING DEPT.

June 18, 1954

K. R.

JUN 21 1954

Mr. B. D. Roberts, Manager

JUN 21 1954

TUCSON

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
JUNE 1954

Sonora Trip: On Monday, June 7th I joined Rodolfo A. Mora and G. T. MacKay at Hermosillo and we visited various shippers in the vicinity of that city. Mr. MacKay will report in detail and I will therefore only summarize our discussion with El Paso Plant shippers.

1. Minas de Guatamo, S.A. Grattan Lynch, Manager, advises he has 75 to 80 men working at the Guatamo Mine near Batuc producing about one ton per man shift. He is working on the tunnel level or above and has given up the idea of sinking below tunnel level. His development has opened the parallel veins for about 2,000 feet in an east-west direction with more attention being given to the west end.

The management expresses considerable anxiety over the peso devaluation and consequent increase in advalorem tax which amounts to about 30%. This results in monthly production and advalorem taxes in excess of \$200,000 pesos and automatically eliminates the tax subsidy for Minas de Guatamo. Grattan Lynch estimates devaluation of the peso has cost Minas de Guatamo an additional \$8,000 per month.

Concurrently with mining lead-zinc ore at the Guatamo Mine, Lynch is negotiating with Pedro Fruns and T.A. Dodge to take over the Alaska Mine which has promise of producing sufficient copper to justify a copper circuit in the Guatamo mill, particularly since the lead concentrates moving to Peñoles have been assaying about 12% Cu. Ore from the Alaska Mine could be trucked to Batuc for \$4.00 per ton U.S. currency.

Mr. Lynch has also been doing metallurgical test work on copper molybdenum ore from El Cobre Mine owned by our Mexican Mining Department. Mill tests on samples from the 80-foot level of El Cobre, however, have not produced satisfactory molybdenum concentrates. The water level is near the 80-foot level and consequently samples are not available from deeper levels of El Cobre Mine. Because of discouraging metallurgical results on samples from upper workings Lynch is undecided about leasing El Cobre Mine.

At the time we visited the patio where concentrates are stored Minas de Guatamo had about 100 tons of lead and 150 tons of zinc concentrates on hand. Storage at Hermosillo is necessitated by lack of railroad equipment to move the concentrates. The 60% zinc product, smelted at Amarillo, nets Minas de Guatamo about \$26.00 per short ton at the mill on 10-cent zinc price. Since the peso devaluation the haul from mine to mill costs \$3.00 pesos per ton and hauling concentrates 92 miles from the mill to Hermosillo costs \$65 pesos.

Sonora-Con't.

2. Oscar Monteverde is inactive as far as lead ore purchases are concerned but he is collecting small tonnage of oxidized copper limey ore for shipment to Cananea. I understand Monteverde's principal interest in this copper property, located about 30 miles northwest of Hermosillo, is for installation of a leaching plant for dump ore. He claims test work indicates success of leaching and expects to produce about one ton of copper concentrates per month. However, with the abundance of limestone gangue I doubt very much that the method will be successful.
3. Minerales de Occidente. Juan Serrato, Manager, is buying and shipping copper ore to Cananea. Occasionally he collects a carload of lead ore which he ships to El Paso in the name of Minerales, S.A., as he does not have an export permit for lead.
4. Minerales, S.A. Marcos Serrato at Santa Ana is buying considerable tonnage of low grade gold-silver-lead siliceous ore for the precious metal content. He blends this with irony copper ore thereby bringing the silica content to 55% or 60% resulting in a desirable fluxing ore for shipment to Cananea. With the lower freight and treatment charge at Cananea Mr. Serrato feels justified in sacrificing the lead. As long as this low lead gold-silver ore is available and Mr. Serrato resorts to blending he will realize a better return at Cananea.

Minerales, S.A. has several carloads of siliceous silver ore ready for shipment to Cananea. Serrato's patio also is filled with ore as a result of lack of railroad equipment for shipment. He continues to purchase lead ore for delivery to El Paso and Selby, which he is justified in shipping to U.S. plants in preference to San Luis Potosi.

San Luis Plant contract with Minerales, S.A. has expired and Serrato is requesting a new contract although he may not be in a position to ship much tonnage under San Luis purchase terms. Juan Serrato of Minerales de Occidente also expressed concern over not having a contract for San Luis delivery. I think we should offer contracts to these two shippers in spite of the fact that San Luis Potosi may not receive much ore. Contracts would protect us from having Peñoles sign up the Serratos and claiming this business for the future as has been done with Minas de Guatamo. Under these circumstances I hope contracts will be prepared and submitted to Marcus and Juan Serrato. Both these shippers, as well as others in Sonora, talk of resumption of smelting operations at the Mazatlan smelter.

5. Raul Lemas is again working the Candelaria Mine near Caborca and shipping lead ore to El Paso Plant. He estimates he can produce a minimum of one carload per month and may later increase this somewhat.
6. Manuel Lemas is interested principally in tungsten. The foreign market has firmed to \$28 to \$30 per unit WO₃ and Lemas feels more hopeful for success of his operation. The great need is for a dependable outlet for the tungsten concentrates.

Sonora-Sinaloa

7. Cia. Minera Monte del Oro. Mr. Van der Staay recently visited El Paso Plant advising he had ore for shipment assaying 14.5 ounces silver per ton, 22% Pb. While in Hermosillo we visited van der Staay at his home Comonfort y Irineo Mitchel, Colonia Las Palmas, and learned he had financed Oscar Monteverde to a considerable extent during Monteverde's last connection with Credito Minero y Mercantil as well as in his purchase of slag shipped in the name of Cia. Minera Monte del Oro. Although this business arrangement seems to have been concluded satisfactorily as far as Van der Staay is concerned, his wife apparently does not share this opinion.

Van der Staay has innumerable denouncements in the vicinity of Hermosillo in which he wants to enlist our interest. We informed him such consideration of mining properties would have to come from our Mexican Mining Department at El Paso. He described an interesting occurrence of copper ore with shipments having been made from a large open cut without limitation of the mineralization. This property is known as Mina Nacho located about 20 kilometers northeast of Hermosillo and covering 150 hectares. Possibly the Mexican Mining Department has information on this mine.

8. Leonardo Topete: Inasmuch as Messrs. Mora and MacKay were traveling to Mazatlan I accompanied them and on the way we stopped at Navajoa where we talked with L. Topete and Jose Maria Zaragoza. Sr. Zaragoza apparently has been willing to finance Topete to the extent of \$15,000 to \$20,000 pesos but it seems the drain on his funds has far exceeded that amount. Zaragoza is now seeking a way out of his position but realizes he may lose his investment. We advised him the best chance to obtain some repayment from mining operations would be to concentrate on one of the three mines Topete holds and if he could obtain a good gambusino to work the property he would be relieved of deficit financing.

9. "Red Hill" Inasmuch as the Mining Department is interested in learning the location of "red hills," which I understand may denote alteration conditions, I call to Mr. Brown's attention the occurrence of a prominent red hill about 20 kilometers south of Guamuchil, Sinaloa. There is a short adit near the summit and dumps suggest alteration rock. This hill is about one kilometer from the road and was observed only from the road. Perhaps the Mining Department has information on this occurrence.

10. Mazatlan Smelter is shut down at the present time and is not accumulating ore in preparation for smelting. Minas de Guatamo lead concentrates under contract to Torreon were smelted at Mazatlan during the last operation of that plant. I understand ore purchases for Mazatlan delivery are now treated at Torreon with one-half of the freight charge in excess of Mazatlan delivery taken up by Peñoles. It is rumored that Peñoles is investigating the possibility of operating the smelter at Mazatlan. If they could obtain lead ores and concentrates from shippers on the West coast, operation of this plant may be feasible.

Sonora, Con't.

11. Cia. Minera Benwilco, S.A. Ben Williams, operating his Virginia and Guadalupe claims near Nacozari, reports he is mining about 50 tons per day and treating the ore in the Churunibabi mill which he is leasing from Comision de Fomento Minero with recovery of 90% of the copper and 80% molybdenum. Ore now being mined assays 2.5% to 3% Cu and .8 to .9% MoS₂ which is lower than average grade heretofore mined. The third 50-ton carload of molybdenum concentrates was recently shipped from this operation. Production for the month of May was 205,000 pounds of copper, the concentrates shipped to Douglas.

Benwilco is now engaged in sinking a 100-foot winze from the tunnel. This will put Benwilco into better ore which has been encountered in previous diamond drill work. On the basis of preliminary diamond drilling by Anaconda in the ore shoot being mined by Benwilco, Mr. Williams estimates one million tons of ore of the grade now being milled at Churunibabi. This figure does not represent positive ore due to limited intercepts.

Anaconda Copper Company is still engaged in exploration on the Benwilco property and one of two diamond drills on the property is operating from the surface. It is expected that a churn drill rig will be brought in to sink 1500 to 2000 feet.

12. Santo Domingo Mine south of Nacozari is producing four to five railroad cars of copper concentrates per month purchased by Phelps Dodge at Douglas. The Santo Domingo mill has a tungsten circuit producing 250 pounds per day assaying in excess of 70% WO₃.

REED F. WELCH

cc: JDMacKenzie DJPope
SHLevison CPPollock
RPreese, Jr. FVRichard
RLJourdan WRLandwehr
EMcLTittmann AABrown
RAMora TASnedden
GTMacKay KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 7, 1954 K. R

Mr. B. D. Roberts, Manager

MAY 21 1954

MR. _____
 READ AND RETURN _____
 PREPARE ANSWERS _____ HANDLE _____
 FILE _____ INITIALS _____

EL PASO PLANT

SOUTHWEST PRODUCTION FIRST QUARTER 1954
RECEIPTS EL PASO & AMARILLO PLANTS

EL PASO PLANT

Summary Domestic & Foreign Receipts
 (From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-1st Qtr. 1954</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	10,887	10,330	21,217
February	10,489	3,152	13,641
March	10,311	10,046	20,357
Total	31,687	23,528	55,215

<u>Copper Department</u>			
January	18,879	2,930	21,809
February	13,116	3,113	16,229
March	10,893	3,592	14,485
Total	42,888	9,635	52,523

Fluxing Situation and Stocks
 (From Semi-monthly Reports)

<u>Lead Department</u>	<u>1st Qtr. 1954- Tons</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1/1/54</u>	<u>4/1/54</u>
Lead Concentrates	28,183	24,061	2,768	7,026
Pyrite	389		8,611	9,000
Residue	14,876	14,420	716	1,085
Dust	4,425	4,542	307	262
Siliceous Lead	1,814	3,604	12,706	10,797
Total	49,687	46,627	25,108	28,170

Lead Concentrates receipts in the first quarter year built up stocks somewhat with 4258 tons increase since January 1st.

Siliceous lead ore tonnage in stock has been reduced slightly with very little intake in the first three months.

Copper Department

	<u>1st Qtr. 1954 - Tons</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1/1/54</u>	<u>4/1/54</u>
Concentrates	25,638	27,116	2,549	486
Residue	6,069	9,754	13,825	11,054
Matte	3,691	3,583	1,901	2,159
Sulphide	3,957	4,192	4,031	3,997
Ashes & Misc.	2,114	4,345	3,390	908
Reverb Flux	5,640	7,026	6,119	4,798
Converter "	6,233	16,336	34,636	24,540
Total	53,342	72,352	66,451	47,942

Copper Dept., con't
Concentrates have been smelted as received with very little tonnage on hand at the close of March.

Reverb flux stocks have reduced slightly with diversion of around 4000 tons of Pima Mine ore to Hayden in the first quarter.

Siliceous flux tonnage smelted in the first three months exceeds by approximately 2.5 times the intake for this period. The Stauber Mine at Pastura is approaching exhaustion of shipable grade and the Atwood Mine suspended shipments in February. An intensive search is being made to locate other sources of siliceous ore to meet fluxing requirements at El Paso Plant.

ZINC CONCENTRATES

Summary Monthly Receipts Amatillo and Corpus Christi from Southwest Producers

	<u>Tons Zinc Conct.</u>
January	2,771
February	3,783
March	2,875
Total 1st Qtr.	9,429

The only zinc producers in the Southwest now shipping to our plants are Shattuck Denn, Iron King Mine, and the Guatamo Mine in Sonora and our Trench unit. Other zinc properties have suspended operations because of metal price.

COMMENTS ON SHIPPERS

Arizona-Misc.

Athletic Mining Co. production of lead concentrates for the first three months of 1954 totals 724 tons assaying 7.5 oz Ag, 39.8% Pb, 3.4% Cu. A three-year contract renewal for the lead output at El Paso has recently been completed.

Bagdad Copper Corp. first quarter production- 6572 tons averaging 1.6 oz Ag, 33% Cu. Of this tonnage 646 tons were delivered to Hayden plant.

Coronado Copper and Zinc Co. copper production for the first quarter year - 1697 tons averaging 3.8 oz Ag, 29.3% Cu. A two-year contract renewal has been signed by Coronado for El Paso delivery of copper produced at Johnson Camp.

Elayer & Co. at the Bonanza Mine, Duquesne, shipped 410 tons during the first quarter with average assays 3.5 oz Ag, 7.5% Cu. An orebody has been encountered on the 325 level but the ore carries more zinc than copper (about 19% Zn, 3% Cu) and will not be suitable for shipment to the smelter.

Manhattan Cons. Mines Development, through March 1954, continued milling ore from Old Dick Mine at Hillside, producing:

	Tons	Ag	Cu	Zn
Zinc Concts	1557	.35	1.27	47.7
Copper "	1293	1.5	18.5	16.8

Because of low zinc price milling was suspended at the end of March and curtailed operations are restricted to production of the higher copper ore for shipment to El Paso.

Pima Mining Company deliveries to El Paso and Hayden January through March total 8683 tons averaging 5.8% Cu. With available smelting capacity the mine could produce 3500 to 4000 tons per month.

Riviera Mines Company at the Christmas Mine shipped 1736 tons of concentrates in the first three months of 1954 with average assays: Au .059, Ag 2, Cu 29.8%. This tonnage was settled at Market price and allotment of copper for delivery to General Services will be fulfilled beginning with May mine production.

Shattuck Denn Mining Co. Iron King output for first quarter 1954:

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct	4415	.087	8.1	2.3	.58	49.2
Lead "	3347	.93	29.1	27.0	1.0	9.9
Pyrite	437	.23	3.6	1.6	.1	7.5

Pyrite production was suspended at the end of 1953 and cleanup shipments were completed in January. Gold cyanide precipitates are now going to Selby.

C. E. Stevens production from the Molinar y Alaska Mine for the first three months of 1954 totals 1243 tons averaging 3.55% Cu, which is too low grade for economic operation. Subsequent shipments have improved in grade

New Mexico-Miscellaneous

Banner Mining Company operation of the Miser's Chest property at Lordsburg produced 1965 tons of concentrates assaying .03 Au, 7 oz Ag, 27.7% Cu.

Quentin Drunzer is cleaning up the last of the Stauber orebody. First quarter deliveries total 1281 tons averaging 3.1% Cu.

Ira L. Moseley suspended shipments from the Atwood Mine in February since required development work did not appear feasible. Deliveries in January and February 3530 tons assay: Au .047, Ag 3, Cu 1.66%. Some further tonnage of low grade flux may be shipped from the outcrop on the Atwood property.

REED F. WELCH

cc: JMacKenzie CPPollock
SHLevison FVRichard
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 28, 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
FIRST QUARTER 1954

Following is report on Hayden Plant receipts and fluxing situation for the first quarter of 1954.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received
January	19,558
February	14,286
March	18,719
First Quarter	52,563

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	Total-1st Qtr.		On Hand-Tons	
	Received	Smelted	Jan. 1, 1954	April 1
Concentrates	40,100	41,211	2,944	1,833
Reverb Flux	12,965	11,755	8,590	9,800
Converter "	5,254	5,439	3,365	3,180
Total	58,319	58,405	14,899	14,813

Concentrates during the first quarter were smelted at a rate of about 13,400 tons monthly.

Reverb Flux stocks consist principally of Asarco Christmas tailings. During the first quarter Hayden Plant received about 7700 tons of reverb fluxing ore from the Pima and Copper Butte mines.

Converter Flux: Intake of siliceous ores in the first quarter was low and P.H. crude was used for fluxing purposes. The Bagdad-Chase Mine at Ludlow has resumed operation but so far shipments have been too low grade to pay out. Two sets of leasers on the Bullard property near Aguila may supply some siliceous flux for Hayden.

COMMENTS ON SHIPPERS

Burns and Smith Consolidated Mines is undertaking operation of the Bagdad Chase Mine and also contemplates development of the adjoining Gordon property at Ludlow, California. The first 7 cars from the Bagdad-Chase are lower grade than anticipated and returns will not cover costs. Continued operation therefore appears doubtful.

HAYDEN PLANT
1st Qtr. 1954

2

Copper Butte Mining Company delivered 3596 tons in the first quarter year averaging 3.5% Cu coming from underground operations. This production will continue as long as the tonnage is required for fluxing at Hayden.

Pima Mining Company diversions to Hayden during February and March total 4109 tons with average copper assay 5.8%.

REED F. WELCH

cc:CPPollock	JDMacKenzie
FVRichard	RLJourdan
WRLandwehr	EMcLTittmann
TASnedden	FJDowney
KRichard	
FMStephens	

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

K. R.

February 10, 1954

FEB 23 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION YEAR 1953
RECEIPTS EL PASO, AMARILLO & DEMING MILLEL PASO PLANTSummary Domestic & Foreign Receipts
(From Metal Purchase Reports)Lead Department

	Tons Received - Year 1953				Tons Received - Year 1953		
	Domestic	Foreign	Total		Domestic	Foreign	Total
January	11,083	6,584	17,667	July	7,935	9,988	17,923
Feb.	8,105	12,126	20,231	Aug.	8,753	11,216	19,969
March	8,632	6,881	15,513	Sept.	7,373	6,246	13,619
April	8,020	5,376	13,396	Oct.	8,679	7,735	16,414
May	8,699	9,249	17,948	Nov.	8,979	5,363	14,342
June	9,029	7,357	16,386	Dec.	33,343	7,381	40,724
1st Half	53,568	47,573	101,141	Year	128,630	95,502	224,132

Copper Department

January	11,335	2,954	14,289	July	19,114	3,172	22,286
Feb.	13,070	3,083	16,153	Aug.	25,851	2,176	28,027
March	14,324	3,099	17,423	Sept.	17,190	2,178	19,368
April	17,551	4,013	21,564	Oct.	16,935	1,989	18,924
May	20,083	2,815	22,898	Nov.	20,961	2,589	23,550
June	20,886	2,934	23,820	Dec.	21,757	2,284	24,041
1st Half	97,249	18,898	116,147		219,057	33,286	252,343

Fluxing Situation and Stocks
(From Semi-monthly Reports)Lead Department

	Total 1953		On Hand-Tons	
	Received	Smelted	1-1-53	1-1-54
Concentrates-Lead	103,194	115,972	13,681	2,768
" -Iron	19,005	12,609	3,174	8,611
Residue	50,363	42,703	4,325	716
Dust	14,127	14,222	788	307
Siliceous Ore	28,359	15,061	116	12,706
Total	215,048	200,567	22,084	25,108

Lead Concentrates stocks have decreased approximately 11,000 tons since the first of the year.

Iron Concentrate shipments from Iron King Mine ceased at the end of 1953, inasmuch as this product is no longer required at El Paso Plant.

Siliceous Lead Ore tonnages on hand are sufficient for fluxing requirements.

Southwest Production
Year 1953

Copper Department

	Total 1953		On Hand- Tons	
	Received	Smelted	1-1-53	1-1-54
Concentrates	85,756	83,556	1,842	2,549
Residue	32,801	22,067	4,406	13,825
Matte	32,144	28,583	395	1,901
Sulphide	14,406	10,102	286	4,031
Scrap	4,799	4,263	1,142	3,390
Reverb Flux	48,850	44,684	2,859	6,119
Converter "	52,236	48,942	32,718	34,636
	<u>270,992</u>	<u>242,197</u>	<u>43,648</u>	<u>66,451</u>

Reverb Flux: Receipts from the Pima District have built up stocks of general copper ore. In the first quarter of 1954 trial shipment of Pima Mine ore will be made to Hayden to determine if that plant can handle some of this production.

Siliceous Flux stockpile decreased in the last quarter with reduced production at the Stauber Mine while Q. Drunzer is carrying on an exploration program in the attempt to develop additional tonnage for El Paso.

ZINC CONCENTRATES

Summary Monthly Receipts Amarillo & Corpus Christi from Southwest Producers

January	7,284	July	4,159
February	5,619	August	3,352
March	5,477	September	4,196
April	3,997	October	3,255
May	3,684	November	3,104
June	<u>3,190</u>	December	<u>2,825</u>
Total 1st Half	10,871	Total Year	50,142

Receipts Year 1953: Asarco-Deming & Trench 20,981
 Custom shippers 29,161
 Total 50,142

Zinc receipts from Southwest producers decreased in the second half with shut down of Ground Hog and other operations. The drop in zinc price to 9.5¢ in January 1954 has forced most Southwest producers to suspend operations. With the exception of Shattuck Denn-Iron King, on curtailed production, very little zinc tonnage will be moving after the first of the year.

DEMING MILL has not operated since the first of October. Receipts summarized in the third quarter report cover the total intake for the year.

COMMENTS ON SHIPPERS

Cochise County

American Zinc Lead & Smelting Co. operating the Hilltop Mine delivered 3466 tons of oxidized ore to El Paso during 1953 with average assays: Ag 3 oz., Pb 12%, Cu 0.2%, Zn 7%. In 1954 work at the Hilltop property will be confined to development of the sulphide orebody to be milled when metal prices improve.

Coronado Copper and Zinc Co. continues production at Johnson Camp in spite of low zinc price. Receipts of copper concentrates at El Paso in 1953 were as follows:

<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
6119	3.7	29.5	8

The 55% zinc product is shipped to Bartlesville at the rate of about 600 tons per month. A diamond drilling program with DMEA assistance has been under way for some months and indicates some new ore. This operation is now under the management of Mr. George Dub who succeeded Roy W. Moore.

Giacoma Brothers at the Defiance Mine, Turquoise District, shipped one to two cars per month throughout 1953 with total production for the year 970 tons assaying: Au .03, Ag 5.0, Pb 21.5.

Manhattan Consolidated Mines Development Co. Scribner Mine production for 1953 - 1411 tons with average assays: Au .10, Ag 3.1, Pb 10.4%. The leasing operation at Scribner Mine has been abandoned since drop in lead price to 13 cents.

Queen Mining Co., leasing upper level workings of the Hilltop Mine from American Zinc Company, shipped two to three cars per month to El Paso since production started in July 1953 -- total for last half year 776 tons averaging: Ag 1.0, Pb 15, Zn 9.5.

William Ward at the Swisshelm Gold-Silver Mine adjoining the Scribner property produced 1364 tons in 1953 with average assays: Au .885 oz., Ag 30 ozs, Pb 8%. The high grade orebody has been exhausted and the operation will continue on curtailed basis on the lower grade ore

Pima District, Pima County

Banner Mining Company suspended shipments from the Copper Queen Mine at Twin Buttes after delivery of 3864 tons to El Paso in six months of production. This ore averaged 1.5 oz Ag, 4.9% Cu. In recent months work has been concentrates on the Daisy Shaft on the Mineral Hill-Plumed Knight group where a substantial oxidized orebody is being developed. This oxidized ore will be shipped to Miami. Copper concentrates from the Banner Mill will start moving to El Paso early in May 1954.

Pima Mining Company in eight months of production in 1953 delivered to El Paso 23,607 tons averaging 6% Cu. Inasmuch as this tonnage is building up at El Paso, trial shipment of about 1000 tons will be made to Hayden beginning February 10, 1954 to see if that plant can handle this ore. Pima Mining Company will continue operation of this property and will continue exploration work.

Yavapai County

Bagdad Copper Corporation deliveries to El Paso in 1953 total 28,263 tons averaging 35.5% Cu with 1.6 oz Ag. The high grade concentrates produced in 1953 (up to 46% Cu) resulted from milling ore from the high grade area on the east side of the pit. Mining the north side pit the last month or two produced lower grade concentrates.

Manhattan Consolidated Mines Development Co. Receipts of crude ore and concentrates in 1953 from the Old Dick Mine are summarized below.

		<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>	<u>Fe</u>
Deming	Mill ore	10,639	.6	4.0	24.5	
El Paso	Cu Conct	858	1.8	20.7	13.5	
	" Ore	700	.6	6.3	13.5	
Amarillo	Zn Conct	1,309	.5	2.5	41.8	13.0

Mining was stopped with drop in zinc price to 9.5¢. The Hillside mill will continue to operate to handle the ore already mined and then shipments will cease.

Shattuck Denn- Iron King - 1953 production:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	14,794	.91	31.0	26.0	1.0	9.2
Pyrite "	18,476	.18	2.8	1.0	.1	6.0
Zinc "	19,321	.094	6.0	2.2	.4	50.0

Drop in metal prices has placed this operation on a curtailed basis. Recent decrease to 9.5¢ zinc and 13¢ lead forced suspension of exploration work and reduction in labor force to permit continued operation. Production of pyrite concentrates was stopped at the close of 1953 and the cyanide plant resumed operation. The gold-silver precipitates will be shipped to Selby.

Miscellaneous Arizona Shippers

Allison Steel Manufacturing Co., Copper World Mine. During nine months of operation at the CopperWorld property near Yucca Allison produced:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>	<u>Fe</u>
Copper Conct	541	4.3	24.4	11.2	24.0
Zinc "	343	1.6	3.7	42.6	11.5

Allison gave up the CopperWorld option in November 1953. Since that time Dr. A.A. Arnold of Kingman has taken an option and expects to ship copper and zinc concentrates, operating in the name CopperWorld Mining Company.

Athletic Mining Company is the only operation remaining in the Aravaipa District. Lead concentrates received at El Paso in 1953 total 1943 tons with average assays: Ag 7.2 oz, Pb 43, Cu 2.9, Zn 18.5. The zinc product is shipped to Athletic's plant at Fort Smith Arkansas. It is expected the Aravaipa operation will continue at about the same rate in 1954.

B.S. & K. Mining Co. has opened up some high grade zinc ore in the Atlas Mine, Silver Bell District. During the depressed zinc market in 1953 the mill has operated on strictly curtailed basis with production as follows.

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	2492	-	.8	1.8	57.0
Copper "	178	.023	3.7	28.7	6.5

The mine and mill were shut down in January 1954 with drop in zinc price to 9.5¢, and the company now plans to carry on a diamond drilling campaign to determine the extent of the orebody.

Elayer and Co. from the orebody in the Bonanza Mine at Duquesne opened up with DMEA assistance delivered to El Paso 4274 tons averaging 10.4% Cu with 3.9 oz Ag. Shipments will continue in 1954 from a winze below the stope sill floor.

Riviera Mines Company, late in October 1953 started milling at the Christmas Mine. In November-December 1953 El Paso received 1073 tons averaging 29% Cu with .047 oz Au and 1.7 ozs Ag. Under General Services contract Riviera Mines receives 32¢ for 600,000 pounds produced in 1953, and 2.4 million pounds produced through 1954-55.

C.E. Stevens at the Molinar y Alaska mine near Clifton started shipping to El Paso in September 1953 and through December delivered 1569 tons averaging 4.9% Cu. This ore carries around 20% alumina with about 45% silica. Before diversion to El Paso the ore was shipped to Miami.

New Mexico Miscellaneous Shippers

Banner Mining Company, Lordsburg. Production from the Miser's Chest Mine in 1953 totals 6823 tons averaging 26.2% Cu with .055 oz Au, 9 ozs Ag. For the past year production at Lordsburg has been pushed as a result of Banner's development work in the Pima District, Arizona.

Quentin Drunzer's open pit operation at the Stauber Mine near Pastura has been the principal source of siliceous flux at El Paso, shipping around 4000 tons per month. Since August 1953, however, Drunzer has been shipping only about 400 tons monthly of higher grade flux from underground workings. At the same time he has been carrying on exploration in an attempt to open up additional tonnage. Receipts in 1953 from the Stauber Mine total 28,925 tons averaging 2.27% Cu, 80% SiO₂, 4.8% Al₂O₃. In October Drunzer shipped 1136 tons to El Paso from the Garnet claims near Oro Grande. This ore is not satisfactory flux because of high alumina and the Oro Grande operation was abandoned.

Ira L. Moseley in 1953 delivered 19,043 tons of fluxing ore to El Paso from the Atwood Mine at Lordsburg. This ore averages: Au .05, Ag 2.0, Cu 1.33, SiO₂ 70, Al₂O₃ 10.5%. Faced with the necessity of doing more development work to open up additional ore reserves, Moseley has decided to give up his lease at the Atwood Mine.

Southwest Production
Year 1953

-6-

Sonora

Receipts from Sonora in 1953 are summarized below.

			Tons
Lead Ore	Fce del Pacifico	El Paso	1,850
		Selby	358
	Nacozari RR		693
			<hr/> 2,901
Copper Ore	Nacozari RR		783
Zinc Conct	Fce del Pacifico		4,577
			<hr/> 8,261
		Total	

Minerales, S.A. at Santa Ana (1366 tons) and the Lemas Brothers at Hermosillo (630 tons) are the principal shippers of lead ore on the West Coast.

Minas de Guatamo at Batuc continued production through 1953 with shipment to Amarillo of 4292 tons of 58% zinc concentrates. The lead product is under contract to American Metal Company.

REED F. WELCH

cc: JDMackenzie CPPollock
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 18, 1954

K. R.

MAR 9 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
FEBRUARY 1954

1. Athletic Mining Company. In view of the recent announcement that Fort Smith smelter would close during the month of February I visited Harvey Horton, Manager of Athletic Mining Company at Aravaipa, to determine how this would affect production of lead concentrates. Inasmuch as Athletic Mining Company operates the Fort Smith smelter under contract for American Zinc Company, the zinc concentrates from the Aravaipa operation will go to one of American Zinc Company's other plants or will be stockpiled with shutdown at Fort Smith, and the Aravaipa operation will continue under present conditions.

Work at Aravaipa is confined to operation of the Head Center Mine. Some months ago work was suspended at the Iron Cap and Grand Central mines. The Head Center is producing about 100 tons of crude ore per day assaying 20% to 30% combined lead-zinc. During the past two years ore as high as 50% combined lead-zinc has been mined from areas of the Head Center workings. The mine is now bottomed on the 12th level, equivalent to 800 feet on the slope of the vein. An exploration program is to be started in the near future to deepen the shaft another 200 feet which will provide four additional levels.

Athletic Mining Company has done some exploratory diamond drilling on the Panama claim of the Aravaipa group located in the main canyon near Horton's house. The results of this exploration are sufficiently interesting to justify sinking a 60° inclined shaft 300 feet to explore the diamond drill ore intercepts. Reinhart's examination in 1952 reports 9550 tons of ore assaying 6.4% Zn, 1.95% Pb indicated by four diamond drill holes in the Panama claim.

There is no other mining activity at this time in the Aravaipa district.

2. Charles E. Stevens and his partner Jesus Gomez at Clifton are leasing the Molinar y Alaska property from Phelps Dodge Corporation under a five-year agreement with the provision that Phelps Dodge has the privilege of crossing other claims in the district owned by Stevens. Many years ago the Molinar-Alaska mine was opened by tunnel in which Stevens and Gomez are now working about 1000 feet from the portal. The ore occurs in gash type stringers 1/2 inch to 8 inches wide, predominately chalcocite with some chalcopyrite. The country rock is diorite and granodiorite and, although the stringers seem to be consistent in general strike, the length of stoping available is restricted to a few feet. This makes it necessary for the operators to be constantly looking for extended ore shoots.

Molinar y Alaska Mine, con't

Stevens worked eight months to prepare the old workings for mining. To date he has shipped approximately 3000 tons from this operation, about half of this tonnage delivered to El Paso and assaying 4.9% Cu. The balance was shipped to International Smelting at Miami. He has nine men working at this time requiring shipment of a minimum of three cars per week assaying 4% to 5% Cu to make an economical operation. Because of partial oxidation in the stringers it is difficult to sort the ore and Stevens finds it necessary to watch the mining very closely to avoid dilution of grade.

Adjoining the Molinar y Alaska group Stevens has been investigating an ore showing about 100 feet wide in granodiorite that might be a source of siliceous fluxing ore for El Paso. The property is owned by Phelps Dodge but Stevens thinks he could obtain a lease if the analysis is satisfactory for converter flux. Phelps Dodge may also be interested in this source of siliceous flux, as the Morenci smelter is currently using barren quartzite. By extending the road 1/4 mile beyond the Molinar y Alaska tunnel Stevens thinks he could ship this siliceous ore assaying 2% to 3% Cu, 74% SiO₂, 2.5% Fe, 11.9% Al₂O₃, 0.24 CaO.

3. Atwood Mine, Lordsburg, N.M. Mr. Ira Moseley tells me the Atwood Mine looks very discouraging and the management has decided to give up the operation inasmuch as additional development work is now required to open up new ore and Moseley does not wish to incur this obligation. The last car was shipped from Lordsburg on or about February 16th. To make an economic operation at the Atwood property Moseley tells me he needs ore assaying around 2% Cu, .05 to .06 oz Au, and 1.5 to 2.0 ozs Ag. Receipts at El Paso in November and December 1953 average about .04 oz Au, 2 ozs Ag and 1% Cu. Nine men have been employed at the Atwood Mine.

4. Banner Mining Company. In anticipation of expiration of our present contract covering purchase of copper concentrates from the Miser's Chest Mine, I visited Ernest Bowman at Lordsburg and obtained the following information.

During the past year and a half since Banner Mining Company has been expanding in the Pima District, the Miser's Chest has been crowding production to finance development of the Arizona property, and has necessarily neglected exploration work essential for continuation of the Lordsburg operation. Several months ago Banner found it necessary to deepen the Miser's Chest shaft from the 11th to the 12th level. To keep up ore production while sinking the shaft an additional bonus was given to the miners on the basis of pounds of copper delivered to the smelter in each calendar month. This bonus amounting to as much as \$3.40 per day per man, however, did not decrease absenteeism.

The 12th level is now being pushed about 300 feet along the Miser's Chest vein structure and encountered ore before it was anticipated. This level has an additional 1,000 feet in the ore zone yet to be prospected. Upon starting work on the 12th level ventilation changed from downcast to up-cast creating unsatisfactory air conditions. Exploration work is now being pushed with an additional 300 man shifts per month and purchase of a new mucking machine and ventilating fan has become necessary.

Banner Mining Co., con't.

Before opening up the 1200 level mill heads were assaying about 2.8% Cu. Since mining started on the 12th level the mill feed assays 3.3% Cu and it is hoped this increase in grade will prevail over the entire ore shoot on this level. In crosscutting from the 12th level station to the Miser's Chest vein the Little Annie and Last Chance veins were crossed. These two veins are four to five feet wide but considerably higher grade than the Miser's Chest vein. Ore produced from these two vein intersections contributed to the acceleration of concentrates produced in the past five or six months.

Mr. Bowman has unalterable faith in the district for continuation of ore with depth. As evidence he cites the Bonney vein on the 13th level (equivalent to 1400 feet in depth) with width of 30 feet assaying 2.5% Cu. The Miser's Chest vein on the 12th level (about 1260 feet in depth), 15 feet wide assaying 3.3% Cu, has taken on great strength of continuity. The ore shoot has been lengthening from the 7th to the 11th level where it is 1,000 feet long.

In view of the impending drop in copper price I asked Mr. Bowman if the mine could operate on 24.5 cent copper. He told me that although their base pay for miners is substandard (\$1.66 per hour) a minimum of 29 cents per pound is required to justify mining in the Miser's Chest Mine.

5. Tuco Mining Company has recently been organized as an Arizona corporation to explore the Little Hatchet property near Hachita and has also acquired a lease on the Copper Dick claims adjoining the Little Hatchet on the north. Management is under Ellard and Loyd Harris with camp headquarters at the Little Hatchet property, financed by parties in Phoenix. At this time the Harris brothers have no exploration program for the Little Hatchet property.

On the Copper Dick claims there are some surface showings of copper in limestone associated with large masses of garnet. The ore assays 2.5% to 3% Cu with up to 15% Al_2O_3 . Tuco Mining Company has purchased a caterpillar TH-4 loader for stripping overburden and loading ore into trucks. It is obvious that to handle the copper showings at the surface in the garnet zone in such a way will reduce the value beyond economic interest. I advised the Harris brothers we could not guarantee to take their production at El Paso but we could possibly handle a car or two a week if the ore is sufficiently high grade.

6. American Zinc Company has been doing some exploration work on the Rehm Tunnel level of the Hilltop Mine in the California Mining District, Cochise County. This work has opened up interesting tonnages of lead-zinc sulphide ore. In a recent conversation with Mr. R. E. Calhoun at El Paso I was advised that American Zinc Company has decided to carry on with this mine because they have developed too much ore to abandon. They are working on a five-day week, employing eight men. Some oxidized ore has been shipped to El Paso by American Zinc Lead and Smelting but work is now confined to development of the sulphide ore-body which will be held for milling when higher metal prices are available.

7. Queen Mining Company is leasing from American Zinc Company workings above the Blacksmith tunnel of the Hilltop Mine and shipping oxidized ore to El Paso. Recent requirement for timbering in that part of the mine temporarily held up shipments but it is anticipated by the operators that within 30 days one car per week can be shipped. Mr. Calhoun tells me Queen Mining Company is running into considerable sulphide ore. As they go deeper on the ore shoot the ore may require milling as it carries equal amounts of lead and zinc (around 16% Pb, 16% Zn).

8. Yucca Mining and Milling Company shut down the Antler Mine and mill in May 1953. They are now working the tailings pond for sale as fertilizer to farmers in Arizona and California. The product is prepared by using a hammer mill to break the lumps to fines, then sacked in paper bags and sold under the trade name Ferro Soil Til. It is claimed the 40% content of pyrrhotite with 2% Zn, 0.5% Cu, .25% Mn and 1% Mg makes a good conditioner for alkaline soils. The lesser ingredients are advertised as trace elements for plant assimilation. It is reported this product has been approved by the agriculture departments of the states of Arizona and California and is bringing Yucca Mining and Milling Company \$13 per ton f.o.b. Yucca.

9. Copper World Mine. Dr. A.A. Arnold of Kingman has a partnership agreement with the miners at the CopperWorld Mine and is supplying the necessary operating capital. The partners and miners take their pay out of income from sale of zinc and copper concentrates. Under the agreement with Mountain States Metals the partners assume debts incurred by Mountain States Metals totaling approximately \$50,500.

10. Old Dick Mine. I am advised by Doctor Larson that on February 10 Coronado Copper and Zinc Co. obtained a 30-day option on the Old Dick Mine at Bagdad. I understand the option terms call for total purchase price of \$1,500,000. Coronado immediately started examination and mapping of the mine and is preparing to do some diamond drilling. I previously reported that mining was stopped in January but it was decided to hoist approximately 3,000 tons of broken ore in stopes in preparation for a long shutdown. This will require operation of the Hillside mill for another month or two until this tonnage is treated. Shaft sinking is under way, now down about 35 feet below the 400 level and bottomed in ore.

11. Copper Creek Cons. Mining Co. In the summer of 1953 this company was organized to operate the Old Reliable Mine at Copper Creek and obtained a government floor price of 29 cents for 5.5 million pounds of copper for purchase by General Services. The St. Anthony flotation mill was purchased and Copper Creek expects to mill about 100 tons per day representing the overbreakage of ore for leaching in place in stopes. The mill is now erected at the Old Reliable property and operations are expected to begin within the next ten days. The copper concentrates and precipitates will be shipped to Douglas.

12. Montana Arizona Mining Co. Charles Anderson, after spending the summer in Montana has returned to operate the Verde claims near Lukeville. He is continuing to extend the small cut by mining from the surface and to sort ore by hand labor to the best grade possible. Anderson expects to ship four or five cars during this winter's operation. Carload from the Verde claims received at El Paso in January assays 6% Cu.

Sonora Operations (cc A.A. Brown, R.A. Mora)

13. Cia. Minera Benwilco, S.A. In my report of June 26, 1953, I mentioned that Anaconda Copper Company was drilling the Virginia claims near Nacozari owned by Ben Williams and associates. To date they have completed eight holes totaling in excess of 4,000 feet. The drill is presently being used from an underground position in one of the adit faces. So far Anaconda has not discovered an orebody. Core assays vary from .01% to .2% Cu, mostly native copper. Continued faith in the district is evidenced by Anaconda's request for a one year extension on their option for drilling.

Benwilco is operating the Churunibabi mill under lease from Comision de Fomento Minero. Williams employs 15 men in the mill and 26 in the mine. Last month's cost of operation, including \$3.00 (U.S.) per ton for hauling from mine to mill, was \$149,250 pesos. Copper concentrates are shipped to Douglas smelter. Nine carloads of copper concentrates and two cars of crude ore (worth \$3700) produced to date yielded net return of \$39,000. Some metallurgical problems have been experienced in separating the copper and molybdenum in ore mined in the upper levels and copper concentrates drop as low as 18% Cu with 1% to 3% MoS₂. The best metallurgy produces 28% copper concentrates.

Returns from the copper have not met mining and milling expenses. Inasmuch as a salable molybdenum concentrate is produced the profit must be derived from this product. Benwilco has contracted to sell 200,000 pounds of MoS₂ through Mercantile Metals and Ore Corporation of New York City. The first 50 tons of concentrates are to be crossed at Agua Prieta in the next few days for export at Galveston, for which Benwilco will receive 97 cents per pound molybdenum f.o.b. Galveston. Hawley & Hawley has been elected to do the sampling. Japan will receive 10 tons of this lot, 15 tons have been sold to West Germany and 10 tons to England, etc. This product assays 97.75% MoS₂, .23% Cu, .24% Fe.

14. San Luis Mining Company has been active for some time in northern Sonora picking up lead-zinc properties and has acquired the Todos Santos Mine owned by Ben Williams. I understand San Luis Mining has recently purchased 23 fluorspar claims, including the group near Esqueda brought to our attention by R.S. Clinch, Francisco Varela and others. San Luis Mining Company has organized Cia. Minera Peninsular, S.A., and plans to build a 250-ton fluorspar mill at Turicachi, a few miles south of Esqueda, Sonora.

REED F. WELCH

cc: JDMacKenzie DJPope
 SHLevison CPPollock
 RPREese, Jr. FVRichard
 RLJourdan WRLandwehr
 EMcLTittmann TASnedden
 KRichard-2
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 8, 1954

K. R.

FEB 6 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
JANUARY 1954

1. Bagdad Copper Corporation. Early in December a new three-year contract was concluded for the Bagdad copper production, eliminating the tonnage bonus and increasing the deduction from copper price. Current production is coming from the north side of the pit, and mining in this area will continue for another 30 days until stripping of the east side of the pit is completed for mining of the high grade area on the east side of the downdropped block. Ore from this section will again produce high grade concentrates. However, within six months the operation will be forced to mine the north side of the pit and will then be able to dump the oxidized stripping into the south and east sides of the pit.
2. Coronado Copper and Zinc Co., Bagdad Area. Coronado's exploration work in the Bagdad area has been completed and the Copper King and Red Cloud options have been dropped. Coronado has purchased the Copper Queen group with some tonnage of 12% Zn, 1% Cu ore. I understand, however, the Copper Queen orebody does not justify construction of a mill.
3. Old Dick Mine near Bagdad has been under option to Golden Crown Mining Company on terms unfavorable for purchase and it appears that Ralph Brown, President of Golden Crown, has not been successful in interesting investors in the property.

Since September 1953 Old Dick Mine ore has been milled in the Hillside mill at a rate of 2000 tons per month under supervision of Manhattan Consolidated Mines Development Company. Mining was stopped with drop in zinc price to 9.5 cents and the owners are now faced with a decision on what to do with the mine. During this period they are sinking the shaft below the 400 level. The Hillside mill will continue operating for about 30 days on stockpiled ore.
4. Shattuck Denn Mining Corp. Iron King Mine will continue operation but has been forced to eliminate nearly all phases of exploration work. The drop in zinc price to 9.5¢ leaves the operation on a break-even basis. Reduction in number of men employed plus elimination of overtime has become necessary in an effort to reduce costs. Under the bonus system the tons per man has increased, effecting a saving to the operation. Work in the new shaft is progressing very slowly.
5. Kay Copper Mine, Black Canyon District. I have a report that this property will again operate as a stock company financed by New York interests. I understand the operation will be under management of James W. England and that arrangements have been made to move the Golden Belt mill near Cleator to the Kay Copper property.

6. Riviera Mines Co., Christmas Mine. In October 1953 W. L. Allison, of Allison Steel Manufacturing Co., Phoenix, and president of Riviera Mines Company, started milling operations at Christmas under G.S.A. contract for 3 million pounds of copper at 32 cents per pound. The commitment of 600,000 pounds for 1953 was completed about the middle of December with shipment of about 20 carloads. Since completion of the 1953 allotment and for the first two months of 1954 Riviera Mines has been selling copper on the open market to take advantage of the present high price. The government contract calls for 1.2 million pounds in 1954 and an equal amount for 1955. Beginning in March Riviera Mines will again be producing copper for delivery to General Services. To date, through January 1954, El Paso received 1806 tons of 29% to 30% Cu concentrates from Riviera Mines Company under a three-year contract.

The Christmas Mine has been reconditioned, the air shaft repaired to the 400 level and a 25,000 cu. ft. ventilation fan installed on the 400 level which provides ample air on the 900 level for good working conditions. About two months ago an accident resulted in two fatalities at Christmas. Since then the mine management has been working closely with the state Mine Inspector to overcome such hazards.

There are about 165 men employed with 25 men on construction. The mine and mill are working three shifts per day on a six-day week. It is expected the work crew can be reduced in the near future upon completion of surface work. The men have elected not to be represented by a union.

A timber framing building 40 x 70 feet has been constructed near the shaft and plans are under way for construction of a crane for unloading timbers at the railroad siding. Housing conditions have been improved with 13 new homes and 25 old houses remodeled.

An exploration program has been started resulting in discovery of new ore. Present mill capacity is 250 tons per day. With operation of the other ball mill and installation of the classifier already in place, mill capacity can be raised to 500 tons per day. However, the mine is producing an average of 175 tons per day and there appears to be no need for enlargement of the mill at this time. A well near the Gila river supplies water for the operation, pumped to the mine in a 6-inch pipeline.

About a year ago Allison took over the Christmas Mine from Sam Knight Leasing Company on a lease and purchase option requiring expenditure by Allison of \$250,000 by July 1954, this investment to be returned in full before royalty is payable. Thereafter the Knight brothers are to receive 4.5% of net smelter returns for 5 years with option to purchase at \$375,000, payment to be completed in 10 years, \$37,500 guaranteed yearly, royalties to apply.

Early in December 1953, Jos. H. Taylor of Peru Mining Company and others spent several days examining the Christmas Mine. About 30 days ago Anaconda Copper Company began an examination at Christmas and in a recent meeting with Messrs. Perry and McDonald Mr. Allison discussed sales terms on the following basis: Anaconda will have 90 days to examine the mine. Allison is to receive \$250,000 cash, retain all accounts receivable, and be credited with 50% of all capital improvements during the 90-day examination period. Anaconda is to organize a new operating company and give 25% interest to Allison; all exploration and operational costs to be borne by Anaconda up to \$2,000,000 before Allison is obligated for his 25% share in the operating company. These terms have been the subject of conversation only, have not been formalized in written agreement.

7. B.S. & K. Mining Company, operating the Atlas Mine, Silver Bell District, has opened up some tonnage of 25% to 30% Zn with 1% to 2% Cu. This ore apparently occurs in the limestone near the intrusive contact. Work prior to B.S. & K. Mining Company's entry into the district did not encounter this high grade ore. The mine and mill has been operating on a minimum basis since the drop in zinc price. When zinc dropped to 9.5 cents it was decided to suspend mining and milling operations. During the shutdown B.S. & K. plans to carry on a diamond drilling exploration program at an estimated cost of \$30,000 to \$40,000. In 1953 the Atlas Mine produced 2492 tons of 57% Zn and 478 tons of 28.7% Cu concentrates.

8. Banner Mining Co., Mineral Hill-Plumed Knight Group, Pima District. Banner Mining Company has equipped the East or Daisy shaft with a 40-foot wooden headframe and installed a cage. Electric power has been extended to these workings permitting use of electric hoist. The one and one-half compartment shaft is down 135 feet with drifting on the 100-foot level. Plans are now being completed to sink the shaft to the 350-foot level on contract and it is expected this will be completed in 60 days. Drifting on the 100 level varies from N. 30° E. on the south side of the shaft to N. 40° to 50° E. on the north side. Total distance of drifting is in excess of 300 feet with ore extending in each direction. A crosscut to the south has gone through 40 feet of ore. At about 125 feet north of the Daisy shaft east-west structures, possibly bedding(?), have been crossed and preparations have been made to drift easterly. In this zone from 30 to 40 feet of oxidized ore mined along the drift assays 6% to 14% Cu.

Banner Mining Company first intersected ore at this location in a diamond drill hole about 20 feet north of the Daisy shaft. This hole has recently been deepened. Sulphide ore was encountered at 350 feet and again at 515 and 700 feet. The hole was drilled to 900 feet where granite was encountered.

A second hole about 250 feet south of the Daisy shaft also intersected oxidized ore at about 65 feet in depth. This hole has not been deepened. About 500 feet northwesterly from the Daisy shaft another hole was drilled several hundred feet, presumably to test one of Sherwin Kelley's geophysical anomalies. This hole penetrated limestone without mineralization.

Several months ago Banner put down a diamond drill hole about 25 feet west of the Pima Mine west endline and cut 45 feet of 6% Cu ore. The indication of ore in this hole induced the new Banner stockholders to purchase the Grimes' interest of 60% in Banner Mining Company at \$4.60 per share. The distance between the Daisy shaft and this hole is approximately 1,000 feet. While the ore may not be continuous for this distance, Banner management is enthusiastic about finding a large tonnage in this section.

According to Allan Bowman, the Daisy shaft oxide ore will average 5% Cu. Banner has been granted an additional allowance by General Services permitting shipment of oxidized ore to a smelter. The government contract provides that copper contained in up to 50,000 tons of this oxidized ore will be purchased at 31 cents per pound. The number of pounds is not specified in the contract, which could amount to 5 million pounds in addition to the 13 million to be purchased by General Services in concentrates produced from Mineral Hill Mine. Because of contract tonnages at El Paso and lack of smelter capacity we are not in a position to purchase the ore from the Daisy shaft and this production will be sold to International at Miami under a three-year contract.

Banner Mining Co., con't.

Mill construction is on schedule and it is expected the mill will be in operation about May 1, 1954. In preparation for stoping, about 13,000 tons of ore have been stockpiled adjacent to the mill. El Paso holds a three-year contract for concentrates to be produced in the Banner mill with copper to be turned over to General Services.

9. Pima Mining Company. On February 2nd Pima Mining Company and United Geophysical officials met in Pasadena to discuss recommendation of Ira Joralemon on the Pima Mine. It has just been announced that Joralemon's recommendations encouraged the present owners to continue exploration at the Pima Mine instead of selling the property on the basis of present ore showings. The reason for this decision is the encouraging evidence obtained in the workings to the east indicating a strong possibility that the property contains a disseminated copper deposit. It is proposed to spend additional money in drilling the property to verify the occurrence of disseminated copper. All diamond drill cores will be re-evaluated and new drilling carried on from surface and underground positions.

Inasmuch as it will take 8 months to a year to complete the drilling program I will suggest that Pima Mining Company negotiate with Eagle Picher for the Sahuarita mill whereby the ore may be converted to concentrates and relieve El Paso smelter of the refractory conditions resulting from treatment of Pima crude ore.

10. General Mines, Inc., New Years Eve Mine, Twin Buttes. Since last October W. E. Iseman, Manager for General Mines, has been raising from the 200-foot level to the 136 level expecting an ore shoot in that horizon. In December 55 tons shipped to El Paso Plant from the New Years Eve assays 4.97% Cu. The last report from this operation indicates the raise is still not completed and little tonnage can be expected from this property.

11. Sunrise Mining Company, for the past two years has been operating the Glove Group in the Tyndall Mining District. The Texas group in Sunrise Mining now wishes to sell the lease and option and retire from the mining business. The property is presently maintained on standby basis with minimum underground work and a watchman. The prospect of selling Sunrise Mining Company's interest in this property or obtaining a sublessee is remote inasmuch as the Texas people want to recover their substantial investment. The ore showings in the mine have been depleted to the point where exploration work will be required to resume production.

12. C.D. Wilson is leasing the McGee property at Twin Buttes about one-half mile north of the New Years Eve Mine. Wilson has used open cut methods in mining a few outcroppings of copper from which he has shipped a few cars to El Paso and Hayden. He is accumulating some additional tonnage of siliceous copper ore for shipment to Hayden.

Six or eight months ago Bear Creek Mining Company obtained leases in the Twin Buttes area and approached Wilson for an option on the McGee claims. Inasmuch as their terms did not include any work performance, Wilson did not give the option and I am advised that Bear Creek Mining recently dropped the surrounding ground.

13. Sunnyside Group in the Harshaw District is being developed by Ventures, Ltd., under management of D. M. Stranahan with Lee Farrell as superintendent. Mr. Farrell reports Ventures has completed 900 feet of crosscutting and drifting on the 125 level with connection from that level to the shaft stope by 77 foot raise. The ore on the 125-foot level has changed from oxide to sulphide copper and tonnage accumulated from drifting is being stockpiled in preparation for milling at a later date. The operation employs 20 men on a two shift basis.

14. Coronado Copper and Zinc Co. at Johnson Camp is continuing operations in spite of falling zinc price. Eight months ago it was decided to keep the mine in production because of pumping cost or cost of rehabilitation after flooding, hoping the depressed zinc market would correct itself before too long. While the management does not think zinc is in any better position today than eight months ago, they seem to be optimistic about the operation, as evidenced by purchase and installation of two motor trammers. For the month of January the mill treated 6718 tons of crude ore, about 225 tons daily. From this mill feed 498 tons of 30% copper concentrates were produced and 618 tons of 55% zinc. Concentrates assaying 30% Cu at 29.55¢ net \$143.83 per ton after freight and treatment; at 10¢ zinc the zinc product nets \$37 per ton at Dragoon. On the basis of January mill feed and concentrate production the value per ton crude at Dragoon is \$3.40 for the zinc, \$10.66 for the copper or total \$14.06 per ton.

Several months ago Coronado obtained DMEA exploration loan which involved 6000 to 7000 feet of surface diamond drilling and a small amount of underground work, including diamond drilling. Most of this exploration has been completed and reportedly has developed a small tonnage of ore.

Coronado employs 145 men at Johnson Camp including office staff. Miners are paid \$1.55 per hour working a six-day week. Although the men have elected representation by Mine, Mill and Smelter union, no contract has been negotiated at yet and the union is not in a position at this time to press some of its demands. Roy W. Moore, formerly President and General Manager of Coronado Copper and Zinc Company, retired from active management January 1, 1954, and is succeeded by George D. Dub.

Our contract for copper concentrates will be up for renewal May 1, 1954, and I have arranged to meet Mr. Dub on his next trip to Arizona for the purpose of renewing the contract. Zinc concentrates are being shipped to Bartlesville and Coronado probably will ask me to quote on the zinc as well as the copper output.

15. Bonanza Mine, Duquesne. In December Carl Elayer Lessee at the Bonanza Mine, was obliged to reduce shipments because of termination of the orebody on a fault in the back of the stope on the north 135-foot level. Since that time long-hole drilling is being followed by diamond drilling, hoping to pick up the ore. Recently a winze sunk 50 feet below the stope sill floor encountered ore and shipment of 10% to 12% Cu will be resumed from this winze at a rate of 75 tons per week. Preparations are under way to unwater the Bonanza shaft to the 300 level with drifting to the north to encounter the ore shoot at that elevation. Production in 1953 about 4300 tons averaging around 12% Cu.

16. Newmont Mining Company, operating in the name of Tombstone Development Company, has reconditioned the West Side shaft at Tombstone to the 600 level where a station and water sump have been cut and pump installed. Work on the 600 level is progressing northeasterly, presently working around a caved stope. Upon completion of this work it will be necessary to clean up 800 to 1200 feet of old drifts before new exploration can begin. The objective is to explore the favorable horizons in the down-dropped block which was not previously developed. In conjunction with this, some long-hole diamond drilling is contemplated to explore for mineral possibilities in the limestone below the Cretaceous from which past production originated. This operation employs 20 men working three shifts per day.

17. Edaled Mining and Milling, leasing Empire-Toughnut ground from Tombstone Development Co., has not been successful in their operation to date. Ed Lindstrum, of Phoenix, who has been financing the operation, withdrew his support after shipment of two carloads of ore to El Paso. The two partners Al Bollman and Ed Dolphin are working at other jobs but expect to continue the leasing operation on their spare time.

18. Still Brothers have given up the Shannon Mine lease and taken a lease on the Great Western-Leadville group in the Turquoise District. They are not doing much mining at this time. Recent samples indicate ore with value around \$9.00 per ton after freight and smelting, which is not sufficient to justify shipment. I understand that Mr. Still is in Texas looking for financing.

19. Neil Vogel at the Gallagher-Vanadium property at Tombstone is maintaining his lease with minimum work of one man. The 150-foot shaft has been allowed to fill with water.

20. William Ward, Swisshelm Gold-Silver Mine. Mr. Ward has given up his lease on the Tejon Mine and is concentrating his efforts at the Swisshelm property. Shipments to El Paso during the past year, 1363 tons, carried high gold and silver values. The ore now available is low grade and Ward has reduced his working force to one man.

21. Scribner Mine. J.W. Pursley leasing the Scribner Mine in the Swisshelm District has not been successful in opening up additional tonnage of commercial ore and I understand is releasing the lease.

22. Duval Sulphur and Potash Co., in November 1953, took an option on the Coronado or Four Metals mine northeast of Nogales. Duval is interested in the property for possible disseminated copper deposit. Drilling has been contracted to Joy Manufacturing Co. I understand trouble has been experienced with the first two holes and drilling has been slow. Work is under the direction of G.C. Weaver, Geologist for Duval at Carlsbad, with Ben Messer, Earl Binkley and John McGraw on the job at Nogales.

cc: JDMacKenzie CPPollock
SHLevison FVRichard
RPreese, Jr. WRLandwehr
RLJourdan TASnedden
EMcLTittmann KRichard-2
REShinkoskey FMStephens

REED F. WELCH

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 21, 1954

K. R.

JAN 26 1954

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
YEAR 1953

Following is report on Hayden Plant receipts and fluxing situation for the year 1953

Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	21,816	July	19,584
February	16,837	August	25,467
March	5,979	September	20,209
April	16,019	October	21,781
May	17,465	November	18,672
June	15,831	December	19,539
First Half	93,946	Total Year	219,198

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>Total 12 Months</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>Jan.1, 1953</u>	<u>Jan.1, 1954</u>
Concentrates	183,319	191,546	11,171	2,944
Reverb Flux	21,530	50,686	37,694	8,590
Converter "	28,898	28,617	3,139	3,365
Total	233,747	270,849	52,004	14,899

Concentrates have been smelted at an average rate of approximately 16,000 tons monthly over the 12-month period.

Reverb Flux: Smelting of Christmas Mine stocks was completed in October with no limey ore remaining on hand at the close of 1953.

Converter Flux continues to come from the Ray Pit and Copper Butte Mine.

COMMENTS ON SHIPPERS

Copper Butte Mine in 1953 delivered 9045 tons averaging 2.66% Cu with around 60% SiO₂, 7% Fe, 13% Al₂O₃. Current production, about 1200 tons monthly, is coming from underground workings assaying 3% to 4% Cu.

H. M. Osborne, owner of the Mammon Mine near Parker, shipped 3 carloads in November-December with 4% Cu, 35% SiO₂, 36% Fe, 4% Al₂O₃. Because of the high iron content the ore is limited to 2 cars per month. Osborne is trying to open up another property near Parker for more profitable operation.

John L. Riggins has shipped about a car per month from his Yellow Jacket claim near Congress. This ore averages 0.67 oz Au, with 85% to 90% SiO₂.

C. D. Wilson is working on claims in the Twin Buttes area owned by the McGees, and may supply some siliceous ore for Hayden. A trial shipment--152 tons--in December assays 3.16% Cu with 67.5% SiO₂ 3.3% Fe, 12.1% Al₂O₃. Mr. Wilson hopes to have some tonnage of ore with higher silica he may be able to deliver to Hayden in 1954.

REED F. WELCH

cc:CPPollock JDMacKenzie
FVRichard RLJourdan
WRLandwehr EMcLTittmann
TASnedden FJDowney
KRichard
FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

October 29, 1953

K. R.
OCT 30 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION FIRST NINE MONTHS 1953
RECEIPTS EL PASO, AMARILLO & DEMING MILL

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

Lead Department

	<u>Tons Received-9 Months 1953</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	11,083	6,584	17,667
February	8,105	12,126	20,231
March	8,632	6,881	15,513
April	8,020	5,376	13,396
May	8,699	9,249	17,948
June	9,029	7,357	16,386
July	7,935	9,988	17,923
August	8,753	11,216	19,969
September	<u>7,373</u>	<u>6,246</u>	<u>13,619</u>
Total 9 months	77,629	75,023	152,652

Copper Department

January	11,335	2,954	14,289
February	13,070	3,083	16,153
March	14,324	3,099	17,423
April	17,551	4,013	21,564
May	20,083	2,815	22,898
June	20,886	2,934	23,820
July	19,114	3,172	22,286
August	25,851	2,176	28,027
September	<u>17,190</u>	<u>2,178</u>	<u>19,368</u>
Total 9 months	159,404	26,424	185,828

Fluxing Situation and Stocks
(From Semi-monthly Reports)

Lead Department

	<u>Total 9 Months</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-53</u>	<u>10-1-53</u>
Concentrates-Lead	79,110	89,575	13,681	4,943
" Iron	15,126	12,609	3,174	5,024
Residue	38,105	29,814	4,325	1,455
Dust	9,906	10,256	788	263
Siliceous ore	<u>25,173</u>	<u>13,299</u>	<u>116</u>	<u>11,777</u>
Total	167,420	155,553	22,084	23,462

Southwest Production
9 Months 1953

-2-

Lead Concentrates receipts increased in the third quarter, coming from foreign sources. Stock reduction during the first three quarters amounts to 8738 tons.

Pyrite use has been discontinued for an experimental period. If iron concentrates are not required for future smelting operations at El Paso Iron King Mine will treat the iron middling in the cyanide plant.

Siliceous lead ore stocks are sufficient to take care of fluxing requirements at this time.

Copper Department

	Total 9 Months		On Hand - Tons	
	Received	Smelted	1-1-53	10-1-53
Concentrates	61,963	61,575	1,842	1,180
Residue	22,344	21,199	4,406	5,549
Matte	22,989	22,771	395	836
Sulphide	10,239	7,449	286	3,044
Scrap	1,640	2,311	1,142	36
Reverb Flux	36,657	38,161	2,859	1,267
Converter "	43,092	38,056	32,718	35,829
Total	198,924	191,522	43,648	47,741

Reverb Flux smelting is keeping up with receipts which are coming principally from the Pima Mining District--Pima and Banner properties.

Converter flux receipts for the first three quarters were adequate to meet siliceous requirements. At the Stauber Mine developed ore has been exhausted and Drunzer is now exploring by drilling the possibilities for future production. The Atwood Mine, which has been the other reliable source of siliceous fluxing ore, is going through a critical period and continued operation may not be justified.

ZINC CONCENTRATES - Southwest Producers

Summary Monthly Receipts Amarillo & Corpus Christi

	Tons Concts.		Tons Concts.
January	7,284	July	4,159
February	5,619	August	3,352
March	5,477	September	4,196
April	3,997		
May	3,684	Total 9 Mos.	40,958
June	3,190		
Total 1st Half	10,871		
Receipts 9 Months	Asarco Deming-Trench	18,797	
	Southwest custom	22,161	
	Total	40,958	

DEMING MILL

Summary of Receipts 9 Months 1953

	<u>Tons Received</u>
Asarco-Ground Hog Unit	18,684
Empire Zinc Co.-Lynchburg Mine	8,599
Other Custom Ore-Domestic	<u>13,647</u>
Total 9 months	40,930

Receipts at Asarco Mill during the third quarter came from the Old Dick Mine at Bagdad with a few carloads from the Royal John and Waldo mines. Early in September the Old Dick stopped shipment of zinc-copper ore to Deming and resumed milling operation at the Hillside mill. With no ore supply Deming suspended milling operations the first of October.

COMMENTS ON SHIPPERS

Cochise County

American Zinc Lead and Smelting Company suspended shipment of oxidized lead-zinc ore from the Hilltop Mine at the end of August -- 2875 tons received at El Paso in 1953 show average assays: Ag 2.8 oz, Pb 13%, Zn 13%. There was some discussion in September of treating Hilltop sulphide ore at Deming mill but American Zinc decided not to ship this ore on present low prices. Queen Mining Company, leasing upper workings of the Hilltop Mine will continue shipments to El Paso--411 tons from this operation average: Ag 1.5 oz, Pb 14.5%, Zn 6.5%.

Coronado Copper & Zinc Co. Copper production at Johnson Camp for 9 months of 1953 totals 4753 tons-average assays: Ag 3.5 oz, Cu 29.5% It is expected that this operation will continue as long as the copper price holds at present level.

Giacoma Brothers at the Defiance Group, Turquoise District, throughout the first 9 months of 1953 shipped one to two carloads monthly--total 761 tons with average assays: Au .03 oz, Ag 6.7 oz, Pb 19.7%. The ore has been decreasing in lead content with some increase in silver value. On this lower grade ore it has been necessary to help Giacoma with some adjustment in treatment rate.

Manhattan Cons. Mines Development Co. The Scribner Mine lease has been turned over to J.W. Pursley who has been operating the mine for Manhattan. The ore will continue to be shipped in the name of Manhattan Cons. Mines Development. No shipments were made in August and September but have resumed in October.

William Ward, leasing the Swisshelm Gold-Silver property adjoining the Scribner Mine, in 8 months of operation in 1953 delivered to El Paso 1039 tons with average grade: Au .96 oz., Ag 34 oz, Pb 7.6%.

Southwest Production
9 Months 1953

-4-

Mohave County

Allison Steel Manufacturing Co. took over operation of the Copper World Mine in April 1953 under an option agreement with Mountain States Metals Company, and in 6 months of operation produced:

	Tons	Ag	Cu	Zn
Copper Conct	418	4.3	24.5	10.4
Zinc "	301	1.5	3.7	42.2

With present low metal prices Allison is not warranted in accepting the purchase option which carries the obligation to assume indebtedness of former operators. The Copper World property therefore has been turned back to Mountain States Metals and there will be no further production under present conditions.

Pima County-Pima District

Banner Mining Company in 6 months of production at the Copper Queen Mine at Twin Buttes has delivered to El Paso 3396 tons of 5% Cu ore. Banner is sinking an exploration shaft on the east side of Mineral Hill-Plumed Knight group about 800 feet west of Pima Mining Company property. Ore from this shaft is mixed with oxide and is not suitable for treatment in the new mill now under construction with D.M.P.A. funds. In the event the government will release this ore for shipment to the smelter Banner may want to ship to El Paso. Ore from this exploration shaft--about 230 tons to date--assays 5% Cu. Several thousand tons of smelting ore are already indicated in this shaft and by diamond drilling.

Pima Mining Company. Five months production in 1953 totals 16,196 tons, 6.1% average copper assay. No shipments were made during shaft sinking operations earlier this year. Current production comes from stoping on the 300, 400 and 500 levels with about 50% coming from drift headings. Pima Mine owners have announced their intention to sell the property. In the past few weeks our Mining Department and others have been investigating the mine.

Yavapai County

Bagdad Copper Corp. has not been successful in obtaining a government floor price on copper. Contract renewal for purchase of concentrates at El Paso is still waiting approval of Bagdad board of directors and current production is handled under extension of the old contract. Bagdad is now milling ore in excess of 1% Cu coming from the northeast corner of the pit floor, producing 46% Cu concentrates. Receipts at El Paso for 9 months of 1953-- 21,032 tons, average grade: 36.8% Cu, 1.7 oz Ag.

Manhattan Cons. Mines Development Co. In 1953 the Old Dick Mine delivered to Deming Mill 10,639 tons averaging 24.5% Zn, 4% Cu before shipment of milling ore was discontinued about the middle of September. Ore from the 300 level north assaying 3% Cu, 12% to 15% Zn is now being milled at Hillside with satisfactory results. Treatment of higher grade heads in the Hillside mill resulted in excessive mill losses.

Ore from Old Dick Mine carrying high copper and low zinc has been shipped to El Paso --700 tons assaying 7% Cu, 11% Zn. Concentrates produced to date at Hillside:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>	<u>Fe</u>
Cu Conct	75	2.1	19.4	?	
Zn "	155	.5	3.0	38	14

Most of this tonnage results from the unsatisfactory early test run. Hillside mill is currently producing better grade concentrates from lower grade mill feed.

Shattuck Denn-Iron King Mine: Production for 9 months of 1953 --

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct.	11,757	.835	30.0	25.4	.98	9.3
Pyrite "	14,648	.175	2.6	1.1	.10	6.0
Zinc "	15,002	.093	6.5	2.1	.40	50.0

With drop in metal prices the Iron King operation has been on curtailed basis with reduction in expenditures wherever possible. Through this careful management the mine has not lost money in any month to date. Reduction in freight rate on lead concentrates recently published by the railroad on application by Mr. Mills will result in saving to the operation of around \$40,000 annually.

Arizona-Miscellaneous

B.S. & K. Mining Co. is reported to have developed considerable tonnage of 30% zinc ore in the Atlas Mine, Silver Bell District. Milling will continue on curtailed basis during low zinc market. Production for 9 months of 1953:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	1869	.7	1.5	57.0
Copper "	108	4.0	28.5	7.0

Elayer and Co. The Bonanza Mine at Duquesne, leased from Nash Mines, continues to ship high grade copper from the new orebody discovered with DMEA matching funds. Receipts at El Paso May through September 1953 -- 2943 tons averaging: 10.5% Cu, 3.6 oz Ag. The stope has now been square set and production at a rate of about 1000 tons monthly is expected for the balance of the year.

Sunnyside Mine, Harshaw District. Earl Strong relinquished his interest in the Sunnyside operation early in August after shipment to El Paso of 984 tons assaying 8% Cu. It is reported the Sunnyside and adjoining Three R properties have been taken over by a subsidiary of Ventures, Ltd. A 750 foot crosscut and drift is being run to open up the Sunnyside orebody. With the exception of a few carloads of ore shipped to Miami by Lee Farrell there has been no production from the Sunnyside Mine since Strong & Harris stopped shipment.

New Mexico, Miscellaneous

Banner Mining Company, Lordsburg. Concentrates produced from the Miser's Chest Mine January through September 1953: 4954 tons with average assays -- Au .056 oz, Ag 9.0 oz., Cu 26%.

Quentin Drunzer: Receipts in September--421 tons assaying 3.33% Cu-- came from underground workings of the Stauber mine. This was shipped during Drunzer's exploration by drilling for additional tonnage from the pit area of the Stauber and Pintada properties. Drunzer reports unsatisfactory results from drilling on the Pintada but is continuing his exploration at the Stauber in the hope of developing more tonnage to meet El Paso's fluxing requirements. Receipts from the Stauber Mine for 9 months of 1953 total 27,790 tons with around 2% Cu 70% to 80% SiO₂.

Ira L. Moseley is currently mining low grade ore from the stope on the 500 level west of the Atwood Mine. He has requested loan from the smelter to rehabilitate the Henry Clay shaft. From the grade of ore produced so far from the new stope it does not appear that continued operation is warranted. Production in 1953 to date: 12,826 tons with average assays -- .05 oz Au, 2 ozs Ag, 1.4% Cu, 70% SiO₂, 3.5% Fe, 10.9% Al₂O₃.

REED F. WELCH

cc: JMacKenzie CPPollock
RPreese, Jr. FVRichard
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REShinkoskey FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona K P

October 19, 1953

OCT 24 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
SEPTEMBER-OCTOBER 1953

1. Bagdad Copper Corporation is extending the northeast corner of the pit 400 feet easterly. This section is immediately under the waste dump crossing the canyon above the pit. The bank is now standing at a 70° angle. When finished this end of the pit will have 9 benches, 5 in waste and 4 in ore. This allows for deepening the pit two more levels east of the fault/cutting through the pit. At this point the fault drops the ore about 100 feet to the north. Ore below the present bottom level assays .8% and .7% Cu respectively on succeeding benches. The present bottom of the pit in this area assays in excess of 1% Cu which accounts for the high grade concentrates presently produced. The average of receipts at El Paso for the past month is 45% Cu. The mill is handling 3500 to 3800 tons of ore per day.

Stripping is progressing westerly and northerly. In this area the ratio is about 4.5 waste to one of ore. At present there is no mining in the block cave area, and inasmuch as the northeast corner of the pit cannot be extended easterly until stripping is completed, the north side will be the source of ore for the next few months. Mr. Dickie reports there are now 13 million tons of oxidized ore dumps available for leaching. He estimates there will be 50 million tons of leaching ore containing 7 pounds available copper per ton.

The Euclid 50-ton and Dart 75-ton trucks were in the shop for repairs at the time of my last visit. The mine has 10 new Dart 30-ton trucks owned by Prescott Tractor Sales Company. This firm, I am advised, is owned by D.L. Webb, a director of Bagdad Copper, E.R. Dickie and others.

Mr. Dickie has been unsuccessful in getting a revision in floor-price contract with DMPA to accommodate a different type of expansion than provided in earlier negotiations. The management now holds no hope of a floor price being available. Contract for purchase of concentrates at El Paso for the next three years was left with Mr. Dickie with the understanding that he would within the next ten days obtain authorization from his directors for signature.

2. Manhattan Consolidated Mines Development Co., Old Dick Mine. Early in October Dr. Edwin Larson and L.E. Weisenburg, owners of the Old Dick Mine, gave an option to Golden Crown Mining Company. In my memorandum of October 6th I reported purchase price \$1,500,000. I now learn the price is \$1,750,000, cash payment \$5,000 with 10,000 shares of Golden Crown stock for the option which runs until December 15th. If the option is exercised, cash payment will be \$350,000 with 15% royalty applying on minimum monthly payments of \$5,000 spread over a period of 10 years, balance of purchase price due in 10 years.

The Old Dick Mine is producing 85 tons of ore per day assaying 3% Cu and 12% to 15% Zn, concentrated at Hillside Mill operated by Old Dick management. By keeping the heads down it has been discovered that the mill operates more efficiently. Milling of high grade ore results in increased losses making the operation unprofitable. Current production is coming from a small stope on the north 300 level, which will be augmented by a raise from the north 400 to the 300 level. There are 10 men working underground with three on the afternoon shift sinking the shaft to sufficient depth for an ore pocket on the 400 level. The bottom of the shaft is in ore, considered to be the main orebody dipping westerly into the shaft.

3. Coronado Copper and Zinc Co., Bagdad Area Exploration.
Copper Queen Mine: One diamond drill is working at the Copper Queen to intersect the vein 1,000 feet below surface. Exploration in the tunnel has produced 2500 tons of ore now on the dump. Coronado is raising from tunnel level to the surface about 1,000 feet from the tunnel portal. I understand Coronado has made a payment of \$2,000 on the Copper Queen and is working on an extension of option agreement. Most attention in the area has been on this property, where considerable tonnage of zinc-copper ore has been developed. I am advised the tonnage in the Copper Queen Mine alone is not sufficient to justify construction of a reduction plant.

Copper King Mine. Coronado has put down five diamond drill holes at the Copper King. Two drills are still on the property, one south and one west of the shaft. The latter will intercept the vein at the 700 level. So far drilling from the surface at the Copper King has not been encouraging. No diamond drilling has been done underground.

Red Cloud claim option was taken by Coronado with great expectation. However, five diamond drill holes intersecting the vein at 200 and 300 feet proved disappointing. Where intersected by the drill the vein showed mineralization 5 to 15 feet thick assaying 3 to 5% Zn and 0.5% Cu. The orebody is believed to be lenticular because the vein intercepts were not in a projected position and there were no visible cross faults. Apparently the option on the Red Cloud property has been dropped.

4. Riviera Mines Company-Christmas Mine is operated by W.L. Allison of Allison Steel Manufacturing Company. Contract has been completed with DMPA for sale of 1500 tons of copper to General Services at 32 cents per pound. The government contract calls for production of 600,000 pounds in 1953 and 1,200,000 pounds each in 1954 and 1955. Production in excess of the government commitment will be purchased by Asarco at Market price as provided in our purchase agreement with Riviera Mines.

The reconditioned mill has been operating since October 6th producing 14 to 18 tons per day of 28% Cu concentrates for shipment to El Paso Plant. Fred Johnson, formerly employed in the Southeast, will take over management at Christmas Mine November 1st

5. Allison Steel Manufacturing Company. The Copper World Mine at Yucca has been operated by Allison for the past several months under an option agreement which provides that Allison will assume the obligations incurred by past operators if he elects to purchase the mine. Allison has attempted to justify this provision but inasmuch as low metal prices do not indicate successful operation at the Copper World the property has been dropped and has reverted to Mountain States Metals Company.

6. Shattuck Dena Mining Corp., Iron King Mine. The drop in metal prices has necessitated cut back and curtailment at Iron King. On 10-cent zinc price the mine operates on a margin of 1.75¢ per pound zinc. I am advised the mine has not lost money in any month to date.

No. 7 shaft expenditure has been reduced to \$6,000 per month. Work at this shaft is now on one shift basis. Mine production has been cut from 14,000 to 12,000 tons per month which will produce 1200 tons of zinc and 1000 tons of lead concentrates monthly. In the event El Paso does not need pyrite Mr. Mills tells me he will treat iron concentrates in the cyanide plant.

Our contract for Iron King output is up for renewal January 1st of next year. This subject has been discussed with Messrs. Bardon and Mills. Mr. Bardon told me the contract renewal should be negotiated with Mr. Mills. I pointed out to Mr. Bardon when I met him in Phoenix recently and to Mr. Mills on my last visit to Humboldt that there would be no reduction in smelting charge for Iron King production. The Iron King management has asked for three-year renewal on present terms with the exception that Mr. Mills does not want the smelter to have the privilege of adjusting wages on a retroactive basis.

7. Bonanza Mine, Duquesne. Carl Elayer, Lessee at the Bonanza Mine, has been square setting the stope made during the past few months of operation. During this work production was reduced with shipments in September only 447 tons, about half that of the previous month. Now that timbering has caught up to the stope it is expected that production will be about 1200 tons monthly ore in excess 12% Cu.

8. Sunnyside Mine, Harshaw District. For the past four or five months negotiations have been under way to interest Ventures, Ltd., in the Sunnyside Group of claims southwest of Patagonia. The property has been visited by D. M. Stranahan of Ventures and I am advised that the mine will be operated in the name of Quebec Metallurgical Industries, apparently a subsidiary of Ventures, Ltd. Elton Clark, formerly Mine Superintendent for United States Smelting at Bayard, recently moved equipment to the Sunnyside Group. Development planned consists of a 750 foot crosscut and drift into the side of the hill to intersect the ore zone 200 to 300 feet below the shaft. It is rumored that Quebec Metallurgical Industries has taken an option on the Three-R property adjoining Sunnyside group.

9. Pima Mine, Pima District. It was announced about two months ago that Pima Mine was to be sold, at which time our company was invited to make an examination for evaluation purposes. Following examination by our Mining Department Eagle Picher and Anaconda made detailed investigations of the Pima Mine. Pima Mining Company employed Dr. Eldred Wilson to make a geological study of their property, while Ira L. Joralemon was employed for the purpose of placing a sale value on the mine. The mine has recently been examined by Eugene Munroe and D.C. Gilbert for James P. Nash, and early in November Newmont Mining Company is scheduled for an examination.

10. Banner Mining Company: Keeping in touch with Banner Mining Co. while the various examinations have been under way on Pima Mine, I am advised that Anaconda approached Banner for some equitable basis under which Banner and Pima properties might be operated as a unit. In the course of Mr. Gilbert's investigation of the Pima property Ernest Bowman discussed with him the idea of consolidation of the two properties for one operation. This possibility is seriously being considered by Gilbert's principal. Banner Mining Company owners feel so strongly about the need for consolidation that one of the principal stockholders requested the privilege of making an examination of Pima Mine representing outside interests other than Banner Mining Company. This request was denied by Pima management. Construction by Banner of a 400-ton mill on the Mineral Hill property is further justification for consolidation to avoid expenditure for another mill in the district.

A few months ago Banner was prepared to sink a shaft on the east side of Mineral Hill group to explore the Pima ore zone in the Banner ground. As stated in my last field report the diamond drill at the new shaft site encountered ore and an exploration shaft is being sunk to the 200 level before selecting a location for the new main shaft. Diamond drilling 150 feet south of the exploration shaft passed through 100 feet of ore, 20-foot sections assaying 8 to 10% Cu. While the headframe is being erected over the exploration shaft No. 1 diamond drill hole just north of the shaft is being deepened. As previously reported this hole penetrated ore values from 35 to 100 feet, has cut ore at about 500 feet and again encountered 10 feet of black sulphide at 700 feet (assay not yet available).

Banner Mining Co., Con't

Production from the Mineral Hill Group is under contract with DMPA for concentrating in the new mill. The ore encountered on the east side is mixed with oxide and carbonate and Banner has requested the privilege of selling this ore to a smelter.

Banner continues to ship about three cars per week of 4.5% to 6% Cu from the Copper Queen Mine in the Twin Buttes area. It may be expedient for Banner to concentrate exploration efforts in the Mineral Hill area and postpone work at Twin Buttes for a later date.

11. D.G. Chilson Claims. With the stimulation of interest in the Pima District D.G. Chilson, a long time resident of the area, has been busy locating claims adjacent to Pima Mine. He reported to my office some weeks ago his intention of taking up these claims and I am advised he is currently locating north and east of the Pima Mining Company property. So far I understand he has in excess of 20 claims in this area which have not yet been recorded. Earlier in the year Mr. Chilson located about 14 claims farther south in the Twin Buttes area in addition to claims previously held by him.

REED F. WELCH

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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

October 19, 1953

K. R

OCT 24 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
FIRST NINE MONTHS 1953

Following is report on Hayden Plant receipts and fluxing situation for the first nine months of 1953.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	21,816	July	19,584
February	16,837	August	25,467
March	5,979	September	<u>20,209</u>
April	16,019		
May	17,465	Total 9 Months	159,206
June	<u>15,831</u>		
First Half	93,946		

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>Total 9 Months</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>Jan. 1, 1953</u>	<u>Oct. 1, 1953</u>
Concentrates	135,990	138,934	11,171	8,227
Reverb Flux	11,152	39,009	37,694	9,889
Converter "	<u>20,723</u>	<u>19,495</u>	<u>3,139</u>	<u>4,312</u>
Total	167,865	197,438	52,004	22,428

Concentrates have been smelted at an average of approximately 15,500 tons monthly for the first 9 months.

Reverb Flux. Christmas mine stock has been reduced to 713 tons from 27,568 tons on hand at the first of the year.

Converter Flux is coming from Ray, supplemented by occasional shipments of gold siliceous ore.

COMMENTS ON SHIPPERS

Copper Butte Mine is shipping about one car per day carrying 2.5% Cu, 60% SiO₂, 7% Fe, 13% Al₂O₃ -- 5396 tons delivered in nine months.

HAYDEN PLANT
9 Months 1953

-2-

Gordon R. French operating the Monitor Mine near Ray has been shipping to the smelter at Miami. Trial shipment to Hayden from one section of the mine--226 tons--showed low metal value and high alumina content. Another section of the Monitor property showing better metal values and lower alumina may supply some tonnage for Hayden.

John L. Riggins has shipped 311 tons of gold siliceous ore from his Yellow Jacket claims near Congress. This is desirable silica but only occasional shipments may be expected from this shipper.

REED F. WELCH

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1st Half 1953

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 29, 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION FIRST HALF 1953
RECEIPTS EL PASO, AMARILLO & DEMING MILL

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

Lead Department

	Tons Received-1st Half		
	Domestic	Foreign	Total
January	11,083	6,584	17,667
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June	9,029	7,357	16,386
Total first Half	53,568	47,573	101,141

Copper Department

January	11,335	2,954	14,289
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March	14,324	3,099	17,423
April	17,551	4,013	21,564
May	20,083	2,815	22,898
June	20,886	2,934	23,820
Total first Half	97,249	18,898	116,147

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

Lead Department

	First Half		On Hand - Tons	
	Received	Smelted	1-1-53	7-1-53
Concentrates-Lead	48,685	59,920	13,681	4,072
" -Pyrite	9,634	8,495	3,174	3,615
Residue	25,460	18,267	4,325	5,322
Dust	6,499	6,801	788	554
Siliceous Ore	19,426	10,117	116	8,964
Total	109,704	103,600	22,084	22,527

Lead Concentrates: Reduced intake during the second quarter results in 9700 tons decrease in stocks since January 1st.

Pyrite Concentrates from Iron King Mine are smelted as received at El Paso Plant with little build up in stocks over the first half.

Siliceous lead ore stocks have been built up since the first of the year with tonnage diverted from Chihuahua.

K. R.

AUG 6 - 1953

Southwest Production
First Half 1953

Copper Department

	<u>First Half</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-53</u>	<u>7-1-53</u>
Concentrates	39,711	39,067	1,842	1,929
Residue	17,312	14,229	4,406	7,407
Matte	13,615	13,810	395	379
Sulphide	5,765	4,446	286	1,757
Scrap	1,177	1,624	1,142	72
Reverb Flux	19,893	20,994	2,859	1,427
Converter "	27,099	27,258	32,718	31,308
Total	124,572	121,428	43,648	44,279

Reverb Flux has been smelted as received with decrease in stocks on hand at the first of the year. During this first half Pima Mining Company suspended production for 3½ months for shaft sinking; Shipments were resumed early in May at a rate of about two cars daily.

Converter Flux: The Stauber and Atwood mines are supplying El Paso Plant's requirements for siliceous fluxing ore, with stocks remaining fairly constant over the first half year.

ZINC CONCENTRATES--Southwest Producers

Summary Monthly Receipts Amarillo & Corpus Christi

	<u>Tons Concts.</u>		<u>Tons Concts.</u>
January	7,284	April	3,997
February	5,619	May	3,684
March	5,477	June	3,190
First Quarter	18,380	Second Qtr	10,871
First Half	Asarco-Deming & Trench	14,509	
	Southwest Custom	14,742	
	Total	29,251	

Reduced intake from the Southwest in the second quarter of 1953-- 7509 tons--results in large part from shut down at Ground Hog Mine.

DEMING MILL

Summary of Receipts First Half 1953

	<u>Tons Received</u>
Asarco-Ground Hog Unit	18,689
Empire Zinc Co.-Lynchburg Mine	8,604
Other Custom Ore-Domestic	9,577
Total first half	36,870

Ore intake in the second quarter has come principally from the Old Dick Mine since the Lynchburg Mine was shut down early in April. Shipments from the Old Dick Mine are expected to continue at a rate of 1200 tons monthly for the next two or three months.

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 31, 1953

K. R.
SEP 2 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
JULY-AUGUST 1953

1. Allison Steel Manufacturing Co., Copper World Mine. Allison is continuing mining and milling at the Copper World property under his option privilege from Mountain States Metals Co. The option period has been extended twice and decision now awaits improvement in the mill heads. At present the mill feed assays 3.5% Cu, 8 to 10% Zn. Before Allison will commit himself on purchase of the mine he wants proof that George Freeman can raise the heads to minimum 4% Cu, which Freeman claims is possible. To date Allison has invested in excess of \$65,000 at the Copper World property, \$35,000 in machinery which can be removed in the event he does not exercise the option.
2. Riviera Mines Co. Allison Steel Manufacturing Co. has taken over The Christmas Mine from the Knight brothers and is operating under the name Riviera Mines Company. The air shaft has been repaired and a blower installed to improve ventilation in the mine. The mill has been reconditioned and now has capacity of 200 tons daily. Plans are being made for enlargement to 300 tons capacity. The mine is responding to development and new work has stocked on the surface ready for milling about 2000 tons of ore assaying 4% to 7% Cu. The mill is expected to be in operation early in September and it is anticipated that concentrate shipments will begin by September 10th. To protect Riviera Mines on the mill investment DMPA has contracted to take 1500 tons of copper at 32 cents per pound, the government contract to be fulfilled by the end of 1955. A three year contract to purchase the concentrates for El Paso and return copper to DMPA was signed by Mr. Allison on August 26th. A special freight rate of \$5.18, including increases to date, will become effective September 13th for copper concentrates from Christmas to El Paso.
3. Golden Crown Mining Co. has sunk a 200-foot shaft and done considerable diamond drilling from the 200 level of the Golden Crown claims on the north end projection of the Iron King vein. At the present time work is on a standby basis, maintaining pumping at 30 g.p.m. The water is seeping through alluvium and comes in on the contact with bedrock at the 200 level. So far diamond drilling has not encountered ore, although some pyrite has been cut in the vein structure. I am advised that Golden Crown has spent \$220,000 on the shaft and diamond drilling. Negotiations are under way with Ralph C. Brown, President of Golden Crown, and Iron King to explore the Golden Crown claims from the 1100 level of the Iron King Mine. Mr. Brown has proposed that Iron King assist in this exploration by meeting half the expense. However, inasmuch as Mr. Mills feels the Iron King orebody is delimited to the north, it appears Golden Crown Mining Co. will be obliged to put up the entire expenditure for this exploration.

Golden Crown Mining Co., con't

Golden Crown Mining Co. has a lease and option on the Stoddard Mine near Mayer where five men are employed in development work in an attempt to open up another high grade orebody similar to past production--30% Cu according to reports. Arthur Still is in charge of this work and plans to ship a few hundred tons of siliceous copper ore to Hayden coming from extraction of available pillars in the older workings. Mr. Still says this ore will carry about 75% SiO₂, 3% Cu.

At Leeds, Utah, Golden Crown Mining Co. holds the old Silver Reef Mine and adjacent claims. On the adjacent ground uranium ore carrying up to 25 ounces silver per ton has been discovered. In conjunction with A.E.C. an exploration project is under way to develop sufficient tonnage to justify a mill for recovery of both silver and uranium.

4. Shattuck Denn's Iron King Mine is producing 17,000 tons of ore per month--approximately 3,000 tons under production one year ago. Work is still progressing on No. 4 shaft, which when put into operation will save the mining company about \$35,000 per year. The mine is working on a 5-day per week basis but may be required to work 6 days to keep labor satisfied. A freight reduction has recently been requested by Mr. Mills to equalize the rate from Humboldt with the Hillside rate for Bagdad concentrates. Mr. Mills has been advised within the past few days that the reduced rate from Humboldt will be published in the near future, which he estimates will result in freight saving of approximately \$40,000 per year.

5. Sunnyside Mine. In the Harshaw District the Sunnyside Group has recently been opened up by Lee Farrell with shipments to El Paso Plant in the name Strong and Harris, Inc. A short time ago Earl Strong sold his interest to Lee Farrell and Wingfield, leaving the property controlled 50% by Farrel and Wingfield and 50% by George Snyder of Salt Lake City. During the past three months production delivered to El Paso totals 887 tons averaging 8% Cu. The new ownership contemplates developing the mine from a tunnel instead of the shaft which will involve 400 feet of crosscutting and 500 feet of drifting along the vein. Recent news releases indicate large tonnage of ore developed in this area with high assays reported. Talking with Mr. Farrell and the news releases suggest that a promotion is under way.

6. Bonanza Mine. At Duquesne Carl Elayer, leasing the Bonanza Mine from Nash Mines, has shipped approximately 2,000 tons to El Paso since May 1953 with average assay around 12% Cu. This copper orebody in the Bonanza Mine was opened with assistance of DMEA funds, the total project amounting to \$34,000. This has been certified by DMEA as Discovery No. 2 in the State of Arizona. Ore in sight indicates shipments will continue at the present rate and grade for the balance of the year.

7. Pima Mining Company expects to drill from the 600 level to lower level intercepts on the vein. Shipments to El Paso Plant continue at the rate of 3 cars per day coming from accumulated stockpile on the dump, from stope on the 400 level and from development headings. Our Mining Department has completed examination of the Pima Mine and evaluation of the mine for tonnage and grade is in progress. Eagle Picher is now examining the Pima Mine and their chief geologist Joseph Lyden from Joplin is here. As soon as Eagle Picher completes its examination Anaconda will look at the mine.

8. Banner Mining Company in the Pima District is progressing rapidly with construction of a 400-ton mill. It is expected the mill will be ready for operation early in the second quarter of 1954. In preparation for sinking a three-compartment shaft on the east side of the Mineral Hill ground (Plumed Knight group) diamond drilling was used at a proposed shaft site. The drill penetrated about 35 feet of limestone and 65 feet of 4% copper ore, and Banner must now select a new shaft site. This discovery was at the location of an electromagnetic geophysical anomaly which did not show up with magnetometer survey. Banner has purchased from St. Anthony Mining and Development Co. the 60-foot steel headframe and bin at Tiger.

In the Twin Buttes area Banner has reconditioned the Copper Queen shaft which will eliminate the long tram necessary to transport Copper Queen ore through the Glance Mine shaft. Ore from development of the Copper Queen orebody, assaying 4 to 5% Cu, is shipped to El Paso Plant at the rate of about three cars per week. The Copper Queen is being developed with DMEA assistance--project total \$126,789-- certified by DMEA as Discovery No. 1 in Arizona. Upon completion of the Banner Mill on the Mineral Hill property Copper Queen ore will be trucked 10 miles to the mill for concentrating.

9. Quentin Drunzer is still shipping siliceous flux to El Paso from the Stauber Mine near Pastura, New Mexico. During a visit with him at the mine he outlined proposed exploration where he thought it possible to obtain 8,000 to 10,000 tons of additional fluxing ore. In the urgency for development of more ore it was decided to explore westerly in the ore zone by bulldozer pit followed by drilling from the bottom of the pit. It is possible that exploration work now being carried out will develop additional tonnage for El Paso's fluxing needs.

At the same time Drunzer is preparing the Pintada claims for production. Considerable road work is necessary, as the Pintada claims are located about 8 miles from Guadalupe railroad siding. It is hoped that exploration at the Stauber and the Pintada claims will supply considerable tonnage of fluxing ore in the immediate future.

10. Santa Fe Copper Co., composed of a group of Los Angeles interests, has made shaft improvements on the Evelyn Gold-Copper Mine, about 5 miles south of Santa Fe, New Mexico. On the 50-foot level a secondary ore zone several feet wide has been exposed which may justify shipping to El Paso. The fact that the ore is in monzonite indicates it will carry considerable alumina.

11. Verne Byrne at the Pennsylvania Mine has been delivering an occasional truckload of lead-zinc milling ore to Deming. This ore comes from exploration financed by DMEA funds--total project \$24,783. Half of the expense is met by Byrne through returns on ore shipments. The exploration project includes 798 feet of drifting on the 250 level with 400 feet of crosscutting. Just prior to my visit the miners had quit and Mr. Byrne is in search of a new crew.

12. Ira Moseley, lessee of the Atwood Mine, has connected the Atwood 500 level with the Henry Clay 400 level workings. He has prepared to stope 185 feet on the 500 level adjacent to the Henry Clay shaft. The grade of the ore is improving with the raises into the stope area. The Henry Clay shaft is caved in part and prevents air circulation, causing bad air in the mine. For this reason and to open up certain ore reserves identified by the Bureau of Mines work in 1942 Moseley and his backers have requested a loan from the Smelting Company to retimber the Henry Clay shaft. This request for assistance has been reviewed in this office. Because of the limited tonnage and low grade of assured ore it has been recommended that the loan be turned down.

13. Shattuck Denn-Fluorspar. At Albuquerque I visited with Mr. Thomas Bardon, President of Shattuck Denn Mining Corporation, where he was concluding arrangements to shut down the fluorspar mine and mill at Los Lunas. Mr. Bardon is disturbed because Asarco's fluorspar production has taken his market for concentrates. He asked me to advise our Mining Department that Shattuck Denn's mine and mill at Los Lunas is for sale. The Los Lunas mill will handle 2,000 to 3,000 tons of crude ore per month.

REED F. WELCH

cc: JDMackenzie	CPPollock
RPreese, Jr.	FVRichard
RLJourdan	WRLandwehr
EMcLTittmann	TASnedden
REShinkoskey	KRichard-2
	FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 21, 1953

K. R.
AUG 6 - 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

EXPLORATION FOR ZINC IN ARIZONA

New Jersey Zinc-Shattuck Denn

Silver Belt Mine: In my field trip report for October 1950 I referred to examination and diamond drilling at the Silver Belt Mine, not far from Iron King, being done by Shattuck Denn Mining Corporation and New Jersey Zinc Company. This exploration proved a disappointment and the property was abandoned. Since that time, however, New Jersey Zinc has maintained an exploration program in the Prescott area and search for mines continues.

Kay Copper Mine: In the fall of 1950 Shattuck Denn took an option on the Kay Copper property in Black Canyon District for the purpose of check sampling with the idea of making a copper producer. Diamond drilling into the footwall encountered showings of zinc which had not been penetrated by the Kay workings except for a crosscut on the 300 foot level. When the zinc was discovered New Jersey Zinc joined Shattuck Denn in completing work to thoroughly explore the Kay Copper Mine. The zinc company entered Kay Copper exploration on a 50-50 basis against Iron King management's recommendation inasmuch as the mine did not look encouraging. However, as long as there was an indication of zinc showing New Jersey was willing to gamble an amount equal to that already spent by Shattuck Denn in exploring Kay Copper property. The project was not successful and both Shattuck Denn and New Jersey Zinc pulled out of the Kay Copper mine in the Spring of 1951.

Humboldt Area Claims: Following exploration of the Kay Copper and Silver Belt properties geological study continued in the area south of Humboldt and New Jersey Zinc and Shattuck Denn took up a large block of claims. This ground was thoroughly explored by geophysical prospecting and finally by geochemical methods. Although some of the claims in the Humboldt area are still held, it is my understanding that work so far does not justify further exploration.

Coronado Copper and Zinc Co.

In the Eureka Mining District Coronado Copper and Zinc Company is carrying on intensive diamond drilling following geological work on the Copper King, Copper Queen and Red Cloud claims and on contiguous ground located by Coronado. Some time ago Coronado attempted to obtain a working agreement with the owners of the Old Dick Mine with the idea of a large zinc-producing operation in the Bagdad area. Such combination has not yet been effected because of inability to negotiate with Old Dick Mine owners, Coronado's drilling program in the area continues.

July 21, 1953

Verde Exploration, Ltd. (Newmont Mining-New Jersey Zinc)

In the latter part of 1946 Verde Exploration, Ltd. was incorporated for the purpose of consolidating certain mining properties in the Jerome area and doing geophysical exploration, capitalized for \$1,000,000 with one million shares. The original offering of 405,000 shares was subscribed to by various stockholders including Newmont Mining Corp., Walter Seligman, William T. Golden, Lehman Brothers, Homestake Mining Co., Laurentian Mines, Ltd., and Arthur Notman. Little had been done other than preliminary surveying and consolidation of holdings until May 1953 when it was announced to stockholders of Verde Exploration that New Jersey Zinc Company had entered into a contract to perform certain exploration obligations up to \$50,000. Upon completion of this work New Jersey Zinc may elect to withdraw or continue with exploration up to an expenditure of \$1,000,000, in which event Verde Exploration would hold 49% interest and New Jersey Zinc 51%. Money spent thereafter on exploration or preparatory for production would be proportionately divided between stockholding interests. The United Verde Extension Mine is the principal holding for zinc exploration. I am advised that diamond drilling is, or soon will be, in progress to develop the zinc showings in the old UVX Mine.

Newmont Exploration Co. (Tombstone Area)

In addition to Newmont's interest with Verde Exploration at Jerome, this company has recently taken over the Tombstone District and has become active in the Southwest. Newmont's exploration at Tombstone is reported briefly in my field report for June 1953.

Southwest Zinc Production

Shattuck Denn at Iron King Mine on curtailment is shipping in excess of 1500 tons per month of zinc concentrates. With completion of the expansion program Iron King will be in a position to produce 2200 tons of zinc per month. Coronado Copper and Zinc Co. at Johnson Camp produces approximately 1,000 tons monthly of zinc concentrates. Coronado's interest in developing additional zinc in the Bagdad area verifies rumors that they are hoping a nearby outlet for zinc tonnage will be available.

With the relationship existing between New Jersey Zinc and Shattuck Denn and with Newmont in the Jerome area it is apparent that New Jersey Zinc Co. is in a position to disturb the flow of zinc concentrates from the Southwest to Asarco plants. I have not been advised that the zinc company will build a smelter in the Southwest, but in view of such concentrated interest in the search for zinc I am of the opinion that with proper mine encouragement New Jersey Zinc will consider a smelter. Such a plant would outbid our company for any zinc now produced or that may be developed in Arizona.

Yours truly,



REED F. WELCH

cc: JDMacKenzie	EMcLTittmann	
SHLevison	CPPollock	TASnedden
RPreese	FVRichard	KRichard
RLJawden	WRLandwehr	

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 26, 1953

K. R.

JUN 29 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT REED F. WELCH
JUNE 1953

1. Coronado Copper and Zinc Co., Johnson Camp. Mr. Fred Gray, Superintendent at Johnson Camp, reports work progressing satisfactorily at the Republic shaft. Coronado is hoping for an improvement in zinc market before a drop in copper takes place. Mr. Gray advises that the operation is hardly justified under present metal prices but continues with the expectation of an increase in zinc price. Unless there is an upset in copper price we can expect to receive at El Paso Plant about 450 tons per month of copper concentrates from Johnson Camp. The flow of water in the Republic shaft has decreased from 500 to 350 g.p.m. Wages have not been reduced; the camp is not represented by a union.
2. Swisshelm Gold Silver Mine. For the past six months William Ward of Tombstone has been leasing this mine shipping the ore to El Paso. Receipts through May 1953 total about 580 tons, 150 tons coming from the dump. The newly mined ore averages: Au 1.45 oz., Ag 48.5 ozs, Pb 8.5%, with average value after freight, smelting and trucking \$78.40 per ton. This ore occurs within 40 feet of the surface and dips with the topography.
3. Scribner Mine. The discovery on the Swisshelm claims lead Doctor Larson, owner of the adjoining Whale and Mammoth claims, to sink a shaft to explore for similar ore. After sinking 60 feet without finding ore the miners have returned to mining lead at the Scribner shaft. It is expected the Scribner Mine will produce about 2 cars per month of lead ore.
4. Virginia and Guadalupe Claims, Nacozari, Sonora. At Douglas Ben Williams advised me his claims near Nacozari have been optioned to Cananea Consolidated Copper Company. Two holes have been drilled and a third is still in the process of drilling. Hole No. 1 is down 436 feet; core assayed from 195 to 220 feet shows 3.5% Cu, 1.95% MoS₂. No. 2 hole reached a depth of 320 feet with core assayed from 170 feet, results not available at the time of my visit. No. 3 hole is down 155 feet and still drilling. This hole is reported to look good for copper and MoS₂ but no assays are available. Mr. Mulchay was optimistic about this property when the drilling program was started but since completion of the three holes he is not hopeful of a copper mine here.

Virginia-Guadalupe Claims con't.

Ben Williams is doing some exploration work in the tunnel and has produced 100 tons of ore assaying 4% MoS₂ and 2.5% Cu. An additional 50 tons of sorted ore assays 12% MoS₂. Williams is trying to lease the Churunibabi Mill near Nacozari, but has had no success so far in his negotiations. If he cannot lease the mill he will ask Asarco Mill to handle 200 to 400 tons of Mo-Cu ore.

5. Newmont Mining Co. There is new enthusiasm at Tombstone since Newmont has taken over most of the district. Mr. Don Hargrove, formerly at Goldfield, Nevada, later in Colorado, has moved to Tombstone and is in charge of operations for Newmont. He advises me they have a two-year option, during which time they can explore the district before any payments are made. So far work has been concentrated in the West shaft and fencing old stope outcrops and caved shaft collars. It is expected that the West shaft will be reconditioned to the 600 level where permanent pumps will be installed. Hargrove advises there is insufficient power at the present time to justify unwatering below the 600 level.

6. Neil Vogel, leasing the Gallagher Vanadium property near Charleston, has been doing some diamond drilling on the McClellan claim east and a little south of the old Gallagher mill. Vogel put down one drill hole 45° west 188 feet in depth. Sludge assays throughout most of the depth indicate .04 to .45% Pb. At 155 feet a core assay indicates 10 feet of 3% Pb. Drilling has been discontinued but may be resumed at a later date for one more hole.

7. Bagdad Copper Corporation. With expiration of Bagdad contract coming up at the end of August, I made another trip to Bagdad and now have an agreement with Mr. Dickie for a new contract to cover Bagdad output for a period of 5 years. Little change has taken place in the pit since my last visit. They have added to the equipment a new Dart 75-ton truck.

8. Old Dick Mine, Manhattan Cons. Mines Development Co. Shipments to Deming from the Old Dick Mine will continue at a rate of about one car per day for the next two or three weeks. Mr. Erickson, manager of the operation, will give us two weeks notice of termination of shipments to Asarco Mill.

On the 400 level the sill floor has been mined to a sphere 60 feet in diameter. The south end, 30 feet in width, and the north end of the deposit are being extended. The south end is sufficiently high grade to justify shipment to Deming, but the north end is being stockpiled for concentrating at the Hillside mill. To date about 650 tons have been stockpiled at Hillside. Manhattan will be required to spend \$10,000 to recondition the plant for treatment of Old Dick ore.

Old Dick Mine, con't

The owners of the Old Dick Mine, Dr. Edwin Larson and L.E. Weisenburg have expressed their intention to sell the mine at a price of one and a half million dollars. During my visit at the Old Dick on June 25th I found Messrs. McDonald and Mulchay of Anaconda and six assistants on the property for the purpose of sampling and mapping the mine. Anaconda engineers had so confused the operation that it was necessary to put them on the afternoon shift! According to Doctor Larson Anaconda is doing this work without an option on the mine.

9. Coronado Copper and Zinc Co. Kenneth Richmond, who is in charge of Coronado's exploration in the Bagdad area gave me the following information. Coronado has five diamond drill rigs in the district. Two drills are on the surface at the Copper Queen, one on the Copper King and one on the Red Cloud. The drill underground in the Queen is inactive. Coronado's option agreements on the Copper Queen and King claims call for payments within one year. The option date on the Copper Queen is approaching and exploration is being rushed for a decision. Drilling so far on the Queen has been disappointing with the exception of one hole. Intercepts with the vein were made at 150 foot intervals along the strike and as far as 600 feet in depth. In the deepest holes it was difficult to identify when the vein had been crossed. Underground exploration in the Queen has developed some zinc ore. It appears that Coronado is rushing exploration to conclusion so the Copper Queen may be dropped. The option with Mr. E. R. Dickie on the Red Cloud claims gives Coronado five years exploration privilege before payments are required. According to Mr. Richmond, this property holds the greatest promise in the Bagdad area and he believes it may develop into a better mine than any in the district. Diamond drill rig was being set up on the Red Cloud at the time of my visit.
10. Shattuck Denn, Iron King Mine. Recent negotiations with labor indicated unwillingness to cut wages and Iron King therefore put the operation on a five-day per week basis beginning the first of May with the idea of eliminating overtime payments and conserving the ore body. However, when May cost figures were in Mr. Mills found that nearly 20,000 tons of ore had been mined, which was peak production, and mining costs had been reduced \$2.00 per ton as compared with 1952 average. This increase in production is the result of the tonnage bonus incentive.

New York Office of Shattuck Denn has requested work stoppage on the new No. 7 shaft. However, Mr. Mills hopes to persuade Mr. Bardon to continue this work by postponing concreting for the time being, which would effect a temporary saving of \$180,000.

11. Allen L. White has been shipping sharp silica copper ore from Mayer to Hayden under very favorable terms. He is leasing the Rosalie claims in Black Canyon District, with truck haul about 30 miles to Mayer. The ore assays around 2.5% Cu with 85% SiO₂, 3% Fe, 3% Al₂O₃.

International Smelting Company has requested Mr. White to ship to Miami any tonnage in excess of Hayden requirements. I told Mr. White to ship his full output to Hayden until further notice.

The deposit is an intersection of quartz veins in granite. Where mined, the ore is 25 feet in width. Beyond the intersection the vein narrows to 8 feet or less in width.

12. Sunrise Mining Company. A recent visit to the Glove Group near Amado indicates considerable development work has been done since my last visit. A new winze in the far end of the Glove tunnel has opened up additional lead carbonate ore carrying zinc. Frank Jesson, manager for Austin, Texas investors, indicates a desire to step up exploration and production in the near future. Shipments to El Paso assay about 25% Pb, 16% Zn.
13. Bonanza Mine, Duquesne. Carl Elayer has been quite successful in opening up a new ore body north of the Bonanza shaft. This work has been done with assistance of DMEA funds. It was anticipated this project would develop lead-zinc ore but a copper ore body has been encountered. In the past 30 days about 12 cars have been received at El Paso assaying 5 to 15% Cu.
14. Sunnyside Mine. Lee Farrell with Strong and Harris has sunk a shaft on the Sunnyside property. When I visited the property around the middle of June the shaft was down 60 feet and all material from this development, with the exception of an occasional boulder, has been shipped to El Paso Plant. The ore assays from 7% to 9% Cu. This property may not develop large tonnage, but indications are that the copper is a primary source. If so, this puts a different light upon the possibilities in depth.
15. Banner Mining Company. Recent press releases have announced the new stock ownership of Banner Mining Company. Mrs. Grimes sold her 60% interest to Tintic Standard and others at a price of \$4.60 per share. This controlling interest was offered to Asarco several months ago for \$7.50 per share. Plans are under way to build a 400-ton mill at the Mineral Hill property in the Pima District, Arizona. Machinery is being assembled and new office and incidental buildings are being erected. It is anticipated that the mill will be in production by May or June of next year. A contract is being prepared for purchase of 800 tons per month of concentrates for El Paso Plant. Before deciding to build the mill I understand the new Banner owners approached Eagle Picher at Miami, Oklahoma, in an attempt to purchase the San Xavier mill but were promptly turned down. Ore mined in the Mineral Hill is being stockpiled for concentrating. Some 4% to 8% copper ore is moving to El Paso from the Copper Queen Mine at Twin Buttes.

16. Pima Mining Company is carrying on its program of exploration and development, producing 100 to 150 tons of copper ore per day. The 600 level has encountered high grade ore, as did the 500 level. It is possible to ship 15% Cu from the 600-foot development, but El Paso receipts are the result of a blend of ore from various levels, assaying from 6% to 10% Cu. The zinc-copper ore encountered in the course of development work is reported to occur as blobs or at points near the periphery of copper mineralization. So far about 200 tons of zinc-copper ore have been stockpiled and will be shipped to Deming on a milling schedule when more tonnage has been accumulated.
17. Arizona Copper Mines, Inc. (J.E. Mowinckle of San Antonio) owns the Control and other mines in the Old Hat District. With assistance of DMEA funds a diamond drilling program has been carried on. In excess of 5,000 feet of drilling is reported to have developed about 75,000 tons of better than 2.5% Cu. The holes were placed in such positions that a 200-foot drift from the Daily tunnel would have given the same information at the same cost.
18. Old Reliable Mine, Copper Creek District. For several months engineers have been attempting to obtain government assistance for operation at the Old Reliable Mine. It has now been announced that contract has been completed whereby 5½ million pounds of copper will be purchased for DMPA at floor price of 29 cents per pound. The operation will be leaching in place with production of precipitates for delivery to El Paso.

REED F. WELCH

cc: JDMacKenzie	FVRichard
RPreese, Jr.	WRLandwehr
EMcLittmann	TASnedden
RLJourdan	KRichard-2
REShinkoskey	FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

L.K.W.
APR 27 1953

April 21, 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
FIRST QUARTER 1953

Following is report on Hayden Plant receipts and fluxing situation for the first quarter of 1953.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>
January	21,816
February	16,837
March	<u>7,334</u>
Total 1st Qtr.	45,987

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>First Quarter</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>Jan. 1, 1953</u>	<u>April 1st</u>
Concentrates	38,759	48,438	11,171	1,492
Reverb Flux	5,853	8,253	37,694	35,652
Converter "	<u>5,168</u>	<u>6,339</u>	<u>3,139</u>	<u>1,968</u>
Total	49,780	63,030	52,004	39,112

Concentrates stocks have been reduced to the point where Hayden is now receiving Kennecott current output.

Reverb Flux: Limey ore stocks remain approximately the same as on January 1st, with reduction of Christmas Mine ore and addition of Christmas Asarco tailings.

Converter Flux: Ray quartzite has been supplying converter flux since N.W. Sweetser discontinued shipment of gold siliceous ore from Mojave, California. Negotiations are now under way to reopen the Empire-Arizona Mine at Parker to furnish siliceous ore for Hayden.

COMMENTS ON SHIPPERS

R. E. Chilson continues to ship to Hayden Plant one or two cars per month of King-Exile development ore, the balance of his output moving to El Paso.

HAYDEN PLANT
1st Quarter 1953

-2-

Copper Butte Mining Co. in about 6 weeks of operation shipped 1129 tons of 2.6% Cu with 62% SiO₂, 12.5% Al₂O₃. Mr. Mitchell is presently mining Ray quartzite to meet fluxing requirements at Hayden Plant. He may resume shipment from the Copper Butte Mine when the quartzite tonnage obligation is filled.

Donald F. Love has resumed shipment from Bagdad Chase Mine at Ludlow and I understand expects to continue work at that property under a new lease pending the appointment of a new manager for stockholders interests.

Murray & Wainwright have a special rate for siliceous fluxing ore from the Chilito Mine. In the first quarter only 193 tons were delivered to Hayden and these operators are not adequately equipped to move tonnage.

N.W. Sweetser suspended shipments from his Mojave leases in January of 1953 because of decreasing gold value and increasing cost of production. Under present conditions no further tonnage is expected from this source.

REED F. WELCH

cc: CPPollock
DJPope
WRLandwehr
TASnedden
LKWilson
FMStephens

JDMacKenzie
RLJourdan
EMcLTittmann
FJDowney

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 22, 1953

Mr. B. D. Roberts, Manager

EL PASO PLANT

L.K.W.
JAN 23 1953

HAYDEN PLANT--RECEIPTS AND ORE CONDITIONS
YEAR 1952

Following is report on Hayden Plant receipts and fluxing situation for the year 1952.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	23,285	July	16,675
February	21,344	August	10,349
March	21,810	September	14,360
April	20,289	October	18,957
May	17,168	November	20,636
June	16,793	December	19,404
Total 1st Half	120,689	Total year	221,070

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>12 months-1952</u>		<u>On Hand - Tons</u>		
	<u>Received</u>	<u>Smelted</u>	<u>1-1-52</u>	<u>7-1-52</u>	<u>1-1-53</u>
Concentrates	170,604	166,846	7,098	2,475	11,171
Reverb Flux	47,988	29,525	19,298	38,276	37,694
Converter "	20,464	19,094	1,702	1,532	3,139
Total	239,056	215,465	28,098	42,283	52,004

Concentrates stocks increased 8696 tons during the last half of 1952, or increase of 4073 tons in the 12-month period.

Reverb Flux: Receipts of lime flux for the last half year were confined to Asarco tailings (Christmas Mine) with the exception of about 1,000 tons from Sam Knight Lease delivered in July. Stocks of limey ore at the close of 1952 total 28,312 tons.

Converter Flux stocks built up during the past six months. Excluding Ray crude, about 2000 tons of high-silica ore remained in stock at the close of the year. Hayden's 1952 source of siliceous gold ore is now shut off with N.W. Sweetser's suspension of operation because of decreasing grade. Under present conditions he cannot resume shipments even with additional help from the smelter. Until some new source of converter flux develops it will be necessary to move barren quartzite from Ray to meet current requirements.

HAYDEN PLANT
year 1952

-2-

COMMENTS ON SHIPPERS

R.E. Chilson's deliveries to Hayden of development ore from the Lewisohn Group have been limited to one car per week--total for the year 958 tons. Sorted ore (8% Cu) continues to move to El Paso Plant. The Old Dick Mine operation was suspended in June after shipment of 1123 tons averaging 3% Cu.

Copper Butte Mining Company resumed shipments in November. Receipts for the year from Copper Butte Mine total 4124 tons averaging: Cu 3.1%, SiO₂ 60.4, Fe 7.0, Al₂O₃ 12.9.

Sam Knight Mining Lease stopped deliveries to Hayden from the Christmas Mine in July 1952--total 7 months receipts 15,206 tons with average analysis: 3% Cu, 29.0 SiO₂, 15 Fe, 25 CaO.

Donald Love's production at the Bagdad Chase Mine, Ludlow, has been confined to selected higher grade ore. 1952 receipts, 613 tons, average: Au .43 oz, Ag 4.2 oz, Cu 3%, SiO₂ 74.5, Fe 6.5, Al₂O₃ 5.5. Under present conditions it is unlikely that we can move the low grade siliceous fluxing ore available in the Bagdad Chase Mine.

N.W. Sweetser has been forced to abandon his operations at the Silver Queen and Regina Mines because of decreasing gold value in the ore. Even with several dollars better return from the smelter he could not continue production under present conditions. Receipts from his operations at Mojave were as follows.

Golden Queen Mine	(4 months)	817	tons
Silver Queen Ext.	(10 "	2153	"
Regina Mine	(8 "	1810	"
Total		4780	"

REED F. WELCH

cc:CPPollock JDMacKenzie
 DJPope EMcLTittmann
 WRLandwehr RLJourdan
 TASnedden FJDowney
 LKWilson
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 14, 1952

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Mr. Ben D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT--REED F. WELCH
AUGUST 1952Bagdad District

1. Bagdad Copper Corporation. Early in July when I visited Bagdad Copper Corporation the east side of the pit was standing at a precarious angle. At that time all the ore was coming from the two lowest levels on the east side. Stripping was in progress on the west side. My visit to the mine again on August 6th found one shovel working in ore on the east side and on the west side one shovel in ore and one in waste. The alluvium making the rim of the pit on the east side has broken and slid to the bottom of the pit. This cave did not cover much ore but definitely limits mining to the east. Without occurrence of further caving the ore available on the east side will be mined within 30 days.

During the month of July Bagdad processed in excess of 105,000 tons of ore assaying 0.766% sulphide copper. The mill recovered 95.2% and produced in excess of 1,600,000 pounds of copper. Ore from the west side of the pit has been assaying about 0.92% sulphide copper and it is expected that August production will reach 1,800,000 to 2,000,000 pounds.

E. R. Dickie advises me that the government contract guaranteeing 24.5¢ floor price is about completed. After receiving the contract Dickie met in Bagdad with contract negotiators from Washington and a local banker. Dickie is insisting on an escalator clause covering taxes, having in mind the proposed Arizona severance tax. Government officials are objecting to this rider. The contract has been returned to Washington for revision and Dickie estimates two more months will be required to finalize the floor price agreement. Upon execution of the contract Dickie claims about \$13,000,000 will be made available for plant expansion, the total cost of which will be about \$16,500,000. Dickie tells me he is assured of an outlet for all of Bagdad's copper production up to June 30, 1962 at 24.5¢ floor price or higher. He estimates two years for completion of the expansion program, which will increase the mine production to about 10,000 tons per day.

One reason for adoption of the fluo-solid process is to obtain the sulphuric acid generated through fluo-solid reduction for leaching the oxide dump. Iron for precipitation in the leaching plant will be obtained by further roasting the leached concentrate calcines in the presence of coke which will produce fine metallic iron to be collected by magnet.

Dickie expects to produce 12 to 15 million pounds of copper annually as precipitate which he wants to sell to El Paso Plant. Copper in concentrates will be made into electrolytic copper at Bagdad.

1. Hillside Mining and Milling Company is pushing the tungsten prospect in Boulder Creek to a production basis. However, lack of sufficient money to expand the mill and develop the mine is a serious deterrent to the operation. George Green has made a hurried trip to the East for the purpose of securing additional capital from Mr. Lincoln for completion of this project. There is some doubt, however, as to the extent of assistance available from Mr. Lincoln.

With the drying up of water in Boulder Creek, Hillside Mining and Milling Company began pumping water from the Hillside Mine for treating custom ore from the Old Dick Mine. Because of soluble salts in the mine water excessive metallurgical losses occurred and Hillside mill refused to handle any more of this ore.

3. Old Dick Mine, operated by Manhattan Cons. Mines Development Co., following rejection of the ore by Hillside mill, made arrangements to ship about 50 tons per day to Asarco Mill. After shipment of approximately 500 tons to Deming the drop to 13.5 cents in the zinc price precipitated a decision by the management to suspend mining operations.

The Old Dick shaft has been sunk to the 300 level. The last round in the shaft drilled sulphides, indicating the dip and rake of the ore may be coming into position of the shaft just below the 300 level. Plans call for sinking the shaft to the 500 level.

A crosscut has been run into the hanging wall on the 225 level north drift. In this crosscut a 40-foot zone of mineralization was encountered assaying 7% to 8% Zn and 3% Cu. On the 150 level diamond drilling in the same area encountered this mineralized zone. On the adit level the hanging wall of the old stope still carries 12% to 13% Zn with about 2% Cu. It is possible that another ore body lower in value occurs in this area, yet to be explored.

4. Valerio Rossi at the Copper Queen Mine has done some mining of zinc-copper ore. A Deming schedule has been issued for purchase, and during my visit at the property Rossi was engaged in shipping a carload to Asarco Mill. In addition to the milling ore, Rossi has about 20 tons of copper smelting ore which I agreed to take at Hayden on a trial shipment basis.

Yucca Area

5. Mountain States Metals Company. About ten days ago George Freeman of Mountain States Metals called me with a request for \$10,000 loan from the Smelting Company. On my visit to the mine Mr. Freeman told me his company has put \$82,000 into this operation, including construction of the mill. Since production started in June 1951 through June of 1952 they have shipped 1423 tons of 45% Zn and 1158 tons of copper concentrates averaging around 22% Cu, smelter returns around \$190,000. During this production period the mill has been paid off with the exception of \$13,000, and the mine purchase price reduced 50%.

Mountain States Metals, Con't.

The loan was requested to meet a \$4,000 note now due held by a Los Angeles firm that supplied the mill and two \$2,000 notes outstanding to relatives of one of the stockholders. I told Mr. Freeman that in view of the falling zinc price and because a first mortgage on the equipment was not available American Smelting and Refining Company was not in a position to grant the loan and suggested that he obtain an extension from the note holders which he is attempting to do.

Mr. Freeman requests that one of our examining engineers visit the Copper World Mine and verify the tonnage and grade he claims. Without the 10-cent premium on copper, application for which is still pending in Washington, the operation cannot continue. In the event the financial condition becomes worse the operators may want to sell the property, and therefore we should have the latest information on the mine.

Yucca Mining and Milling Company is operating the Antler Mine on a one-shift basis and the mill on one or two shifts per day about half the time depending on ore supply. Lack of miners prevents steady operation of the mine which in turn prevents continuous milling. There has been no scarcity of water through the summer months and this is reflected in the better grade zinc produced in recent months.

Up until recently no development work was carried on in the mine, but a project is now being started developing the bottom level to the north. Ore reserves have been materially reduced and will be exhausted within six months unless additional tonnage is developed. The operation has 10.2¢ per pound premium on copper and has applied for 19.5¢ price on the zinc production, which has not as yet been granted.

Kingman-Chloride District

7. Arizona Metals Company. Ralph Langley at the Summit Mine continues development work, drifting along the Summit vein. He shipped a few hundred tons of submarginal development ore to Deming which was not profitable for him. The last lot received at Asarco Mill--108 tons--assayed: Ag 3.5, Pb 4, Cu 0.5, Zn 5.7%.

The Summit Mine has a \$48,000 government matching loan and Langley is now completing arrangements for financing his 50%. This money will be spent for drifting 1,000 feet to the east and raising 200 feet into the old stopes on the upper levels. While this work is in progress Langley does not contemplate further shipments to the mill. He tells me the Bureau of Mines advised him to make application for a development loan whereby, on completion of the exploration program, he will have government funds made available for construction of a mill.

8. Atwater Kent Group or Champion Mine at Chloride is leased by C.G. Patterson who has about 20 tons on the dump assaying 20% Zn and in excess of 10% lead. This ore has been going to Midvale but Patterson will ship this carload to Asarco Mill within the next two weeks.

Prescott-Humboldt Area

Shattuck Denn-Iron King Mine. Operations at the Iron King property are progressing without interruption because of drop in metal prices. The new No. 7 shaft is framed with steel sets from the surface to 300 level. This shaft will eventually be sunk to the 2000 foot level. The shaft raise from the 1500 to the 300 level is completed. No. 6 shaft has been sunk to a depth of 1860 feet, equivalent to the 1700 level. On completion of No. 7 shaft and enlargement of the mill, 900 tons per day will be mined and milled. Skillings Mining Review issue of August 9th contains an article on Iron King Mine and reports mill head assays for 1951 as follows: Au .12, Ag 3.55, Pb 2.4, Zn 6.4, Cu 0.26, Fe 23%.

Stoping cost, as reported to me, including mining and filling of stopes, is \$1.00 per ton; mining, milling and exploration \$5.00 per ton. The average stope miner's wages, including bonus, is \$25.60 per shift. Production per man shift in the stope is 12 tons; production per man shift for the entire operation--mining and milling--is 3.4 tons. Research carried on continuously on steel and bits has amply paid out and justified installation of new methods and equipment.

10. Reorganized Silver King Cons. Mining Company is still working at the Mt. Union Mine. The new 1200 foot tunnel level is equivalent to the 500 level of the old shaft. They have reconditioned the 400 and 300 levels and are raising to the 200 level, which is an adit level and will provide a second opening for the mine. They are developing a footwall vein on the 400 and tunnel levels. This vein is reported four feet wide and better grade than the main vein carrying gold-bearing lead-zinc ore.

Work has just started to unwater the 600 level. They are having trouble with recirculation of pumped water in the mine. Mr. H.R. Bissell, manager at the property, advises me the mining company has spent \$125,000 so far and he estimates expenditure of an additional equal amount before the property will be ready for production, including construction of a 50-ton mill. The mill will not be built until sufficient ore reserves are developed to justify its construction; it is estimated the mine may be developed to this point early in 1953.

11. Boston-Arizona Mine, operated by McFarland and Hullinger for the past year, has been placed on an inactive basis. Ore developed assays around 16% zinc and does not justify mining on present price. With the closing of the Ecston Arizona property the mining crew has been moved to the Bodie Mine, southeast of Prescott and about two miles from the Mt. Union Mine. It is believed some smelting lead ore may be produced at the Bodie property.
12. Allison Steel Manufacturing Company for the past two years has been on the Sheldon property at Walker Camp east of Prescott, erecting a mill and doing a small amount of development work. Mr. Allison has probably spent something over \$250,000 at the Sheldon Mine cleaning out the 650 and 400 levels, installing pipe, rail, track, etc. On the surface he has erected steel ore bins, shop building, water tanks, headframe and a complete selective flotation mill of 100 tons daily capacity. While this surface plant was under construction less than 100 feet of new development work was completed in the mine.

Sheldon Mine, con't

After sporadic operation of the mill for the past three months with production of about 300 tons of gold-silver-lead-copper concentrates Mr. Allison has decided to abandon this project. Effective August 9th the mine was shut down and stripped of underground track, pipe and cars and the shaft rail taken out from the 650 to the 400 level. The mill completed its last run on the same day and the camp is offered for sale. The complete surface equipment is available at a price of \$75,000.

Tiger

13. St. Anthony Mining and Development Company has announced it will shut down the operation at Tiger effective November 1st. Mining is now being rushed, concentrating on the highest grade ore available. The tonnage of concentrates will probably increase slightly over past months production as a result of higher grade mill feed. January through June 1952 St. Anthony produced 2300 tons of 65% lead concentrates and 2799 tons of 54% zinc.

While the mine has been an excellent money maker for the corporation, the management cannot justify exploration costs necessary to continue the life of the mine, which would require sinking below the 1125 level. It has therefore been decided to dissolve the corporation and liquidate all assets. To accomplish this St. Anthony will sell the mine with all equipment or, as second choice, sell the surface equipment piecemeal and hold the claims as real estate.

St. Anthony has offered the property for consideration of its neighbors San Manuel Copper Corporation and Anaconda Copper Mining Company, the latter owning some 40 claims in the district. American Smelting and Refining Company has been asked to make an examination also before the lower levels are inaccessible to determine our possible interest in the property.

Pima District

14. Pima Mining Company. In other reports I have indicated production and activity at the Pima Mine. Today with Messrs. Richard and Wilson I visited the underground workings; a more detailed report will be presented by them.

Pima Mining Company is developing its holdings in the Pima Mining District and shipping ore to El Paso from the 300 and 400 levels. Present production is about 125 tons per day coming from drift headings only. They are pumping about 250 g.p.m.

The ore zone strikes about 70° east and dips southerly 30° to 45°, flattening above the 300 level. The zone is strong structurally with shipping ore from 8 feet to 35 or 40 feet in thickness and lower grade ore reaching 100 feet in thickness. The extent of mineralization in the foot and hanging walls is determined only by assays.

Pima Mining Company, con't

The structure has been developed for approximately 500 feet on the 300 and 400 levels. Diamond drilling shows ore 600 feet east and 700 feet west of the shaft. Thus a minimum of 1300 feet may be expected along the strike.

Plans for the immediate future involve sinking the Alpha shaft from the 400 to the 500 level and sinking another shaft for a second opening. I was advised that development work so far, plus information obtained in diamond drilling, indicates between 4 and 5 million tons of 2.5% copper ore. A mill will be required on the ground.

15. Eagle Picher Company. Mr. Grover Duff, Manager at Sahuarita, advises me he has shipped his last car of lead concentrates to El Paso. The San Xavier mine and mill is being closed for an indefinite period.

REED F. WELCH

cc: JDMacKenzie DJPope
EMcLTittmann WRLandwehr
RLJourdan FVRichard
 LKWilson-2
 HWKaanta
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 30, 1952

L. K. W.
AUG 1 1952

Mr. Ben D. Roberts, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH
JUNE-JULY 1952

Kingman - Yucca Area

1. Shattuck Denn-Iron King Mine. On a visit to Prescott early in June Mr. Mills reported the new Iron King shaft has been raised through from the 800 level to surface and raise is completed from the 1500 to the 1400 level. Present work is concentrated above the 1400 level and it is anticipated the shaft will be completed some time in September.

Negotiations were completed early in June whereby the smelter absorbs freight in excess of El Paso delivery on iron concentrates shipped to Selby, and on this basis pyrite tonnage will move steadily to that plant. Because of car shortage there was an interruption of shipments in May and it was necessary to hold about 250 tons of pyrite until cars were available.

2. C.G. Patterson at the Atwater Kent property (Champion Mine) about 12 miles north of Kingman has encountered a small tonnage of lead-zinc milling ore. Due to a foot injury development has been delayed but Patterson expects to ship about one car per week by the latter part of July. Past shipments have gone to Midvale with the exception of one car delivered to Asarco Mill. Comparison of outcome indicates \$4 to \$7 per ton in favor of Deming. On the strength of this I am sure Patterson will resume shipment to Asarco Mill.

3. Arizona Metals Co. Ralph Langley continues development work along the Summit Mine vein. This work has produced a few cars of sub-marginal grade ore treated at Deming. When stoping begins it is expected the grade will improve. Mr. Langley is in a financial pinch as a result of the drop in metal prices and informs me he would be interested in selling the mine on an equitable basis.

4. Yucca Mining and Milling Co. has obtained a premium price 10.2 cents over the market for copper and request has been made by the operators for 19.5 cents on zinc to support their copper production. I understand action on the zinc price is still pending in Washington. The source of water has improved and the mill is handling 60 tons of ore per day from Antler Mine. This has resulted in a slight improvement in the grade of concentrates. June deliveries to Amarillo, about 100 tons, assay 43.16% zinc, 13.1 iron; 180 tons shipped to El Paso assay 11.88% copper, 2.2 ozs. silver.

Matching funds from DMEA are available but Yucca Mining and Milling Company is not pressing for this loan because the company is unable to supply its half. Present mining procedure is depleting developed ore with no exploration work being done to increase ore reserves.

5. Mountain States Metals Company has been doing some diamond drilling and exploration work and reports 40,000 to 50,000 tons of developed ore assaying 7 to 11% Zn and 3% Cu. It is expected that production will continue at a rate of about one car each per month. The copper concentrates average 20% Cu, 11% Zn, the zinc product 45% to 49% Zn with about 10% Fe.

Lordsburg-Silver City

6. Atwood Mine: Ira Moseley is mining on the 400 foot sublevel and in the #509 stope. He expects production in the immediate future will be at the rate of 3 to 4 cars per week. A development contract with DMEA in amount \$42,500 became effective July 15th for the purpose of driving 1050 feet west on the Henry Clay vein. Work is now in progress westerly on the 500 level under the Henry Clay outcrop. So far 35 feet of drifting along the vein shows about one foot of quartz with copper value. Beginning August 1st two shifts per day will be devoted to exploration work and the heading is expected to advance at the rate of 12 feet per day.

7. Banner Mining Company: Operational problems are concerned principally with labor and absenteeism. At present they are mining through the Miser's Chest 750 level and development work continues on that level. Work on the 1100 level west face of the Miser's Chest vein has opened up good minable ore, indicating a definite westerly dip of the ore shoot in the Miser's Chest.

While Banner Mining Company was negotiating for over-the-market price on copper a reduction in operational costs was effected in order to avoid loss. The management expects a reduction in the premium price allowed by DMPA in view of lower costs reported for this period. However, this reduction was effected by eliminating exploration work which must be carried on at a later date.

8. U.S. Smelting, Refining & Mining Co. is sinking the Bullfrog shaft. They are now down to 2,000 feet, pumping 900 g.p.m., and expect to continue to 2050 feet, at which point they will carry out an exploration program involving about 6,000 feet of work to explore the Hanover limestones where intersected by fissures that have been productive in the volcanics. This program calls for a connection of the Bullfrog shaft with the Princess. Contract is now being negotiated for sinking the Princess shaft. Ore mined in the area between the Bullfrog and Princess has a ratio of about 1/10 lead to 5 zinc, while the ratio on the Slate shaft side of the Bullfrog is 1 lead to 5 zinc.

In the Pinos Altos District United States Smelting, by diamond drilling, has found mineralization in the limestone beneath flow rock. As a result of this discovery they will clean out an old 700 foot shaft and continue drilling from the 700 level to the limestone which is known to be 200 feet below.

On the Pacific Mine side of Pinos Altos District the old workings will be leased. This ore is expected to run as high as 20% zinc with some gold, silver and lead.

9. Archie Keene of Silver City has a lease from U.S. Smelting in the Pinos Altos District. Two samples recently submitted to El Paso show .25 to .66 oz. gold with 2 to 3 ounces silver. However, no tonnage of this grade can be expected, since the ore occurs in veins 1 to 2 feet wide in granodiorite.
10. Peru Mining Company. Mr. Taylor has curtailed production and is working a 5-day week only. It is reported that present mill heads assay about 8% zinc with no lead. Metallurgical test work is in progress on ore from the Hilltop Mine in the California District, Cochise County, presently under option to American Zinc Lead and Smelting Co. So far the mill tests indicate poor recovery, but in the event the metallurgy can be worked out satisfactorily Peru would expect to produce about 400 tons per month of lead concentrates assaying around 60% Pb and carrying about 15% Zn.
11. Empire Zinc Company is milling 21,000 tons per month, half of which is produced by Kennecott Copper Corporation. Carl Elayer, lessee on the Lynchburg Mine at Magdalena, has opened up copper-zinc-lead ore which he hopes to ship as a milling product. Preliminary samples indicate 13 to 14% copper, but Elayer believes shipments will run about 5% Cu, 2% Pb, 6% Zn. He will send a sample to Mr. Kaanta for metallurgical test. Mr. Pettijohn, Manager of Empire Zinc at Hanover, requested a schedule for handling this ore at El Paso Plant but I suggested that we wait for results on the sample submitted to the Deming Mill. Mr. Pettijohn thought this ore could be shipped to Asarco Mill provided we return the zinc to them. However, if substantial tonnage is developed he wants the privilege of milling this ore in the Empire Zinc mill.
12. Explorations, Inc. The Royal John Mine is operating on a split check system. Work is being carried on in the New Cut and No. 3 Tunnel areas. The New Cut workings are up dip on the outcrop of the No. 3 Tunnel mineralization. The two headings are reported to be approximately 300 feet apart. The ore, predominately zinc, is hauled 33 miles to the railroad for shipment to Asarco Mill. It is expected that production will continue at the rate of about 600 tons monthly.
- The Carbonate Hill workings, a surface showing near the andesite-limestone fault contact, may be operated on a leasing basis. Preliminary work has not developed any appreciable tonnage, but I believe the showing justifies some exploration.
- Explorations Inc. has in mind reopening the Sunshine Mine which would increase their production. In order to do this they may ask Asarco for assistance through furnishing a compressor and engineering advice.
13. J & J Exploration Co. has resumed shipment of tailings from Pinos Altos District and expect to complete delivery of 600 to 700 tons before the end of August which represents the remaining tonnage available in this tailings dump.

Arizona-Miscellaneous Districts

14. Old Dick Mine, Bagdad: On July 23rd I was advised by Kenneth Erickson, Manager at the Old Dick Mine, that Hillside mill no longer wished to treat Old Dick ore. This decision was occasioned by lack of sufficient fresh water for the mill operation. Auxiliary water has been obtained by pumping the Hillside Mine, but that water contains undesirable mineral salts, resulting in poor metallurgical recovery. Therefore, effective July 24th, shipments from the Old Dick Mine began moving to Asarco Mill at the rate of 50 to 75 tons per day. This arrangement is expected to continue for an indefinite period.
- Early in July shaft sinking was resumed in the Old Dick Mine. The objective is the 300 level which will probably be reached within the next three weeks. The drop in zinc price has seriously affected the outlook for this operation and continued production will depend upon what is encountered on the 300 level.
15. Savoy Mine, adjacent to the Crown King Mine in Yavapai County, has been leased to Mr. J.L. Wilkerson of Phoenix who has driven a new lower tunnel into the vein and encountered two feet of gold-silver ore reported to assay \$70 to \$80 per ton. This mine has been idle since early 1900's and is reported to contain considerable high grade ore in bottom levels which are flooded. || ?
16. Ray Silver-Lead Mine in the Mineral Creek District, Pinal County, has been taken over by G. R. French of French Motors, Phoenix. Mr. French has extended the workings beyond the fault which cut off the ore for the former operators, Crown Point Mining Company. He has picked up the mineralized fissure that has been displaced some 250 feet. Mr. French is now seeking geological advice to assist in a decision on the advisability of sinking to the lower limestone horizon which was productive on the east side of the fault. If the limestone bed is mineralized it may open up considerable new territory for prospecting, inasmuch as the fissure zone extends 2,000 feet beyond the fault.
17. B.S. & K. Mining Company at the Atlas Mine, Silver Bell District, is treating zinc-copper ore in the mill they constructed on the property. About one carload per month of copper concentrates assaying around 27% Cu with 6 oz. Ag is shipped to El Paso Plant. The zinc concentrates, about 70 tons per month delivered to Amarillo, average 56% zinc. The mill is handicapped by lack of ore due to improper exploration work in the mine. However, the concentrates are carrying the expense of operation. It is contemplated that within the next 60 days exploration work will be stepped up with the hope of increasing tonnage for the mill.

18. St. Anthony Mining and Development Co is concentrating exploration and mining on the 1125 level of the Mammoth-St. Anthony Mine at Tiger. So far the ore on this level is lower grade than on levels above. Mill feed for the month of June and early July came from broken ore in stopes prepared on higher metal prices, and operation on present prices results in a loss to the mining company. To overcome this, more selective mining will be employed resulting in an increase in the grade of mill feed. Mr. Richards expects to produce about 325 tons of lead and 400 tons of zinc product monthly for the remainder of 1952. The mine is pumping about 2500 g.p.m.
19. Banner Mining Company continues development of the Mineral Hill Mine in the Twin Buttes District with a DMEA contract for \$330,000. The Mineral Hill shaft has been opened to the bottom at 600 feet. East of the shaft the 600 level is reclaimed exposing considerable stoping. The west side of the shaft is in poor condition with many caves. Ore is exposed in two crosscuts cutting the contact to the south on the west side of the shaft. Each of these ore shoots indicates high pyrite content assaying 3% to 4% copper with widths up to 35 feet. East of the Mineral Hill shaft most of the ore shoots have been stoped but there are no stopes on the west side.

At the Glance property the shaft has been repaired and cleaned to the 600 and bottom level. On the 500 level workings have been repaired for 2,000 feet to the Queen shaft. From the Queen shaft new work is progressing westerly toward the King claim. Copper showings as high as 11% have been encountered in this area. It is expected new ore will be found at the contact of granodiorite and limestone on the King claim.

The Banner contract with DMEA requires complete renovation of the mine workings followed by diamond drilling before a production program may be started. At the present time therefore no shipments to the smelter are contemplated.

20. Pima Mining Company, since late in May, has shipped development ore to El Paso Plant at the rate of 50 tons daily from their property in the Pima District. Drifting is done by Centennial Development Company, which firm also sank the shaft. All the exploration work has been in ore with no waste. In excess of 2,000 tons received at El Paso in May and June average approximately 8% Cu. At unknown intervals crosscuts into the footwall have been run extending to an assay wall. Shipments from the crosscuts are assaying about 6% Cu. As new headings are worked the tonnage is increased, with present production coming from exploration only 125 to 150 tons per day.
21. Eagle Picher Company. Mr. Grover Duff, Manager of Arizona operations, has announced the closing of the San Xavier Mine for an indefinite period. Production of lead concentrates over the past 6 months has averaged about 500 tons monthly.

22. Nash Mines, Duquesne. Mr. James P. Nash of Austin, Texas, present owner of the Duquesne Group, is slowly increasing production from these mines under various leasing operations, the tonnage going to the Trench Mill. A recent contract with DMEA will permit opening the Bonanza shaft, contract for which has been arranged with Carl Elayer. Production for June totalled 1700 tons. With successful operation at the Bonanza, this tonnage may increase to 2500 to 3,000 tons per month.
23. Coronado Copper and Zinc Company, at Johnson Camp, has sunk the new shaft from the 500 to the 700 level. Stations have been cut on the 6th and 7th levels but no lateral work has been done as yet. In sinking the sump below the 700 level additional water was picked up, making total 350 g.p.m. The drop in zinc price has materially affected the income to the mine, particularly since the ore carries 2.5 times as much zinc as copper. During the month of July Coronado will produce in excess of 500 tons of copper concentrates shipped to El Paso Plant. The same production rate is expected to be maintained for the balance of this year.
24. Shannon Mining Company, promoted by Freeman Loemlino who has the mill at Tombstone, is a partnership organized for the purpose of milling ore from various small mines in the Tombstone area, particularly from the Shannon Mine at Gleeson, which is held by the partnership. However, insufficient ore was developed in the Shannon to justify continuation of milling operations and the partnership is being dissolved. I understand the Shannon Mine will be held pending reorganization.

REED F. WELCH

cc: JDMacKenzie DJPope
 EMcLTittmann WRLandwehr
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 29, 1952

L. K. W.
AUG 1 1952

Mr. B. D. Roberts, Manager

EL PASO PLANT

HAYDEN PLANT---RECEIPTS AND ORE CONDITIONS
FIRST HALF 1952

Following is report on Hayden Plant receipts and fluxing situation for the first six months of 1952.

Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>		
January	23,285	April	20,289
February	21,344	May	17,168
March	21,810	June	16,793
Total-1st qtr.	66,439	1st Half	120,689

Fluxing Situation and Stocks
(From Semi-monthly reports)

	<u>Total 1st Half</u>		<u>On Hand - Tons</u>		
	<u>Received</u>	<u>Smelted</u>	<u>1-1-52</u>	<u>4-1-52</u>	<u>7-1-52</u>
Concentrates	87,120	92,058	7,098	2,951	2,475
Reverb Flux	33,987	15,009	19,298	29,856	38,276
Converter "	9,880	10,050	1,702	1,207	1,532
Total	130,987	117,117	28,098	34,014	42,283

Concentrate receipts averaged about 14,500 tons monthly for the first half of 1952.

Reverb Flux: Intake of limey ore from the Helvetia District has been shut off with the exception of a few cars monthly of development ore from the King Exile Group. Shipments of low grade limey ore from Christmas Mine were suspended on or about July 24th and the 1947 purchase agreement cancelled.

Converter Flux is coming from the Ray pit and from N.W. Sweetser at Mojave, California, who has delivered 2650 tons of high silica gold ore. It is doubtful if this Mojave area supply can be maintained for the balance of the year unless new ore reserves are developed. The Bagdad-Chase Mine at Ludlow may increase production of siliceous ore in the near future under a more favorable lease recently obtained by Donald Love.

HAYDEN PLANT
1st Half 1952

-2-

R.E. Chilson: Operation of the Old Dick Mine at Helvetia has been suspended. Receipts for the first 6 months total 1123 tons averaging 3% Cu, 40% SiO₂, 11.5 Fe, 20.5% CaO. The King-Exile operation continues to deliver to El Paso Plant around 600 tons monthly of 9% copper, with low grade development ore going to Hayden.

Copper Butte Mining Co. resumed shipments to Hayden late in February and delivered 2691 tons through June, averaging 3.2% Cu, 60% SiO₂, 13% Al₂O₃. Shipments were suspended again about the middle of June.

Sam Knight Mining Lease: Low grade limey ore receipts from the Christmas Mine for the first 6 months of 1952 total 14,320 tons. With some additional tonnage delivered in July this will conclude shipments under the 1947 letter agreement, which agreement will be terminated. The Knights expect to continue operation at the Christmas Mine and by selective mining produce 4.5% to 5% copper ore for shipment to El Paso Plant or to Hayden when smelting capacity permits.

Donald F. Love at the Bagdad Chase Mine shipped 267 tons in the first half year averaging Au .57 oz., Ag 5.0 oz., Cu 3.3%. A new lease has been negotiated on more favorable royalty terms and Mr. Love hopes to ship considerable tonnage of lower grade fluxing ore in the near future.

N.W. Sweetser's production from the Mojave area for the first half of 1952 is as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>SiO₂</u>	<u>Al₂O₃</u>
Golden Queen Claim	817	1.0	5.6	92.5	2.0
Silver Queen Ext.	1415	.8	4.5	92.0	2.5
Regina Group (2 months operation)	419	.8	6.0	88.5	5.0

REED F. WELCH

cc: CPPollock JDMackenzie
 DJPope EMcLHittmann
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 26, 1952

Copy sent to Jack

Mr. Ben D. Roberts, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED P. WELCH
APRIL-MAY 1952*File*L. K. W.
MAY 27 1952*SW*
*5-30-52*Douglas, Arizona

1. Ben Williams of Douglas is owner and operator of several mining properties in Sonora. Much of his production has been handled by Comision de Fomento Minero at Nacozari. Because of lack of confidence in the Nacozari Mill, Williams (Cia. Minera Benwilco, S.A.) recently shipped a carload of 50% combined lead-zinc from his Todos Santos Mine to Deming.

Ben Williams is negotiating with a firm to join him in exploration of his Mexican mining properties and it is anticipated that this firm will develop the mines and erect a mill if warranted.

2. Oposura Mine: For the past 4 or 5 months Anaconda, through the Cananea office, has been drilling the Oposura Mine in the Moctezuma Mining District of Sonora. As yet I understand no decision has been made regarding operation of this mine by Anaconda.
3. Minerales de Nacozari: On April 24th Mr. B.O. Long of Minerales de Nacozari advised me his company would not resume shipments of copper concentrates to El Paso Plant. This decision was the outcome of negotiations with Phelps Dodge Corporation to obtain power for Minerales de Nacozari mill from the Moctezuma power plant. The increased freight charge to El Paso was also a factor in the decision to sell the concentrates to Douglas smelter. Up until the time shipments to El Paso were discontinued the smelter had been assuming one-half of the freight charge from Douglas to El Paso. Mr. Long tells me that delivery to Phelps Dodge at Douglas will benefit the mining company 60 cents per ton compared with outcome on past shipments to El Paso.

Aravaipa District

4. Athletic Mining Company on May 16th suspended mining and milling operations. The purpose of this shutdown is for vacations and metallurgical tests on the ore. A sample has been delivered to Mr. Kaanta at Deming for test purposes. Ore from the Head Center Mine has been causing serious metallurgical losses in the mill, and without proper mill supervision results have been unsatisfactory. During this shutdown new track is being installed in the Head Center inclined shaft.

5. Williamson and Gullede have shipped several cars from the Ben Hur Group to Peru Mill. I understand shipments were made to Peru because of financing through some connection with Peru Mining Company. Work on the Ben Hur in the lower part of the canyon has been stopped temporarily to carry on assessment work on the Landsman claims east of the Iron Cap Mine. Mr. Williamson is very much pleased with results of the small amount of surface work so far completed and believes he will have a mine on the Landsman group. He says some of the ore from the new location will be shipped to Deming. I have requested that sample be submitted for test purposes.
6. Aravaipa Extension Mine. J.F. Rydbom has located claims north of the Grand Reef Mine and recently shipped to El Paso a carload of lead ore sorted from various dumps on the Aravaipa Extension claim. Future plans include opening a caved tunnel on this ground.
7. Santa Teresa Mining Co. Bush and Merrill have abandoned operations at the Santa Teresa Mine. Sporadic occurrence of ore in this property has been discouraging, although occasional shipments were made on the 19-cent lead price.

Tombstone, Arizona

8. Shannon Mining Co. Freeman Lomelino has interested new investors in his Tombstone mill--J.D. Haynes of Odessa, Texas, and Ira Van Tyle of Evansville, Indiana, both oil men. I understand they have purchased the Shannon Mine at Gleeson and are reactivating that property in the hope of obtaining ore for the mill. A 40-foot steel headframe has been erected at the Shannon and a small amount of work done on the 200 foot level. Mr. Van Tyle tells me they have three showings of lead-zinc mineralization on this level and expect to explore these showings if results are promising they plan to unwater the lower levels of the Shannon Mine. According to Van Tyle, metallurgical tests by Mr. Roseveare at the Arizona Bureau of Mines indicate 80% recovery of lead and 60% zinc, the low recoveries being due to the fine-grained nature of the mineralization. The operation is conducted in the name Shannon Mining Company.
9. Charleston Lead Mine is under option to Mr. Ray Ryan of Evanston, Indiana, who has employed Mr. Louis Garbrecht of El Paso to direct exploration work. A drilling program is to be started early in May.
10. Maurice d'Autremont. When I visited Tombstone on May 22nd Mr. d'Autremont was there trying to find new lessees for his Tombstone Extension Mine. He is dissatisfied with his present lessees and hopes for more production in the future.

Arizona, Miscellaneous

11. Coronado Copper and Zinc Company is sinking the Republic shaft to the 7th level under contract with Carl Elayer, and station has been cut on the 6th level. It is anticipated that the deeper level work will result in considerable increase in production. In April El Paso received in excess of 400 tons copper concentrates and about 700 tons of zinc was shipped to Bartlesville.

12. Ash Peak Group, Duncan. International Smelting and Refining Co., under a leasing arrangement, is producing about 3⁴ cars per month of siliceous silver ore from the Shamrock Mine of the Ask Peak Group near Duncan, Arizona. The same ownership controls the Commerce Mine to the east and the Ash Peak Extension (Hardy) Mine, about 2,000 feet west of the Shamrock shaft. These shafts are all on the same vein structure and represent a potentially large tonnage of low grade silver-bearing siliceous flux. Inasmuch as International expects to obtain sufficient tonnage for a number of years from the Shamrock and Commerce shafts, it is possible we may be able to work out an arrangement to obtain siliceous ore from the Ash Peak Extension. This is in preliminary discussion stage and I will follow up with a visit to Miami.

REED F. WELCH

cc. JDMacKenzie DJPope
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 12, 1952

L. K. W.
MAY 14 1952

JWR 5-21-52

Mr. Ben D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION--RECEIPTS EL PASO, AMARILLO
AND DEMING MILL - FIRST QUARTER 1952

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

Lead Department

	Tons Received - 1st Quarter 1952		
	Domestic	Foreign	Total
January	10,860	5,115	15,975
February	10,816	4,944	15,760
March	10,714	15,044	25,758
Total	32,390	25,103	57,493

Copper Department

January	10,016	1,081	11,097
February	22,285	888	23,173
March	23,344	1,508	24,852
Total	55,645	3,477	59,122

Fluxing Situation and Stocks
(From Semi-Monthly Reports)

Lead Department

	1st Quarter		On Hand - Tons	
	Received	Smelted	Jan. 1st	April 1st
Concentrates-Lead	35,738	20,451	5,202	20,272
" -Iron	3,718	3,533	9,589	9,501
Residue	14,892	12,373	958	3,481
Dust	3,647	3,952	776	451
Siliceous ore	3,544	3,999	10,241	9,420
Total	61,539	44,308	26,766	43,125

Lead Concentrate receipts during the first quarter, principally from South West Africa, increased stocks approximately 15,000 tons.

Pyrite Concentrates have been smelted at about the same rate as intake. Shattuck Denn in the first three months delivered to Selby approximately 550 tons per month with balance of output going to El Paso, 1150 tons monthly.

Siliceous Lead Ore has been coming from the following areas:
Tons Received-1st Qtr.

Cochise county	719
Aravaipa District	402
Miscel. Arizona	<u>346</u>
Total Arizona	1,467
New Mexico	478
Texas	411
Sonora	<u>1,203</u>
Total 1st quarter	<u>3,559</u>

During this period about 400 tons were diverted to Selby Plant from Arizona and Sonora

Copper Department

	1st Quarter		On Hand - Tons	
	<u>Received</u>	<u>Smelted</u>	<u>Jan. 1st</u>	<u>April 1st</u>
Concentrates	25,698	31,630	14,150	8,145
Residue	4,839	12,941	13,149	5,231
Matte	2,604	2,984	474	75
Sulphide	357	83	634	907
Scrap	260	178	291	21
Reverb Flux	6,243	6,698	1,170	692
Converter "	<u>22,604</u>	<u>8,528</u>	<u>3,364</u>	<u>17,334</u>
Total	62,605	63,042	33,232	32,405

Concentrates and Residue stocks have been substantially reduced during the first quarter.

Reverb Flux: Development of copper ore in the Pima and Twin Buttes districts, together with tonnage from the Helvetia District, is expected to furnish El Paso Plant with a reliable source of copper ore suitable for reverberatory flux. The new orebody located by geophysical methods will be producing in the second quarter, shipping about 1,000 tons per month and it is expected that Banner Mining Company within 60 to 90 days will be shipping approximately 1,000 tons monthly of development ore from Twin Buttes properties.

Siliceous Flux: Resumption of shipments from the Stauber Mine near Pastura, New Mexico, has built up stocks of fluxing ore--approximately 14,000 tons in three months. Ira Mosely also has a new lease on the Atwood Mine at Lordsburg and expects to supply 500 to 600 tons monthly.

ZINC CONCENTRATES - Southwest Producers

Summary Monthly Receipts Amarillo & Corpus Christi

	<u>Tons Concentrates</u>	
January	6,881	Asarco (Deming-Trench) 10,712
February	7,267	Custom Shippers <u>10,518</u>
March	<u>7,082</u>	
Total	21,230	Total 21,230

DEMING MILL

A summary of receipts at Asarco Mill for the first quarter of 1952 is shown below.

	<u>Tons Received-Total 3 months</u>
Ground Hog & Lucky Bill	24,927
Empire Zinc Co	24,659
Other Custom Ore	<u>5,208</u>
Total	54,794

The present outlook for custom ore at Deming is not encouraging. A little activity in Arizona will produce an occasional car of ore in addition to Abril Mine deliveries, but the principal tonnage will come from New Mexico operations. Sources of ore for Deming are not materializing in Sonora because of transportation difficulties and lack of interest by necessary capital. An occasional shipment may be expected from Todos Santos Mine (Ben Williams) and possibly some tonnage from the Cananea area.

COMMENTS ON SHIPPERS

Arizona- Aravaipa District

Athletic Mining Company is having trouble in the mill with the oxidized ore. First quarter production totaled 150 tons concentrates, 56 tons crude ore.

Dean Nicholson is shipping from the 7th level of Sein Fein Mine-- 263 tons delivered to El Paso in the first quarter. There has been no production as yet from the west drift. It is doubtful if this operation can continue on 15-cent lead.

Mohave County

Mountain States Metals Company, from the Copper World Mine delivered 386 tons copper concentrates averaging 19% Cu 11.5% Zn and 484 tons of zinc concentrates carrying 2.5% Cu, 45% Zn.

Yucca Mining and Milling operated sporadically during the first quarter while negotiating with D.M.P.A. for over the market price, which was granted effective December 1, 1951 - 34.7 cents per pound copper. In this period El Paso received 120 tons of concentrates assaying 9.7% Cu, 5% Zn. One car only of zinc was delivered to Amarillo assaying 38.9% Zn, 19.4% Fe.

Yavapai County

Bagdad Copper Co.: Mr. Dickie has advised me Bagdad has obtained 24.5 cent per pound floor for copper extending over a 7-year period. The expansion program will materialize and the reduction plant will be a fluo-solid process involving generation of acid to supply leaching solution for spreading on the leached outcrop dumps. From this operation Bagdad expects to ship to El Paso 2500 tons per month copper precipitates. Concentrate deliveries during the first three months of 1952 total 6722 tons average grade 31.5% Cu.

Hillside Mining and Milling Company is treating ore from the Old Dick and Copper King mines, milling 100 tons daily. Production for the first 3 months of 1952: Copper concentrates 197 tons, zinc 2445 tons

McFarland & Hullinger, leasing the Boston-Arizona Mine in Copper Basin District, in March shipped their first car of ore to Deming Mill, assaying 17.4% Zn. They expect to produce about one car per month from this operation.

Shattuck Denn-Iron King Mine deliveries for the first quarter total:

Lead Concentrates			3,377
Pyrite "	-El Paso	3402	
	Selby	1603	5,005
Zinc "			5,192

Cochise County

Coronado Copper and Zinc Co., under a new contract with El Paso, resumed shipment in March of copper concentrates from the Johnson Camp operation -- 103 tons assaying 30.5% Cu, 5.9% Zn. Contract on the zinc was renewed for delivery to Bartlesville.

Manhattan Consolidated Mines, from the Scribner Mine delivered to El Paso Plant 461 tons 9% lead ore. This ore has been diverted to Selby Plant--50 tons received in March. Scribner Mine operation may be closed down with drop in lead price.

Sherwood B. Owens at the Abril Mine continues exploration for new ore under the D.M.P.A. participating agreement. First quarter production has come from old workings -- 1066 tons received at Deming averaging 14% Zn.

William F. Shaw is leasing the San Juan zinc mine at Tombstone, shipping one car per month to Deming Mill -- 160 tons received in first quarter average 17.5% Zn.

Arizona Miscellaneous

B.S. & K. Mining Company's mill at the Atlas Mine in the Silver Bell District commenced production in February with delivery of 206 tons to Amarillo averaging 56% Zn. El Paso received one car of 29% copper concentrates.

R. E. Chilson from his King-Exile operation at Helvetia shipped 1887 tons of 9.5% copper ore. Because of need for reverb ore, El Paso is absorbing up to \$2.50 per ton of the freight charge and the Traffic Department is investigating the possibility of obtaining some reduction in freight rate Sahuarita to El Paso. It is expected that Mr. Chilson will continue shipments to El Paso, although it has been necessary to limit his deliveries of low grade limey ore to Hayden.

Montana Arizona Mining Co. at the Verde (Jeff Milton) Claims south of Ajo shipped 301 tons averaging 9% Cu in the first 3 months of 1952. This shallow ore body has since been worked out and I understand further work will be suspended during the summer months.

St. Anthony Mining and Development Company's exploration on the 1125 level is encouraging. I am advised the vein on the hanging wall side of the Mammoth fault has been encountered and at this level the Mammoth vein is sulphide. The mine is still pumping between 3500 and 4000 g.p.m. No decrease in flow has resulted from pumping in the two shafts of the San Manuel property. Drop in metal prices will undoubtedly seriously affect Mammoth Mine operation. First quarter production totals: Lead concentrates 1180 tons, Zinc 1503 tons.

New Mexico

Jack - in. curious to hear details, where? ↘

Quentin Drunzer in January 1952 resumed shipment of siliceous flux from the Stauber Mine near Pastura, with deliveries for the first 3 months totaling 13,859 tons averaging 0.9% Cu, 80% SiO₂. On the advice of Mr. Reinhart, Mr. Drunzer with a mobile drill has explored an area of the Stauber Property from which samples indicate there may be a considerable tonnage of 3% to 4% copper ore. Before this orebody can be brought into production some underground development is necessary in repairing old workings and new exploration work. Mr. Drunzer hopes to ship 800 tons per month of this better grade ore and will then suspend shipment from the open pit which is now supplying El Paso Plant with converter flux.

Ira L. Moseley has obtained a lease from the owners of the Atwood Mine at Lordsburg and expects to supply El Paso Plant with 500 to 600 tons monthly of siliceous copper ore. Shipments started in March with delivery of 445 tons averaging: Au .05, Ag 2.2, Cu 1.05, SiO₂ 75%.

Explorations Inc. is shipping to Deming from the Royal John Mine near Cobre--receipts for the first 3 months total 1907 tons average grade 1.5 oz Ag, 2.7% Pb, 7.8% Zn. This operation is expected to continue on a reduced basis with drop in metal prices. Some exploration work has been stopped and the operators expect to do more selective mining resulting in less tonnage and better grade ore.

REED F. WELCH

cc: JDMacKenzie	CPPollock
EMcLittmann	DJPope
SHLevison	WRLandwehr
RLJourdan	FVRichard
WSReid	LKWilson
	FMStephens

LR

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

L. K. W.
APR 9 1952

April 3, 1952

Mr. Ben D. Roberts, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH
MARCH 1952

Aravaipa District

1. Athletic Mining Company is operating the mill on ore from the Head Center and Iron Cap mines. On opposite shift the Head Center shaft is being sunk to the 1050 level (about 500 feet on the dip of the vein). Shipment of crude ore to El Paso will be irregular during the next quarter, as this ore comes from the Grand Central Mine which is shut down while the crew is sinking the Head Center shaft.
2. Sain Fein Mine. Dean Nicholson has sunk the main shaft to the 7th level (250 feet on the dip of the vein). On this level the vein is narrow (1 to 2 feet) but has good values. On the 6th level west the vein still look good and the drift has progressed 300 feet from the shaft. To date only small bunches of ore have been encountered.
3. Santa Teresa Mining Co. Mr. Bush is still working at the Santa Teresa Mine with very little ore in sight. Shipments will therefore be irregular from this source.
4. Abe Reed Mine. Bill Reed is able to work at the Abe Reed property only after his shift as hoistman at the Head Center Mine. He reports he has ore 5 feet wide and will be producing again as soon as the weather permits.
5. Ben Hur Group of claims located east of the Iron Cap is under lease to J.B. Williamson and G. Gullledge. A few cars of zinc sulphide ore have been shipped to the Peru Mill and one car to Asarco Mill. Mr. Williamson claims to have a carload of ore in the bin but no work was being done at the time of my visit.

Lordsburg, New Mexico

6. Atwood Mine. Ira Moseley has secured financial backing and has resumed operation of the Atwood Mine. Debts incurred under the McIntosh lease have been eliminated by obtaining a new lease and option from Mr. Augustine. Application for \$50,000 government matching funds has been made through the Denver Office of D.M.P.A. If the application is granted Moseley will drive the 500 level west 1047 feet, to a position approximately under the Henry Clay shaft. Eight men are presently employed mining from the 310 level, east end. Moseley forecasts production of 2 to 3 cars per week from this section of the mine.

7. Banner Mining Company. Several months ago Banner Mining Co. made application for over-the-ceiling price on copper and plans were formulated for an extensive exploration program which would prolong the life of the mine for several years. This work, in part, involved crosscutting to the Miser's Chest vein from the Banner shaft 13th level. This would be equivalent to about 300 feet deeper on the vein below the 11th level in the Miser's Chest.

It has recently been reported that effective December 1, 1951 Banner will receive a guaranteed price of 30.53 cents for 5,438,000 pounds of copper. Mr. Bowman informs me this price is not sufficient to complete the exploration program originally planned. Instead, he plans to drive along the Miser's Chest vein on the 750 level from the Miser's Chest shaft. This revised development program will not be as effective in prolonging the life of the mine as the original plan.

Last year (1951) Banner mill heads averaged 2.22% Cu and 0.5 oz. Ag. The operation resulted in a loss of \$30,000 not considering the increase in copper price for the month of December. Due to labor shortage the mill is operating at a rate of about 350 tons per day with capacity of 500 tons. A new contract has been signed by Banner covering the output for the next two years.

8. Mineral Operations, Inc. Eugene Bruell, in charge of operations at the Hornet Mine near Hachita is again in financial trouble. Since mid 1948 through 1951 this property produced 966 tons of lead concentrates with return f.o.b. smelter \$182,128.44 and 1155 tons of zinc concentrates, net \$112,833.38 f.o.b. Hachita. Approximately 19,000 tons of crude ore have been milled to obtain this production and some 1,000 tons additional has been sorted from the ore mined before crushing. Assuming a ratio of concentration 8 to 1 the value of the crude ore milled is about \$14.50 per ton. Due to intermittent operation of the mill, Mr. Kaanta thinks Mr. Bruell's milling cost approximates \$10 per ton, which probably accounts for his continual financial difficulties. Mr. Bruell reported that he would lose the mine and equipment by foreclosure of a first mortgage of \$35,000 due April 1st.

REED F. WELCH

cc: JDMackenzie DJPope
EMcLTittmann WRLandwehr
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LKWilson-2
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

March 4, 1952

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH
JANUARY-FEBRUARY 1952

L. K. W.
MAR 14 1952

1. Montana-Arizona Mining Company is operating the Verde claims (also known as Jeff Wilton Mine), located in the Organ Cactus Monument about 12 miles northwest of Lukeville. The ore occurs as secondary minerals in schist striking east and west with dip of 45° to the north. Although the mineral showing continues several hundred feet along the strike, only the present position shows width justifying mining. At this location the ore is lenticular and can be mined in excess of 100 feet along the strike. Mr. Anderson has stripped the overburden with bulldozer and is working about 25 feet below surface. At this place the ore is about 12 feet wide but narrows down to a streak in the west end and in the bottom of a 30-40 foot shaft previously worked by Anderson. The ore is sorted carefully. Receipts at El Paso October 1951 through January 1952--300 tons average 8 oz. Ag, 14.7% Cu. Mr. Anderson says he can make money on ore in excess of 6% Cu. Two trucks are used for hauling the ore a distance of 95 miles to the railroad at Gila Bend.

2. W.L. Clayton of Casa Grande is leasing the Silver Reef property from Greenhorn Mining Company. A 31-ton lot received at El Paso in January assays 3.9 oz Ag, 8.7% Pb, .10 Cu, 3.1 Zn, 57 Insol. The ore occurs in a siliceous vein near the valley floor, about 100 feet north of the lower tunnel. The first car came from a 10 foot hole sunk on the outcrop. Due to weak mineralization I advised Clayton to ship his second car to El Paso. If the value holds up succeeding cars will be diverted to Selby.

3. Holmestake Mining Co. Messrs. K.A. Holmes and Harry Harvey are mining siliceous gold ore at the Cargo Muchacho Mine near Ogilby, California and about 8 miles northwest of Yuma. Since resuming operations recently 5 cars have been shipped to Phelps Dodge at Ajo on a very favorable purchase schedule. The ore is expected to assay about \$12.00 per ton in gold and up to 82% silica. Phelps Dodge pays for 100% of the gold at \$33.00 per ounce with no base charge up to \$20 per ton pay value and a charge based on 10% of the excess over \$20 per ton gross value and silica credit \$1.50 per ton if SiO₂ less Al₂O₃ is 80 to 85%, \$2.00 85-90%, \$2.50 per ton in excess of 90%.

Mr. Holmes advises me work in the mine is encouraging with the possibility of two new gold veins on the 600 level. Tungsten has been found in two veins on the 600 level where the gold values decrease. Under the light tungsten shows abundantly but is fine grained and disseminated. Samples assay as high as 26% tungsten across 12 to 14 foot quartz veins. One truckload sold to Vanadium Corporation of America at Bishop paid \$37 per unit for 100% tungsten.

Field Trip Notes
Jan-Feb. 1952

Holmestake Mining Co., con't

Phelps Dodge has sampled the mill pond at Cargo Muchacho mine--approximately 90,000 tons reported to assay: Au .046, SiO₂ 83.8, Fe 2.1, Al₂O₃ 6.5 CaO 1.0. Mr. Holmes rejected Phelps Dodge's offer of 15 cents per ton for the mill pond. Before shipments started from Cargo Muchacho Mine Ajo was obtaining 95% silica sand in the Colorado river.

4. Altuda Mining Company has been operating a group of claims located about 22 miles east of Gila Bend and 5 miles south of Highway 80. Roy E. Wampler is president of the company and station agent at Gila. Stock is sold to support a small amount of mining. A shaft has been sunk to a depth of about 100 feet in the footwall of a quartz vein with width 1 to 2 feet. The country rock is granite. One car shipped to Phelps Dodge at Ajo resulted in a loss of \$1.18 for the lot.

REED F. WELCH

cc: JDMacKenzie
EMcLittmann
RLJourdan
WSReid

DJPope
WRLandwehr
FVRichard
LKWilson-2
FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

December 27, 1951

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH
DECEMBER 1951

1. Mojave Area, California. In response to correspondence with Frank Royer I visited Mojave and Randsburg during the month of December. At the Kelly Mine Frank Royer is working with only two miners. So far development has exposed ore of \$15 value, too low grade to ship to a smelter.

M.W. Sweetser of Rosamond, California, is leasing the Golden Queen Mine near Mojave. A very favorable purchase schedule has been issued for 1000ton trial shipment of this gold siliceous ore to Hayden. Mr. Sweetser has 2000 to 3000 tons available for shipment assaying about one ounce gold, 5 ounces silver, with 92% silica. This ore comes from a section of the mine abandoned by previous operators and is mined in 2 to 4 foot widths. Mr. Sweetser advises me he has taken out 800 tons in the past 30 days. The ore has been going to the Burton mill at Mojave but with recent increase in milling charge to \$7.50 per ton it is now possible to move this desirable flux to the smelter under the special rate offered for Hayden delivery.

The major tonnage of gold ore treated in the Burton mill is coming from a leasing operation on the Silver Queen Mine, from which the Burtons are mining a 5-foot width assaying \$150 to \$750 per ton gold. The mine owned by the Burton brothers is working only one shift on a leasing basis. They are now involved with litigation on apex rights where their vein dips under adjoining claim sidelines.

2. Donald Love, Ludlow, is still working at the Bagdad-Chase Mine but continued operation depends upon willingness of the mine owners to reduce royalties. Mr. Frank Wicks, engineer for Bagdad Chase Company, has indicated to me they will agree to reduction in royalty payments. There is a small amount of ore available for mining, after which some exploration will be necessary. Mr. Love is unwilling to finance the entire development cost and wants assistance from the mine owners, which is not likely to be granted.

3. Penn Chemical Company: Mr. C. F. Fisk, President of Penn Chemical, advises me that Goldfield American Development Company has recently completed an examination of the Penn Mine near Valley Springs, California. If the option is taken up by Goldfields Mr. Fisk and his associates will relinquish operating control. It is expected that an expansion in production will be effected.

2/13/52

Hayden

N. W. Sweeten

Box 445, Rosamond

from Fleta, Calif.

(Golden Queen claim & mine)

7 lots 1/19 to 2/4

0.98 - 48 Duz

1.49 - 48

1.27 - 98

1.50 - 57

1.03 - 194

1.81 - 48

1.09 - 47

540

4. Yucca Mining and Milling Co. is still short on water for the mill at the Antler Mine, which necessitates re-use of tailings water. This practice results in poor grade of concentrates. Tailings water is now being treated before re-use and it is hoped that better concentrates may be produced.

5. Mountain States Metals Co. is also having trouble with deficient water supply and this has affected the grade and tonnage of concentrates from the Copper World Mine. The mine has about two years ore reserves at this time. Lack of capital is working a hardship on this operation.

6. Tennessee Mine, Chloride: W.H.H. Cranmer, Manager of New Park Mining Company, Keetley, Utah, has taken the position of President of Tennessee Metals Company. Tennessee Metals is presently in litigation with Ralph R. Langley, claiming the company holds a lease on the Summit Mine operated by Mr. Langley. This lawsuit was initiated before Mr. Cranmer entered Tennessee Metals and he is not pressing the case. I understand the proposed new work in the Tennessee Mine will be financed through D.M.A. matching funds and a loan to cover the company's expenditure.

7. Gross Copper Mine. I am advised that the Gross Copper property in the Mineral Park District north of Kingman is under option to Kennecott and is being explored by drilling for disseminated copper.

8. McFarland and Hullinger, formerly operating the Old Dick Mine, have a lease and option on the Boston Arizona property near Skull Valley. A new 600 cu. ft. compressor has been installed and development work begun. After the mine is reconditioned it is expected that 50 tons per day of 20% zinc sulphide ore can be produced which should go to Asarco Mill at Deming.

9. The Reorganized Silver King Cons. Mining Co. is operating the Mt. Union Mine southwest of Prescott. Plans call for a mill but so far mill construction has not been started. A sample sent to Deming for mill test gave assays as follows: Au .39 oz., Ag 2.86 ozs., Pb 6.86%, Cu 0.24% Zn 4.0% Because of the gold content and high delivery costs to Asarco Mill purchase offer was not submitted. A trial shipment has been trucked to the Hillside mill from which returns are not yet available.

10. Shattuck Denn Iron King Mine. In preparation for sinking a new shaft Iron King is churn drilling an 18-inch hole at the shaft location to provide passage for waste to the working levels below. This waste can then be used as backfill in the stopes. The mine operation is otherwise unchanged.

11. The Cash Mine, owned in part by E. R. Dickie, has been shipping about 200 tons per month to the Iron King mill at Humboldt.

12. Mr. Mills advises that the Silver Flake Mine could produce 300 tons of lead-zinc ore monthly. Ore from the Silver Flake and Cash mines-- about 450 tons per month--is now being handled in the Iron King Mill as an accommodation to the producers. The ore is low grade and cannot be shipped to Deming. Because Iron King wants to be relieved of this custom tonnage I have called it to the attention of Mr. Allison as additional source of ore for his mill at the French Sheldon property.

8. Allison Steel Manufacturing Co. has reconditioned the French Sheldon Mine at Walker east of Prescott. A mill has been constructed and is starting operation this month. A contract covering the output was signed in June 1951 and concentrates will start moving in January. Approximately 30,000 tons of \$30 value ore is reported available in this mine. Additional mill feed is expected from the Pine Mountain Mine which is being opened up by Allison Steel. With installation of a set of scales and a sampler the mill will be in a position to handle custom ore.

14. New Yorker Mine: Diamond drill exploration is being done on the old patented New Yorker property about 8 miles northwest of the Iron King Mine. I am advised this property was brought for taxes by C.H. Dunning and Fred Schemmer of Prescott and that Bob LaFollet and Doctor Sherrill of Phoenix are supplying the working capital.

15. Bagdad Copper: The Mining Department has just completed examination of the Bagdad property, results of which are not yet released. Stripping in the caved section of the pit is now in progress. It is planned that mining will begin in this section early in 1952. Production for the first quarter of the new year will remain about the same as the last quarter of 1951.

16. Manhattan Cons. Mines Development, now operating the Old Dick Mine, has sunk the shaft to the 250 level. Exploration is now concentrated on the 225 level, 75 feet below previous stoping. The vein has been crosscut, 10 feet of which assays 16% Zn, 1.7% Cu, the next 12 feet 33% Zn, 3.9% Cu.

17. Hillside Mining and Milling Co. is driving an 800-foot adit to crosscut the low grade tungsten ore on its property in Boulder Creek. At the same time mill test work is being done in the Hillside mill for concentration of tungsten.

18. B.S. & K. Mining Company is completing construction of a mill on the Atlas Mine in the Silver Bell District. Contract has recently been signed for the copper and zinc concentrates to be produced starting early in 1952. Mr. Kalaf of B.S. & K. informs me that recent development work has opened up high grade zinc ore on a level 60 feet below the Atlas tunnel.

19. St. Anthony Mining and Development Company's operations at Tiger have been shut down for six days over the holidays as a result of a broken gear on the main hoist. Exploration work on the 1125 level has encountered the vein. While the ore is lower grade and more siliceous than on the level above, Mr. Richards is more enthusiastic about the possibilities on this level than on the 1000 level and he is sure of at least one year's ore supply. The mine is presently producing 8000 tons per month. Although San Manuel is sinking their No. 1 shaft, there has been no noticeable decrease in flow of water in the Tiger mine. Present pumping amounts to about 5000 g.p.m.

St. Anthony Mining and Development has taken options on two tungsten properties near Tonopah, Nevada, and has also obtained lease and option on the Peacock claims near Mineral Park in Mohave County. The Peacock vein outcrop shows 5 ozs. Ag, 6-8% Pb.

20. G.B. Lancaster and associate are leasing the Burney brothers' Birthday claims in the Old Hat District. Preliminary work installing power and pump equipment has been completed. This will be followed by diamond drilling.
21. Pima Mining Company, owned by United Geophysical Company has started work on a 450 foot shaft in the San Xavier District. This copper ore body is a new discovery made by geophysical methods followed by diamond drilling.
22. Banner Mining Company is making progress at the Mineral Hill and Copper Queen mines at Twin Buttes. The power line to both properties is now complete. Mineral Hill No. 1 shaft has a new headframe and surface buildings and is retimbered to the 200 foot level. Mineral Hill No. 3 shaft is reconditioned and has produced about 650 tons of 6% copper ore delivered to El Paso Plant. Work at the Copper Queen Mine will begin as soon as labor is available.
23. Eagle Picher Company, Sahuarita: Production of lead concentrates from the San Xavier Mines decreased in December as a result of holiday stoppage. No changes are reported in mine operation and normal production will be resumed in January of 1952.
24. Dean Nicholson at the Sein Fein Mine, Aravaipa District, is producing about 100 tons of lead ore per month. For the past two months he has been exploring ground west of the shaft on the 6th level. Two hundred feet of the new level opened up numerous small blobs of predominately sulphide ore but these showings did not justify following the vein. The main shaft has been sunk 75 feet and the 7th level to the east started. Upon completion of this work production of 200 tons per month should be maintained for several months.
25. J.B. Williamson and Grady Gullede are leasing the Ben Hur Mine (Landsman Group) east of Athletic's Iron Cap Mine in the Aravaipa District. Peru Mill has received 100 tons of sulphide zinc ore from this operation. A schedule has been issued for delivery to Asarco Mill under which Williamson and Gullede expect to ship 200 tons monthly assaying about 4% lead, 16% zinc.
26. Hilltop Mine, Cochise County. The American Zinc Lead Company has a lease on the Hilltop Mine in the California Mining District, employing 6 or 8 miners cleaning up the mine in preparation for exploration work. Mr. Calhoun of American Zinc has offered a sublease to McFarland and Hullinger on the upper portion of the mine. The Blacksmith Tunnel is reported to have 2000 to 3000 tons of oxidized ore assaying 27% lead
27. Abril Mine: S.E. Owens, Lessee, has obtained an exploration contract with D.M.A. for matching funds, and development work has been started on the 4th level. Cost of this exploration, together with some work on the 5th level, will total \$63,000. Receipts at Deming Mill from the Abril Mine for the past month or so have been low grade. Current shipments, however, are showing an improvement in zinc value.

28. C.B. Higgins, formerly on the Abril property under Lewis and Skinner ownership, is leasing the Democrat-Sherman (Hubbard) Group about two miles west of the Abril. A mill sample assayed 30% zinc and schedule has been issued. Shipments should soon be moving to Deming from these claims. Mr. Higgins and his associate Pete Lehr have a lease also on the Rainbow claims in the Dragoon area and would like to interest our Mining Department in this ground.

REED F. WELCH

cc: JDMacKenzie DJPope
 RBradford WRLandwehr
 RLJourdan FVRichard
 WSReid HWKaanta
 LKWilson-2
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona23rd
July 19, 1951

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH
JUNE 1951

1. Arizona Copper Mines, Inc. Slow progress is being made at the Control-Daily property near Oracle. Underground work was temporarily held up while repairs were completed on houses at the mine and assessment work was performed at the Gold Prince Mine at Dos Cabezos. Mr. L.E. Stickradt, in charge of development at the Control Group, reports since January 1951 100,000 tons of 3% copper ore opened on the 300 level of the Daily Mine. Mr. Mowinckle, owner, wants to operate the Hartman Group. According to Mr. Stickradt this mine could produce about 100 tons per month of lead-zinc mill ore. A sample for mill test has been requested.
2. Chilito Mine, Banner District, Gila County. J.M. Bingham and son delivered two lots of ore to Hayden from this property, located about 7 miles northwest of the smelter. It was hoped this siliceous ore might replace Ray barren flux, but values are too low and truck costs cannot compete with rail delivery from Ray.
3. Banner Mining Company. Banner has signed an exploration contract with D.M.A. for work at the Mineral Hill Mine in the San Xavier District. Within a short time work will begin in preparation for underground operation. The R.E.A. will supply power and the line is to be completed early in September. One carload of 6% to 7% copper ore has been mined from Mineral Hill ground while rehabilitating a shaft east of the main shaft.
4. United Geophysical Company, for the past year has been conducting a geophysical survey in the Twin Buttes and San Xavier districts. This company is a wholly-owned subsidiary of Union Oil Company. One of the engineers reports this area was chosen for exploration because of the wide extent of mineralization, field work can be maintained throughout the year, and assistance is available through the University. Several geophysical methods have been used one against the other to determine which is more reliable. Each method indicated points of interest or anomalies, and depth of 200 feet forecast by instruments was verified by diamond drilling.
United Geophysical Company located claims east of the Mineral Hill group and bordering the valley. This property is practically all covered with alluvium but proved interesting enough after surveying for diamond drilling. I am informed that drilling indicates 75,000 tons of ore. Plans are under way to sink a 400-foot shaft to be started within the next 60 days. This company is now completing a geophysical survey of the Vulcan Mine west of the Mineral Hill.

Field Notes-June 1951

5. Scribner Mine, Swisshelm District. Mining operations in the past year have been carried on without doing any development work. Recent exploration has so far been discouraging and the mine is out of ore. As a result Doctor Larson will probably lease to miners now on the property. Under such a leasing operation about one carload of ore per month is possible until more ore can be developed.

Effective June 1, 1951, Manhattan Consolidated Mines Development Co. took over the Scribner Mine and all shipments in the future will be made under that name.

6. Chance Mining Company. The Rydbom brothers were given an adverse decision in the case Ether Haynie versus Taylor et al and they expect to ask for a new trial. Mining operations are still being carried on in a small way and it is expected that production will continue at the rate of about 100 tons per month.

7. Abril Mine, Tombstone District. S.B. Owens is shipping zinc ore from this mine to Asarco Mill. After trying to extend the old stope in the upper part of the mine Owens has decided to concentrate mining between the 4th and 5th levels. This has resulted in shipment of about 600 tons per month with improvement of grade over earlier shipments.

8. Nash Mines. The new owner and operator of the Duquesne Group, James P. Nash of Austin, Texas, produced 655 tons of milling ore in June delivered to the Trench Unit. Since this property was taken over from the Byrd brothers new leases have been issued and construction of a shop at the Bonanza Mine will soon be completed.

9. King-Ainsworth Group, Portal, Arizona. Arthur R. Castro of Los Angeles has taken over operation and mined about 50 tons of lead-zinc milling ore which he expects to ship to Asarco Mill. Castro has Los Angeles backing, plans on opening No. 2 shaft and expects to have more tonnage for the mill.

10. Bagdad-Chase Mine, Ludlow, California. Donald Love's lease on the Bagdad-Chase property expired June 15, 1951. Mr. Frank Wicks, engineer for the mine owners, requested rates to ship some low grade which represents the vein outcrop. After visiting the property it was decided the outcrop material is too low grade to justify moving with high freight cost to Hayden. Mr. Love thinks prospecting should continue in two places on the west side of the property but refuses to spend his own money on such development. It is possible he will work for Frank Royer at the Kelly Mine.

REED F. WELCH

cc: JDMacKenzie DJPope
RDBradford WRLandwehr
ELJourdan FVRichard
WSReid HWKaanta
 LKWilson-2
 FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 11, 1951

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH
APRIL-MAY 1951

1. Banner Mining Company: As reported last October, Banner has taken over several groups of claims in the Twin Buttes and San Xavier Districts and has now obtained the Contention Mine at Twin Buttes. Early work is planned for the Contention, from which zinc-copper sulphide ore will be produced. A sample has been requested for Deming, but because of trucking facilities from the mine to Sahuarita mill it is not likely that Deming can compete for this ore.

At the Copper Queen Mine Banner has cemented the collar and straightened the head frame but no underground work is expected for this property in the immediate future. At the Mineral Hill Mine excavation has been made for a hoist house and the collar of shaft has been cemented. Banner will concentrate mining activities on the Mineral Hill property, but work will be delayed until R.E.A. extends the power line to the mine which is expected in September. During the next few months exploration work will be carried on in a shaft east of the Mineral Hill main shaft. So far this work is encouraging and may result in production of copper milling ore from this shaft.

2. Tucson Mining Company. A group of Los Angeles people is working on the Bobby Group adjoining the San Xavier Mine, also sinking the Tit for Tat shaft some distance west of the Bobby. Mr. Sam S. Caldren is superintendent at the mine. Warren Hassler of Los Angeles is financing the operation.

3. James P. Nash of Austin Texas has purchased the Duquesne Mines from the Byrd brothers. Mining will be continued by the same leasers with monthly production goal of 1,000 tons, all of which will be delivered to the Trench mill. Don Gilbert, formerly of Ophir, Utah, has moved to Duquesne to supervise operations.

4. Hilltop Mine: Mr. Frank R. Wicks, of Los Angeles who represents Chicago people holding interest in the Hilltop Mine, California Mining District, Cochise County, tells me that American Zinc Company has an option on the mine. A payment to be made in June will determine American Zinc Company's participation in the operation. Mr. Wicks reports that a raise from the Rhem tunnel cut 40 feet of vein assaying 5% lead, 5% zinc and 5 ounces silver; the lower 5 feet assaying 25 ounces silver. There is some oxidization throughout the width of the vein in this raise.

5. Arizona Copper Mines, Inc. In the fall of 1949 the late W.R. Shanklin acquired a number of mining claims in the Old Hat Mining District, including the Control, Daily, Stratton and Hartman groups. The operation is financed by Mr. J.E. Mowinckle of San Antonio, Texas. Property in the Old Hat District was recently assigned to a corporation Arizona Copper Mines, Inc.

Extension of the Daily tunnel along the diorite lime contact has opened a chalcopryrite ore body assaying in excess of 5% copper. Upon the death of Mr. Shanklin early in May of 1951 underground work was temporarily suspended until a new mine manager is selected. In the meantime cabins are being repaired and outside assessment work taken care of. Mr. Mowinckle plans a considerable amount of underground development and diamond drilling from underground and surface positions. Eventually a new adit will be driven and a flotation mill constructed on the property.

6. B.S. & K. Mining Co. is building a flotation mill at the Atlas Mine in the Silver Bell Mining District. Adequate tonnage has not been developed to warrant the mill but the owners feel the risk involved is justified. It is expected that the mill will be completed some time in the fall.

7. Wickenburg Ore Market continues to purchase trucklots of ore from small producers and to ship one or two cars per month to El Paso Plant. Manager Willoughby states that his outcome is satisfactory on the lead ore but he does not do so well on the gold ore.

8. McFarland and Hullinger. The Old Dick Mine is responding favorably to development and sufficient ore has been delivered to the Hillside mill to repay the \$10,000 loan made by the Smelting Department. On June 1st another ore shoot was encountered in a 200-foot crosscut driven west from the 150 foot level north drift. This crosscut exposed a strong structure striking northerly and dipping 50° westerly. Four feet of the footwall are replaced with high grade zinc sulphide and 3 feet of the hanging wall appears as if it would assay 3% copper. This ore could be the downward extension of the large stope on the adit level and if so might produce a large tonnage.

9. Bagdad Copper Corp. E.R. Dickie hopes to expand Bagdad operations; has purchased new trucks and two new electric power shovels. He expects to produce 2,000,000 pounds per month for the last 6 months of 1951. Negotiations are under way with the government for a guaranteed floor price of 24.5 cents per pound with an escalator clause providing for increased cost of labor and materials. The expansion program, at an estimated cost of \$10,000,000 financed by private capital, calls for building roasters, acid plant, leaching plant for dump ore and concentrates, an electrolytic refinery, and enlargement of the mill.

Bagdad Copper Corp., Cont.

Mr. Dickie estimates 5 years ore reserve in the present pit and 50 years additional by working westerly. I drove into the pit and have never seen it in such bad condition. Ore is mined from the east side only on the two lowest levels. Stripping operations to the east are not keeping ahead of mining. No work has been done in the pit preparatory for mining essterly.

10. Shattuck Denn, Iron King Mine. Operations are moving along steadily at the rate of 15,000 tons of ore per month. Diamond drilling has proved the ore to be consistently the same grade to the 19th level, which is as deep as the drill has penetrated. Ore is being mined on the 9th and 11th levels. Preparation for mining on the 12th level is progressing. Stations are being cut on the 15th and 17th levels. Future plans call for sinking a new shaft 600 feet north of the present working shaft.

An increase in iron concentrates production to 3,000 tons monthly has been effected by passing the pyrite concentrates through thickener tank before going to the filter.

Kay Copper Mine. The 1200 foot shaft has been unwatered but caved workings on the 1200 level must be opened up before sampling may be completed. Discussion of Kay Copper leads me to believe that results so far have been discouraging to Shattuck Denn.

At the present time Shattuck Denn is reported to be considering a deal on the Antler Mine at Yucca.

11. Allison Steel Manufacturing Co. has unwatered the French Sheldon Mine near Walker, Arizona. Work is progressing on the 2nd, 4th and 6th levels. Metallurgical tests have been conducted by Southwestern Engineering Company. On the basis of data supplied to me the crude ore would have value of about \$23.88 per ton after deducting freight and smelting charges. This includes production of lead, copper and zinc concentrates, high-gold jig product and middlings. I am advised that Allison is proceeding with construction of a mill and expects to be in production in about 90 days. Contract will be submitted to cover the output.

12. Mountain States Metals Company. A contract has been signed with Mountain States Metals, George A. Freeman, President, for output of zinc and copper concentrates from the Copper World Mine near Yucca. Mountain States has recently completed a 50-ton Flotation mill at the mine and shipments will be started early in June.

13. Yucca Mining and Milling Company's production from the Antler Mine continues to be low grade. This is the result of sporadic mining and erratic milling operations. During most of the month of May the mill was shut down while an attempt was made to change mining method to maintain a steady flow of ore to the mill.

REED F. WELCH

cc: JDMackensie DJPope HWKaanta
RDBradford WRLandwehr LKWilson-2
RLJourdan FVRichard FMStevens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

March 28, 1951

APR - 6 1951

Rec'd. L.K.W.

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES - REED F. WELCH

FEBRUARY 1951

Salome, Arizona

1. Hidden Treasure Mine is owned by "Cactus" Johnson, recorded in his wife's name. Last fall A.R. Powell and H.L. Kast leased the Magic claims of this group and shipped to Hayden Plant about 140 tons averaging: Au .5 oz Ag 4 ozs., SiO₂ 90%. These lessees did quite a lot of development work but failed to pick up the ore shoot on the lower level. Subsequent work on the upper level found the ore and above tonnage was hoisted by hand.

A short time ago Powell gave up his interest in the lease. Johnson and Kast are now working in the winze from the upper level. They have mined about 2 tons of high grade gold ore which will be shipped to El Paso or sold to Wickenburg Ore Market. Returns from the high grade are to be used to extend the lower tunnel which has a good chance of encountering the ore shoot. A few hundred tons of siliceous gold ore could be shipped to Hayden if this work is successfully completed.

2. Blue Eagle Mine, south of Salome is owned by George W. Campbell who is concentrating on production of tungsten. No siliceous gold ore may be expected from this property in the immediate future. Campbell is negotiating for sale of the mine at the present time at a price of \$100,000.

3. Southern Cross Mine near Salome is owned by L.A. Aplington and a partner living in the East. In 1950 Aplington delivered to El Paso 443 tons with average assays: Au .02, Ag 4, Pb 16.7%. Recent development work has opened up a new vein of zinc-lead oxide ore. Two cars received at El Paso in 1951--93 tons--average: Au .02, Ag 1.5, Pb 9.0, Zn 11%. A third car-load is now being mined. This ore was discovered in a 90-foot crosscut adit, 85 feet below a low grade vein outcrop. The vein strikes N 20° W and dips about 90°. Fifty feet of development along the vein shows the north face to be about 4 feet wide, while the south face is 8 feet in width. The structure looks strong and continues several hundred feet on the surface, although ore values do not occur all of this distance. The gangue mineral is black calcite and possibly a dike which is quite different from the rhyolite country rock.

Aplington and his partner would like to dispose of this property. At the time of my visit Mr. T.P. Lane, who is doing mine examination work for St. Anthony Mining and Development Company, was at the Southern Cross. He took samples but did not discuss his interest with Mr. Aplington.

Hillside, Arizona

4. Old Dick Mine: Since last October McFarland and Hullinger of Tooele, Utah, have been working at the Old Dick property. The outside vertical shaft has been deepened to the 150 foot level. At this position a crosscut of 180 feet intersects the Old Dick vein where it assays 5% copper, 4 to 8% zinc. The vein strikes N 15° E and has a footwall dip of 45° W. In the back of the crosscut the vein is 12 feet wide. Work in both directions on the vein is in progress. At the time of my visit ore was being hauled to the Hillside Mill to be concentrated when 500 tons had been accumulated.

The last report by telephone on development indicated that ore has been opened up to the south assaying 28% to 30% Zn and 2.75% Cu. This high grade has been drifted on for about 12 feet and is 7 feet wide.

5. Mountain Spring Mine near Hillside is preparing a shipment of lead-zinc ore for Asarco Mill. The ore is being mined very clean and production will amount to about 50 tons per month. Ore from the Mountain Spring Mine is not wanted at the Hillside mill. Since closing down the Hillside Mine early in 1951 they are not making lead concentrates.

6. Bagdad Copper Corporation is working at capacity, milling 3300 tons of ore per day and handling 10,000 tons of stripping. On the east side of the pit Mr. Dickie has 7 levels in waste and 3 in ore. Stripping in preparation for mining 200 feet farther east is now in progress. On present copper price the life of the pit in this direction will be extended one year and operators will pay off the R.F.C. indebtedness by July 1951.

Future mining will be directed westerly in the caved area. It is estimated by operators that several years of mining can be expected by working in this direction. There will be a cutoff grade of 0.6% Cu. Three diamond drill rigs are drilling in preparation for future work to the west. Dickie is hopeful of a large tonnage coming from the Giroux tunnel area about 1800 feet west of the present open pit.

REED F. WELCH

cc: JDMackenzie
RDBradford
RLJourdan
DJFope
WRLandwehr
FVRichard
HWKaanta
LKWilson-2 ✓
FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 8, 1951

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES -- SONORA, MEXICO

REED F. WELCH JANUARY 1951

During the past three weeks I have made two trips into Sonora; one to Hermosillo and the other, accompanied by Mr. Ben Roberts, to Cananea and Nacozari.

1. Mazatlan Smelter. At Hermosillo Pedro J. Fruns has opened an ore-buying agency representing the Mazatlan smelter. He is reported to purchase ore without commission for shipment to Mazatlan. Mr. Fruns has a yard partly under cover and has installed a new set of truck scales. He is buying mostly limey lead ores but also purchases some leady siliceous ore. Gold-silver-copper ores are shipped to Cananea. The Alaska Mine, southeast of Hermosillo, is controlled by Mr. Fruns and operated by gambusinos producing about 100 tons per month of gold-copper ore, shipped to Cananea.

At the present time the Monterrey price for lead is higher than New York quotation and under this condition El Paso receipts of Mexican lead ore are dependent upon the shippers' preference for El Paso and not necessarily on better outcome at that smelter. We should anticipate shippers' desire for the higher lead price and ask them to divert to San Luis Potosi if by so doing they will receive greater returns from their shipments. If this is not done we may be furnishing the Mazatlan smelter with an ore supply that will be hard to recapture in more normal times. Pedro Fruns is attempting to capitalize on the price differential and no doubt will get some additional ore under these conditions.

Another adverse condition exists in the scarcity of railroad equipment in Mexico. Cars are very hard to get and are delivered to shippers as much as 6 weeks after orders are placed.

2. Credito Minero y Mercantil, S.A. Since the first of the year Mr. A. A. Antunez has been in charge of this ore-buying agency at Hermosillo, replacing former manager Oscar Monteverde. Mr. Antunez is becoming an active ore buyer and reports he will have an occasional car of lead ore for shipment to El Paso. Mr. Antunez is one-third owner of a lead-zinc sulphide mine in the district of Sahuaripa, about 150 kilometers east of Hermosillo. The ore assays:

	<u>Au-grams</u>	<u>Ag-grams</u>	<u>Pb-%</u>	<u>Cu-%</u>	<u>Zn-%</u>
	4.36	596	4.77	1.2	45.0
Non-sulphide			.2		.8

Penoles has offered Mr. Antunez a schedule for delivery of this sulphide ore to Torreon at the rate of 100 tons per month. I asked him to send a sample to Deming for mill test so we could make comparison of outcome for him.

3. Oscar Monteverde now has his own ore-buying agency in Hermosillo. He has shipped 4 carloads of siliceous lead ore to Mazatlan but told me he would send future shipments to El Paso Plant.

4. Raul F. Lemas is producing lead ore from the Candelaria Mine near Caborca operated by his cousin Manuel Lemas Moreno. An occasional carload of siliceous ore and some limey lead ore has been shipped to Mazatlan but El Paso is receiving the bulk of this production. Jose and Manuel Lemas of Hermosillo are mining tungsten.

5. Minerales de Occidente under management of Juan Serrato is doing a considerable volume of business at Hermosillo, purchasing mostly gold-silver-copper ore for shipment to Cananea. Lead ore formerly purchased by this agency has been taken over by Pedro Fruns. Juan Serrato refuses to deal with Mr. Fruns and will not ship to Mazatlan smelter.

6. Minerales, S.A. at Santa Ana under Marcos B. Serrato is active in purchasing ore, principally lead, all of which goes to El Paso. Mr. Serrato called my attention to the Monterrey lead price as did other ore buyers.

7. Minas de Guatamo, S.A., H. Grattan Lynch, Manager, is operating the Guatamo Mine and jig mill at Batuc, Sonora. Concentrates are hauled to Hermosillo where they are stored awaiting delivery of cars for shipment to Asarco Mill, New Mexico. So far the Deming mill has received about 500 tons of jig concentrates from this operation, assaying about: Ag 8 oz., Pb 11%, Cu 2.4%, Zn 26%. If railroad cars were available, Guatamo mine could ship 200 tons per month to Deming.

For about two months Minas de Guatamo has been in the process of adding flotation cells to the mill circuit to produce lead, copper and zinc concentrates. Contract proposal for this output has been submitted to Mr. Lynch. Because of higher Monterrey lead price and scarcity of cars Mr. Lynch has been seriously considering shipping the lead concentrates to Mazatlan. Apparently he is of the opinion that cars will be available for delivery to Mazatlan smelter. For two months he has been trying to lease railroad equipment to handle his concentrates but so far cars have not been available. His latest proposal is to produce lead and zinc concentrates only.

8. Compradora de Metales y Pastas. Lauro Grijalva was out of town at the time I called and nothing was learned about mining activities around Magdalena. In the past El Paso has received an occasional carload of lead ore from this agency.

9. Howard H. Fields at Carbo reports his flotation mill will be completed some time in February. I believe he will elect to ship the lead concentrates to San Luis Potosi to receive the benefit of the Monterrey price. Zinc concentrates will go to Amarillo. A new showing of ore 12 feet wide has given new impetus to production possibilities in the Zinconia Mine. Mr. Fields reports the partially oxidized ore assays 4% lead, 18% zinc.

10. Baja California. At Guaymas John Davidson, broker and English Consul, reported he had no information regarding prospective movement of ores from Baja California to Guaymas for rail shipment to El Paso. Such movement, indicated by recent correspondence with Bradley & Ekstrom of San Francisco, has not come to Mr. Davidson's attention as yet.

11. Francisco Varela of Cananea is buying small tonnages of lead ore for shipment to El Paso. Most of this ore is mined by Francisco and his brother Carlos Varela, coming from Francisco's mine near Bacoachic. It is expected this mine will produce 50 to 75 tons per month of 30% lead ore. In addition to this small amounts of ore are purchased from gambusinos mining in the Ajo mountains east of Cananea.

Francisco Varela reports there is a good chance of obtaining lead-zinc sulphide ores from the Cananea area for treatment at Deming mill. The following assays are taken from Shattuck Denn settlements covering receipts in 1948.

<u>Mine</u>	<u>Tons</u>	<u>Au-oz</u>	<u>Ag-oz</u>	<u>Pb-%</u>	<u>Cu-%</u>	<u>Zn-%</u>
Cuervo	53	.005	11.05	10.95	0.52	18.50
Ajos	58	.007	12.0	10.80	.52	18.70
Democracia	40	.01	16.3	5.55	3/70	21.50

The above settlements sheets were taken at random from a large number in Varela's file. The most promising mine, according to Mr. Varela, is the Democracia which can produce 100 tons of ore per day. I asked him to send a sample of the Democracia ore to Deming for mill test.

Mining in this area stopped with falling metal market and abandonment of milling operations at Bisbee by Shattuck Denn. Now that metal prices are favorable again and the Deming mill can offer an outlet for sulphide ore, these mines could produce again. Mr. Varela reports the owners and miners must be persuaded to go back to mining and in most cases Varela will be required to finance operations.

12. Comision de Fomento Minero at Nacozari is converting their cyanide mill into selective flotation under the supervision of Mr. Jack Hamilton, formerly mill superintendent for Shattuck Denn at Bisbee. Mr. Hamilton expects to have the mill operating some time in February. In anticipation of this milling operation local producers have stockpiled about 800 tons of lead-zinc sulphide ore at

the mill. Because of lack of funds Mr. Hamilton has not been able to make payment for this ore which assays from 20% to 45% combined lead and zinc. With this custom mill at Nacozari there is little likelihood of obtaining milling ores from this district for Deming. However, unless Comision de Fomento Minero soon makes funds available to pay for the ore being stockpiled future shipments may go to Asarco Mill.

We have a two-year contract for lead concentrates that will be produced at this mill. The zinc concentrates will be shipped to Bartlesville.

13. Oposura Mine near Moctezuma has been purchased by Anaconda Copper Company. An examination of the mine will be undertaken in the near future to determine how Anaconda will handle the operation. This eliminates the possibility of any tonnage from the Oposura moving to Deming in the immediate future.

14. Minerales de Nacozari, S.A., is operating successfully at the Santo Domingo Mine. Within 60 days they expect to increase production 50%, shipping 250 to 300 tons per month of copper concentrates. Mr. Soto estimates the financial obligations assumed by Minerales de Nacozari will be cleared up within 18 months. This company operates on a straight lease, paying royalty to Mr. Susano Montano, owner of the Santo Domingo.

REED F. WELCH

cc: JDMacKenzie
RDBradford
RLJourdan
JFMora
FVRichard
HWKaanta
LKWilson-2
FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 13, 1950

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES -- REED F. WELCH
OCTOBER 1950

Aravaipa District

1. Athletic Mining Company. Mr. Harvey L. Horton, Manager is reported to be on vacation and in his absence Robert B. Sayer is in charge of operations. Athletic Mining Company is mining about 100 tons per day from the Iron Cap Mine, assaying 2% lead, 10% zinc, which is treated at the mill. This mill feed is coming from near surface and carries about 2% zinc and 1.5% lead as non-sulphide, which makes poor recovery and high zinc in the lead concentrates. Ore from the Grand Central Mine is going to the smelter. Part of the ore produced at the Head Center is shipped to El Paso. At the Head Center work has been stopped in the shaft at the 700-foot level and mining is on the 600 and 500 levels.
2. Dean Nicholson is shipping from the Sein Fein Mine at a rate of about 180 tons per month. Mining has recently been stopped because of compressor breakdown which will probably require two weeks for repair. There are three carloads of ore at the mine ready to haul that have not been shipped because of scarcity of railroad cars. Production from this operation will be small but better than under previous management by Harwood Mines.
3. Ben Hur Mining Company. Dempsey and Hatter are working at the Ben Hur property near Klondyke. After spending most of the summer opening the old shaft they had a cave-in, covering their tools and equipment. Mr. Dempsey reported that ore in the old workings was widening, indicating considerable tonnage that could be mined. A new shaft has been sunk about 15 feet from the old workings on the same vein, reported to be encountering commercial ore.
4. Santa Teresa Mining Company. C.C. Bush and Paul Merrill are working at the Santa Teresa Mine in their spare time, shipping one or two cars per month to El Paso.
5. Abe Reed Mine. W.H. Reed and Elmer Burton are employed by Athletic Mining Company, spending evenings and holidays working at the Abe Reed Mine and shipping an occasional car to El Paso.

Lordsburg-Silver City, N.M.

6. Banner Mining Company is now milling lower grade ore from the Miser's Chest Mine. With scarcity of labor and low grade ore their concentrate production has dropped. Development and explora-

Banner Mining Co., Con't.

tion is being pushed in the Bonney shaft 1100-foot level where a long crosscut has been run to the Miser's Chest shaft. An 80-foot raise to connect with the shaft and 60 feet of sinking for ore pocket room will be done before work is completed. Lack of miners is slowing up this development.

Twin Buttes Properties. For the past 8 months Banner Mining Company has been securing leases and options on copper properties in the Twin Buttes District near Tucson. So far options have been obtained on the following:

Southern Group

Morgan
Glance
Copper Queen
Copper King
Copper Butte
Minnie (unpatented)

Northern Group

Claim names not given

Mineral Hill Group

Plumed Knight Group

Within the next 30 days work will be started on the Mineral Hill group. It is anticipated that some crude ore assaying 4% to 5% copper will be shipped while determining tonnage possibilities for a mill on the property. Allan Bowman will be in charge of operations at Mineral Hill as well as at the Bonney Mine.

7. Waldo Mine: Earl Strong of Vanadium, for the past 8 or 9 months has been carrying on exploration work at the Waldo Mine near Lordsburg. He has driven about 400 feet of new work in a northerly direction on the 100-foot level of the main shaft. This work did not develop any ore so he sank a winze from the surface through the old stope and has mined about 100 tons of sulphide ore assaying 5% to 6% lead.
8. Charles A. Howe holds the Fortuna and other mines in the Silver City area. He claims to have 48 inches of good sulphide ore on the 200-foot level of the Fortuna which he plans to ship to Deming. He advises me this is good grade milling ore and will send a sample to Deming for metallurgical tests.

Portal, Arizona

9. Piedmont Mines, Inc. The Hilltop Mine has been promoted by Drs. Gould and Watson of California. In August 1950 the management was turned over to Mr. L.K. Diffenderfer, who shipped a carload of low grade lead-silver ore to Deming without first submitting a sample for test purposes. Mr. Diffenderfer believes there will be ore available for shipment in the Blacksmith tunnel level carrying as high as 35% combined lead-zinc. Specimens of this ore shown to me indicate approximately 50% oxidized minerals. I advised Mr. Diffenderfer to submit a sample before making another shipment to Deming.
10. Consolidated Arizona Metal Producers Corp. Mr. W.H. Wilson, formerly President of this corporation, met with a fatal accident in October and there is nothing being done at the property. Mr. Wilson expected to produce tonnage for Deming and El Paso. Perhaps a lessee could work this property.

Swissheld Mining District

11. Scribner Mine. During the past month Doctor Larson's shipments from the Scribner Mine have dropped in lead content. There has been no development work in the past year and mining has been confined to the old stope area, robbing pillars and reclaiming caves. In a recent cleanup of an old stope on the 210 level a small amount of high grade gold-silver ore was encountered. Samples taken from drill cuttings ran as high as 5 ounces gold, 100 ounces silver. Specimens assayed 40 ounces gold, 800 ounces silver. Two cars shipped to El Paso, including some of the high grade, assayed 0.4 oz. gold. A 300-pound lot sent to El Paso assayed 12.8 ozs gold, 238 ozs silver.
12. Chance Mining Company. The Rydbom brothers have one man working with them at the present time, catching up with needed timbering and hoisting ore occasionally. There still has been no decision in the recent litigation (Haynie vs. Taylor et al) which has prevented the Rydboms from securing clear title from Mr. Taylor. Until a decision is rendered in this matter the operation must continue on a curtailed basis.

Tombstone

13. Charleston Mining Company has taken over operation of the Charleston Mine located about 8 miles south of Tombstone. The work is being financed by people from Austin, Texas. Exploration consists of stripping the vein in preparation for mining by open pit method. A 10-inch drill hole is being sunk to intersect the vein at about 210 feet in depth. The hole is now down 100 feet. Underground mining also will be started early in November. The ore produced will be washed and the concentrated product shipped to the Deming mill. Present work is being done on a 60-day option. About December 20th a substantial cash payment must be made.

Humboldt-Hillside

14. Shattuck Denn Mining Corp., Iron King Branch.

Silver Belt Mine--Working agreement with New Jersey Zinc. For the past year New Jersey Zinc Company has had two geologists in the Prescott area working under the direction of George Fowler. Conversation with H.F. Mills at Iron King revealed that he was familiar with the work being done by New Jersey men. It has been reported to me that diamond drilling was being done by Shattuck Denn on the Silver Belt property located a little south and west of the Iron King Mine. I now learn that New Jersey Zinc and Shattuck Denn are carrying on this examination and exploration work on a 50-50 basis. Three holes thus far completed at the Silver Belt failed to show values.

I gather that Shattuck Denn management in Arizona is not entirely in accord with the working agreement at the Silver Belt. It has been reported to me that one of the New Jersey Zinc geologists turned down three properties the Shattuck Denn engineers had recommended and which were not included in the exploration agreement--the Antler and Old Dick mines in Arizona and Ely Valley Mine at Pioche, Nevada. Rejection of these mines, I understand, created some friction which may have reached to Mr. Berdon.

Shattuck Denn, Con't.

I am told that since Shattuck Denn turned down the Ely Valley Mine, Callahan Zinc-Lead bought an interest permitting them to operate the mill. Concentrates produced from this mill are purchased by Tennant & Sons of New York.

Kay Copper Mine: As reported in my September field notes, Shattuck Denn is examining the Kay Copper Mine in Black Canyon. I understand Shattuck has a lease and option agreement permitting them to examine Kay Copper property and that Shattuck assumes \$15,000 of pressing indebtedness incurred by James W. England of Black Canyon Copper Company. It is estimated that unwatering the 1200 foot vertical shaft and the examination work will cost approximately \$40,000.

15. Old Dick Mine: Early in October Messrs. F.G. McFarland and Sidney Hullinger of Tooele, Utah, signed a lease and option with E.R. Dickie and associates on the Old Dick property. They are sinking the main shaft, now down about 75 feet. It is intended to sink to 150 feet before crosscutting to the vein. It is anticipated this work will be completed and they will reach the vein by the end of February.

Another lessee, Ed Shultz, is working on the upper levels of the Old Dick Mine, shipping 25 to 35 tons per day of zinc ore to the Hillside Mill. This upper level lease runs until the first of October 1951, after which Mc Farland and Hullinger will work the entire mine. Prior to expiration of the Shultz lease, they can develop and mine only below the 100-foot level.

REED F. WELCH

cc: JDMacKenzie
RDBradford
RLJourdan
FVRichard
HWKaanta
LKWilson-2
FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

October 25, 1950

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES--REED F. WELCH
SEPTEMBER 1950

1. B.S. & K. Mining Co., operating the Atlas Mine in the Silver Bell Mining District, shipped to Asarco Deming Mill about 100 tons of ore assaying: Ag .47, Pb .10, Cu 1.0, Zn 7.37. This ore was produced without much attention to sorting. With the high freight charge applying, this shipment resulted in a loss to producers. Application for \$2.95 rate Naviska to Asarco Mill is being considered by the carriers and if granted more ore will be available for treatment at the Deming Mill. In the meantime the producers are opening up some ore assaying 4 to 6% copper with low zinc which will be shipped to the smelter.
2. Black Canyon Mining Co., Kay Copper Mine, Black Canyon District. During July and August 1950 El Paso received 264 tons from this property, assaying: Au .07, Ag 1.3, Cu 6.2, As 4.0. Prior to shut down at Clarkdale the ore was shipped to that smelter. El Paso offered special terms for this ore allowing 4% arsenic free, penalizing the excess. Because some cars were running more than 4% arsenic, J.W. England, Manager, decided to ship to International smelter at Miami where no assay is made for impurities. Production from this mine is about 200 tons per month. Because of insufficient capital to carry on development, Mr. England has presented the Kay Copper Mine to Shattuck Denn through the New York Office. Mr. H.F. Mills at Iron King will examine the property.
3. Congress Mine. Fred Schemmer of Prescott opened the old Congress mine and expected to ship siliceous ore to Hayden. Reports indicated ore carrying \$10 per ton in gold. Schemmer opened the vein which was 5 to 7 feet wide, but after mining about 150 tons assays showed only about \$4.00 per ton which was insufficient to justify further work. He shipped some of the mined ore to Hayden--first car, 53 dry tons, assayed: Au .12, Ag .30, SiO2 95.
4. Bagdad Copper Company. E.R. Dickie is trying to negotiate a contract with the government or with a manufacturing firm whose name he would not divulge for the entire output at Bagdad Copper Mine. He is hoping for an increase to 25 cents in copper price on which to base a satisfactory contract. With either proposal Asarco would smelt and refine Bagdad copper on a toll basis. Mr. Roberts informed Dickie that our New York Office would require all details on such proposed contract and very likely the manufacturer with whom he is negotiating is already a customer of Asarco.

5. Old Dick Mine is still producing from upper levels under lease, the ore being treated in the Hillside Mill. For some time this mill has been producing a bulk concentrate assaying: Au .05, Ag 2.5 Pb 2.8, Zn 42, Fe 13. George Green, mill superintendent, informed me this product gave them the best recovery. I note, however, that the last few settlements indicate a resumption of selective concentration with zinc product assaying about 50%.

6. French Sheldon Mine. Allison Steel has taken over this mine near Walker, Arizona. At the time of my visit a few buildings had been constructed--shop, transformer station--and work started in the shaft. Present plan is to unwater the main shaft and rehabilitate to the 800-foot level. Milling grade ore is reported between the 400 and 800 levels. Preliminary sampling was being done on one ore dump which may later be milled. The concentrate will be pyritic with values in gold, silver and copper. In 1941 Hayden Plant received 1588 tons of concentrates from the Sheldon Mine averaging: Au .45, Ag 15, Cu 5.6%.

7. Iron King Mine at Humboldt is operating under ideal conditions at the present time. High metal prices are giving a wide margin of operating profit. Mr. Mills, Manager, reports he is going to ask for an appropriation to sink a new working shaft to be located about 600 feet north of the present shaft. The new workings and mill will be connected by conveyor. In some sections of the Iron King Mine where the country rock is especially heavy they are using square-set mining. This procedure results in greater extraction of reserves and cleaner ore and practically overcomes timber costs. Mill recovery has steadily improved. The latest improvement is in keeping the mill feed at a temperature of 80° F., which, according to Mr. Mills, has overcome sporadic recoveries.

For several years Mr. Mills has been carrying on laboratory work on a zinc-reducing plant. So far this experimental work has given discouraging results. However, Mills is still pursuing the project. One man is employed to work on the process of roasting and leaching calcines in a caustic solution.

Mr. Bardon is expected at Iron King the latter part of October, at which time I will meet him to discuss renewal of Shattuck Denn contracts.

8. Christmas Mine. Jim O'Brien and the Day brothers have been building a road to the Christmas Mine near Cleator, In past years small lots of ore high in silver have been packed down off the mountain. O'Brien is short of operating capital and for this reason is not making much headway with opening the property for production.

REED F. WELCH

cc: JDMackenzie
RDBradford
RLJourdan
FVRichard
HWKaanta
LKWilson-2
FMStephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 22, 1950

AUG 23 1950

L. K. W.

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES--REED F. WELCH
AUGUST 1950

Douglas, Arizona, August 4-5

1. Hawley & Hawley report very little activity in ore buying. Occasional trucklots come in from Tombstone and vicinity, principally from the Tombstone Extension mine where several sets of leasers are working.
2. A. H. Varela, ore buyer for Cananea, says he will advertise the operation of Asarco mill at Deming on his travels through Sonora and will refer to this office anyone who is seeking a market for lead-zinc sulphide ore. Mr. Varela informed me that Cananea is not interested in the purchase of copper concentrates or copper ore low in silica.
3. Metales de la Victoria, Carbo, Sonora. Cananea has agreed to handle copper concentrates to be produced by Metales de la Victoria, treating ore from San Jose and Sultana mines near Carbo. This arrangement has been made in exchange for sodium sulphide and balls for the mill supplied by Cananea. Harry Kaley, in charge of this operation, called at the office on August 14th at which time we discussed his proposed output of copper concentrates from the recently completed flotation plant at Carbo. Kaley advises me that he has not placed his production under contract. He will ship the first cars to Cananea, but is free to ship elsewhere thereafter. From carbonate ore carrying about 4% copper he expects to produce concentrates assaying: Au .44 oz., Ag 14.5 ozs., Cu 36%. Kaley spends a good deal of time in Tucson and I will keep in touch with this operation. He is looking for a mill man but I was unable to recommend anyone for the job.
4. Mazatlan Smelter. Mr. Varela told me that the lead smelter at Mazatlan, Sinaloa, is having serious trouble in obtaining sufficient ore. Mr. Fruin of Hermosillo, who is ore buyer for Mazatlan, I am told, suggested moving the smelter to Hermosillo. This suggestion, however, was dropped without any support.
5. Oposura Mine, Cia. Minera dos Republicos, S.A. The Oposura Mine near Moctezuma, Sonora, during 1948 and early 1949 shipped 12,000 tons of crude ore to Tooele, Utah. A.H. Varela reports there is considerable tonnage in sight assaying about 16% lead, 20-30% zinc. Operated by gambusinos on a small scale this property could easily produce 30 tons per day of good sulphide milling ore. Albert Mendelsohn, President and General Manager of Cananea Consolidated Copper Company, is President of Cia. Minera dos Republicos. Associated with him are other Anaconda officials. Mr. C.P. Donohoe, Assistant Manager at Cananea, informed me that Minera dos Republicos has been having trouble with

the Mexican government over taxes. It is probable that the Dos Republicos organization will be abandoned at the end of this year. For this reason the owners may have no interest in shipping from the Oposura Mine until after January 1, 1951.

6. Nacozari Mill. Mr. J.S. Hamilton, formerly mill superintendent for Shattuck Denn at Bisbee, has been trying to promote construction of a flotation plant at Nacozari, converting an old cyanide plant owned by the Mexican government. In Mr. Varela's opinion it will not be feasible to change this mill to flotation because the Mexican government will insist that the plant be operated for government account, whereas Mr. Hamilton is interested only in operating as private enterprise.
7. Yucca Mining and Milling Co. While in Douglas Mr. Varela and I talked with Ben Williams regarding operations at the Antler Mine near Yucca, Arizona. Due to water shortage it has been necessary to curtail mining and milling operations. This problem has now been overcome with the present rainy season. The mill is on a three-shift basis and will produce a carload of concentrates every 2 and a half days with equal production of copper and zinc. They will soon be stoping ore as well as treating development ore, mining on one-shift basis.

Present program calls for sinking the main shaft an additional 200 feet, to be undertaken in the immediate future. They plan at some future time to sink a new working shaft. The operators have felt some concern over the possibility that the granite contact would cut the Antler vein in depth. By diamond drill from the 310 level they explored 420 feet to the west and did not encounter the contact. Inasmuch as the granite is within about 200 feet at the surface, the management feels very much relieved to find that it dips away from the vein at a rather low angle.

I am informed that this property is no longer for sale.

8. Copper World Mine. Yucca Mining and Milling is buying ore from the nearby Copper World Mine. About 200 tons of this 4% copper sulphide ore now at the mill will be treated separately from the Antler ore. Additional production of copper concentrates may be expected from milling Copper World ore; it is not known at this time what this tonnage may amount to.
9. Pedro Versus Roussis of Agua Prieta has been shipping an occasional car of silver-lead ore to El Paso. At the present time he is leasing a copper property to gambusinos and expects in the near future to start shipments to El Paso of 10% copper ore. In 1949 Mr. Versus shipped some ore to the Shattuck Denn mill at Bisbee but returns from the mill were less than on direct shipment to the smelter. Undoubtedly the ore was partially oxidized, judging from recent shipments to El Paso. I advise Mr. Versus that if his ore turns to all sulphide with depth I will have a sample prepared from one of his shipments to El Paso for testing at the Deming mill.
10. Scribner Mine in the Swisshelm District is still operated without development work. Robert Mitcham who is in charge of the operation for Edwin Larson, Lessee, is cleaning out walls of old stopes and taking out pillars left by former operators. It is expected that during the coming month one heading of development work can be maintained while mining a large pillar. Production for August will be about 8 cars.

11. U.S. Smelting and Refining Co. under contract has completed 300 feet of diamond drilling northeast of the Chance shaft, presumably on U.S. Smelting ground. Two small bulldozer trenches have been cut down the canyon to the north where U.S. Smelting holds two claims. Presumably this work has been done to fulfill assessment obligations.
12. Chance Mining Co. With the help of one hired man the Rydbom brothers resumed work on the Chance claims early in August. This is the first work done on the property since early in 1950 when the suit brought by Ether Haynie against Taylor, Schupbach, Rydbom et al was remanded for retrial. To date there has been no decision in this litigation. However, the Rydboms feel confident of decision in their favor. They expect to produce 200 tons per month.
13. Consolidated Arizona Metals, Portal, Arizona. Operation was formerly conducted under the name Portal Mines Development Co. but the lease has been turned back to Consolidated Arizona, W.H. Wilson, Agent and owner. Portal Mines shipped some ore to Shattuck Denn and Peru mills. Varying percentages of metals paid for at these mills indicate oxidized content of 0.3 to 2% lead, 0.5 to 3% zinc. W.H. Wilson has requested information regarding shipment of mill ore to Deming. I could not give Mr. Wilson much encouragement as to the possibility of milling this partially oxidized ore at Deming. However, he is anxious to submit a sample for metallurgical test. It is doubtful if any tonnage of suitable milling ore will be shipped from this property.
14. Hilltop Mine is closed down. At the time of my visit I learned that Dr. Watson is in California. I understand he is trying to raise money to complete construction of a mill, which is now partially assembled at the mine. Drs. Watson and Victor Gould of Chula Vista, California, are partners in this Hilltop venture and hope to complete the mill for treatment of lead-zinc ore. Mr. Edward D. Holcomb is acting for Dr. Watson in his absence.

Silver Bell District, August 15

15. Atlas Mine in the Silver Bell District is being operated by a group of men known as B.S. & K. Mining Co. They are optimistic, I believe in their proposal to ship a 50-ton car per day to the Deming mill. They have done no development of the mine but have drilled 8 to 10 holes into the walls of old stopes. Samples thus obtained indicate commercial ore on present metal prices. Trial shipment will be made to Deming in the near future. These operators will produce about 400 tons per month of milling ore providing the values permit a mining profit.

REED F. WELCH

cc: J.D. MacKenzie
R.L. Jourdan
F.V. Richard
H.W. Kaanta
L.K. Wilson-4
F.M. Stephens

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 2, 1950

Mr. E. McL. Tittmann, Manager

EL PASO PLANT

FIELD TRIP NOTES--REED F. WELCH
NORTHERN ARIZONA--JULY 1950

1. Queen Mining Co., Congress Junction. D.F. Morris is disappointed in the value of the ore produced to date from his lease on the Congress Mine. The last car shipped to Hayden and sampling at the mine indicate that the value has dropped to the point where continued operation would be unprofitable. Mr. Morris may be able to ship a few more cars of siliceous ore to Hayden from a location higher on the hill.
2. Fred Schemmer of Prescott has taken a lease on the old Congress Mine near Congress and expects to start shipping gold siliceous ore to Hayden early in September. He advises me there are approximately 20,000 tons that can be shipped after necessary repair work. He has been mining on a large scale in Copper Basin, shipping to Phelps Dodge at Clarkdale. On the strength of his experience, I believe we may expect some fluxing ore from this source. I told Schemmer I would give him the same rate for siliceous flux enjoyed by Morris of Queen Mining Company, and on this basis he believes he can carry on a profitable operation.
3. Octave Mining Co. Leonard S. Sharman, attorney of Phoenix, has a lease on the Octave Mine, just north of Queen Mining Company operation. Results on the first car shipped to Hayden from Octave Mine were discouraging: Hayden Lot 197, 38 tons assaying: Au .36, Ag .27. Shipper expected the ore to run 0.5 oz gold. Since this shipment Sharman has been trying to obtain more capital to produce greater tonnage. He claims to have a large tonnage of siliceous flux, is dealing with some California interests, and hopes to be able to ship again before long.
4. E.S. & K. Mining Co. (A.A. Barr, Herbert B. Brown, Stewart T. Benson, W. W. Simon and A.M. Kalaf) These men have leased the Atlas Mine in the Silver Bell District and developed by drilling 5,000 tons of copper-zinc ore they would like to ship to Asarco Deming mill. They believe the grade can be held to 2% copper, 10% zinc. A sample sent to Deming for mill test was not commercial grade and therefore no metallurgical recovery tests were made. Another sample has been sent to the mill which the operators claim to be more representative of the ore available for shipment.

5. J. R. Coinner who was leasing at the Silverfield Group near Bouse met with an accident, I am advised, and broke his hip. Because of this injury he has been forced to give up his lease. The Silverfield property has recently been examined by Engineer Taft from San Francisco, claiming to represent the Natomas Company. Mr. Sidney B. Moeur of Phoenix, representing the owners of the Silverfield Group, tells me that Taft's people have taken a lease and option which does not require any work on the claims until some time in September. It is not known at this time whether or not they will exercise the option.
6. Associated Mining Company, Aguila. Mr. A. C. Burger of St. Louis, Missouri, has financed the construction of a flotation plant at Aguila with the expectation of treating custom ore from nearby mines. Mr. Burger has now discovered that the available ore is negligible and tonnage in nearby properties is not amenable to selective flotation. He is asking our assistance in finding a source of sulphide ore for his mill. To date, I understand, he has invested \$500,000 in the mill and in seeking properties to supply mill feed. Since coming into the Aguila district he has obtained options on the Bullard, Columbia and McCracken mines, and at present is working on the Osborn Group north of Parker, unwatering the vertical shaft on the Rio Vista claim and working from a tunnel on the Lion Hill claim. The gold-copper oxidized ore from the Osborn Group, however, will not be suitable for milling but will require direct smelting.
7. Mohave Mining Company, Quartzsite. Otis Hatch and his brother have shipped two cars of gold siliceous ore to Hayden from the Mohave Mine leased from the Colorado River Indian Council. The first car assayed 1.5 oz. gold, which apparently surprised the shipper in view of anticipated lower grade. The second car undoubtedly will not come up to the first. This mine is about 17 miles north of Quartzsite. The ore must be hauled to Quartzsite then back to Bouse for loading on the Santa Fe. Because of recent storms it was impossible to visit the mine. Mr. Hatch told me the ore occurs as a vein about 12 inches wide in schist and requires close mining and sorting to maintain the grade. In the past this mine has produced small quantities of high grade gold ore.

This shipper is experiencing difficulty in obtaining railroad cars. At the time of my visit car ordered two weeks earlier had not yet been received at Bouse. To assist them I wired Mr. Murray's office in Phoenix calling the matter to his attention. The Hatch brothers will not be at the mine for the next month, as one is a Navy Reserve officer and before continuing with the mining operation must make a trip to have his position defined.
8. Southern Cross Mining Corp., L.A. Aplington. At the time of my visit this property, located about 20 miles north of Quartzsite east of the Bouse road, was isolated by floods. Mining is on a contract basis. About 300 tons have been shipped from Southern Cross Mine during the first 6 months of 1950, averaging 5 ox. Ag, 20% Pb. The ore occurs in a vein about 30 inches wide in rhyolite. Recent exploration work has opened a parallel vein carrying 15 ox. Ag, 8-10% Pb (oxidized). A 10-foot crosscut has not yet exposed the entire width of this parallel vein, striking northerly in the direction of a limestone horizon. Aplington thinks the ore may continue into the limestone mountain.

9. Lucky Tiger Combination Gold Mining Co. The operation conducted under the direction of E. J. Stanley has been abandoned. According to Mr. Herritt, Stanley was not satisfied with the chance of making a profitable operation on the Empire-Arizona group. There is, however, considerable tonnage on the property, the limits of which are not outlined. Mr. Herritt thought the mine owners might want to lease the property again, but they are asking 10% royalty which is higher than the grade of ore warrants.
10. R.A. Willoughby, proprietor of Wickenburg Ore Market, is purchasing small lots of gold-copper and lead ores and has on hand about two carloads for shipment to El Paso. He reports very little mining activity in the area. Producers who can ship carload lots are shipping direct to the smelter and he is able to purchase trucklots only.
11. Black Canyon Copper Co., James W. England, recently started shipping to El Paso Plant from the Kay Copper Mine in the Black Canyon Mining District. Shipments had been going to the Clarkdale smelter, now dismantled. Mining at Kay Copper is on a contract basis which so far is resulting in better pay for the miners than wages. Because of 3% to 4% arsenic content in the ore penalized at El Paso, which has not been reported on shipments to other smelters, Mr. England is asking for some adjustment in the treatment charges. Although El Paso is now paying half the freight differential between Hayden and El Paso, we may be obliged to offer some further concession to hold this business.
12. C. F. Moores is repairing the Golden Belt mill near Cordes preparatory to milling ore from the Gladiator Mine. He is mining a small tonnage of ore and stockpiling for the mill which should be operating in about a month. Treatment of Gladiator Mine ore in past years resulted in high-gold lead concentrates shipped to El Paso and 50% zinc concentrates handled at Amarillo. Mr. Moores expects to ship similar products when he resumes operations in the reconditioned mill.
13. E. M. Moores, Jr. is shipping about two cars per month of oxidized ore from the Gladiator Mine. He hauls the ore to Miami 40 tons at a time in his own trucks, thus effecting cheaper delivery than rail shipment to El Paso. Mr. Moores assures me he was satisfied with returns on El Paso deliveries but due to lower delivery cost he is forced to sell the ore to International Smelting.
14. Verne Hufaker, owner of the Shylock Mine at Walker is employing two miners. He will probably ship the ore to Iron King Mill, as the grade does not warrant shipment to El Paso. He has about 20 tons on the ground ready for shipment.
15. Allison Steel Company has taken over the French Sheldon Mine at Walker and is preparing to unwater the shaft for mining operations. I was unable to contact Mr. Allison in Phoenix.

16. Bagdad Copper Corporation. E. R. Dickie is negotiating a contract with the government stockpile wherein he will be assured a price of 22.5 cents when copper price does not exceed 2¢ above or below 22.5¢. In the event such a contract is completed Dickie would be required to have the copper delivered to government stockpile as electrolytic copper. The proposed contract further stipulates that Dickie guarantee a certain monthly delivery. Since the grade of Bagdad concentrates fluctuates considerably, Dickie is having some difficulty in getting the stockpile interests to take his output in variable monthly quantities. His forecast is 2,000,000 pounds for July, 2,500,000 for August, 3,000,000 for September, after which production will drop to 2,500,000 pounds for the balance of the year. Mr. Dickie estimates 2.5 years production from the present pit, based on present copper price. He then anticipates moving west from the present operation to a point where occasional drill holes have encountered ore up to 0.7% copper.

REED F. WELCH

cc: J.D. MacKenzie
R.L. Jourdan
F.V. Richard
H.W. Kaanta
L.K. Wilson-2
F.M. Stephens

TAB

1956 thru 1959

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File No.

Subject: R. F. WELCH FIELD TRIP REPORTS
1956 thru 1959

AGB *[Signature]*

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.

NOV 5 1959

November 3, 1959

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-NINE MONTHS 1959
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding
Intraplant tonnages)

<u>Lead Department</u>	<u>Tons Received - Nine Months 1959</u>		
	<u>Domestic*</u>	<u>Foreign</u>	<u>Total*</u>
January	6,756	871	7,627
February	7,320	314	7,634
March	6,984	14,861	21,845
April	7,574	11,396	18,970
May	5,969	906	6,875
June	7,882	13,548	21,430
July	6,916	7,603	14,519
August	3,494	997	4,491
September	62	10,356	10,418
Total 9 Months	52,957	60,852	113,809
<u>Copper Department</u>			
January	14,285	452	14,737
February	10,752	234	10,986
March	15,117	-	15,117
April	15,989	4	15,993
May	19,987	107	20,094
June	15,168	-	15,168
July	13,556	41	13,597
August	8,419	-	8,419
September	171	-	171
Total 9 Months	113,444	838	114,282

*Figures adjusted to exclude all intra-plant tonnages

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated
tonnages excluding Intraplant)

<u>Lead Department</u>	<u>Total 9 Months</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>10-1-59</u>
Concentrates	73,752	78,439	16,057	10,890
Residue*	27,689	31,669	2,178	1,403
Dust*	1,750	1,127	322	765
Siliceous Lead	6,684	6,588	1,277	1,384
Pyrite	-	-	7,190	826
Total	109,875	117,823	27,024	15,268

*Adjusted to exclude intraplant

El Paso Fluxing Situation, Con't.

Copper Department	Total 9 Months		On Hand - Tons	
	Received	Smelted	1-1-59	10-1-59
Concentrates	69,107	73,304	7,316	3,340
Matte*	1,096	868	-	472
Residue*	10,535	10,725	3,884	695
Scrap	1,920	2,041	72	218
Sulphide	4,895	8,220	239	3,094
Reverb Flux	597	638	-	9
Converter "	24,995	24,822	11,848	12,078
Total	113,145	120,518	23,359	19,906

*Adjusted to exclude intraplant tonnages

Siliceous Flux: Brannan & Fuller have continued development work at the Henry Clay and 85 mines during the smelter strike and have ready for shipment approximately 3,000 tons. When the plant resumes smelting operations these mines will continue to supply fluxing ore.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

January	11,415	April	15,642	July	19,265
February	10,539	May	16,434	August	13,195
March	12,467	June	19,541	September	-
1st Qtr.	34,421	1st Half	86,038	Total 9 Mos.	118,498

2. Fluxing Situation and Stocks
(From 15-Day Reports -
Estimated Tonnages)

	Total 9 Months		On Hand - Tons	
	Received	Smelted	1-1-59	10-1-59
Concentrates	81,712	80,241	1,872	3,343
Reverb Flux	23,712	26,483	10,292	7,522
Converter "	10,655	9,919	4,752	5,488
Total	116,079	116,643	16,916	16,353

Fluxing Ore: Chilito mine will resume shipments of high-silica flux when smelting operations resume. C.D.Wilson Mining at the Narragansett property has been shut down since the middle of August. On termination of the strike Wilson will resume shipment if the smelter needs this fluxing ore. The Elgin Mine has about 5,000 tons broken for shipment and can ship lime flux as required at Hayden.

ZINC CONCENTRATES

Summary Receipts Amarillo and Corpus Christi
from Southwest Producers

January	5,232	April	4,310	July	3,514
February	4,167	May	3,094	August	3,749
March	3,945	June	4,408	Sept.	3,531
1st Qtr	13,344	1st Half	25,156	Total 9 Mos.	35,950

COMMENTS ON SHIPPERS

Bagdad Copper Corp. has continued in operation during the smelter shutdown and at the close of October had in stockpiles at the mine and at Hillside approximately 7500 tons of concentrates. Shipments up to the middle of August total 23,593 tons assaying 29-36% Cu.

Banner Mining Company's Mineral Hill mill has been shutdown for the past few months but is now treating a small tonnage of development ore from which about 500 tons of concentrates are being held for shipment on termination of the strike. The Lordsburg mill has been operating continuously with stockpile of approximately 900 tons on hand at the end of October.

Brannan & Fuller have been conducting development work, sinking the Henry Clay shaft to the 750 foot level. Mr. Fuller reports encouraging results in opening up a new orebody from the 600 foot level of the 85 mine. With this development the operators hope to be in a position to ship about 5,000 tons of fluxing ore per month.

Cyprus Mines Corporation production at the Old Dick Mine has continued without interruption, building up a stockpile of about 1900 tons of 25% Cu concentrates at the end of October.

Duval Sulphur & Potash Company's production for the period August 14 through October 31 is estimated at about 17,000 tons stockpiled at the mine. Shipments prior to smelter shutdown:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
Hayden	20,020	1.9 oz	25-32%
El Paso	9,662	1.8	24-31

McFarland & Mullinger are removing equipment from underground in preparation for abandonment of the San Xavier Mine. There are about 100 tons of lead concentrates at the Sahuarita Mill which will conclude production from this property.

At the Elgin property work was continued for a short time after shipments were stopped by the smelter strike. About 5000 tons, similar to past shipments, have been broken ready to load when needed at Hayden. Some better grade limey copper ore has been uncovered by bulldozer which will be available on construction of a road to this new area. Before suspending shipment 4894 tons were delivered to Hayden assaying about 1.4% Cu, 40% SiO₂, 24% CaO.

Pima Mining Company has accumulated 12,480 tons of 27.5% Cu concentrates up to the end of October. Receipts at Hayden in 1959 prior to the strike total 36,713 tons assaying about 3.5 oz Ag, 26.8-28.5% Cu.

Shattuck Denn-Iron King mill is stockpiling lead concentrates with approximately 4,000 tons as of October 31st and has on hand about \$25,000 gold-silver precipitates for Selby delivery. Tonnage shipped for nine months of 1959 is shown below:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conc (Jan-Aug.14)	14,771	.90	36.2	32.5	1.5	10
Zinc "	28,652	.07	2.5	1.2	.2	56

Mr. Kentro reports continued metallurgical improvement, current lead product assaying up to 38% Pb.

Sunrise Mining Company has suspended operation in the Glove Group because return from ore shipments on present metal prices does not pay for mining and development cost. Zinc-lead sulphide ore has been encountered on lower levels but development of this milling ore is not justified under present conditions. Receipts at El Paso prior to the strike conclude Glove Mine production until higher metal prices indicate profitable operation. Production by Sunrise Mining Company for the period 1951 through August 1959 totals 20,900 tons assaying 15-37% Pb, 3-21 oz Ag.

REED F. WELCH

cc:EMcLTittmann CPPollock
 RLJourdan TASnedden
 CNWaterman KERichard-2
 WGRouillard
 EEGroff

K. R. SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

NOV 18 1959

November 16, 1959

JFK *AGB*
JFK-SJK-AGB

Mr. B. D. Roberts, Manager

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EL PASO PLANT

J. H. C.

REED F. WELCH - FIELD TRIP REPORT
OCTOBER-NOVEMBER

NOV 19 1959

1. Sunrise Mining Co. I have been advised that Sunrise Mining will suspend operation at the Glove group. I wanted the Mining Department to see the ore faces on the 360 and lowest level before the mine was shut down and on October 15th, accompanied by Arthur Blucher, I visited the Glove mine. Production from this property for the period 1951 through August 1959 is as follows:

Year	Dry Tons	Ag-oz	Pb-%	Zn-%
1951-2	884	3.9- 8.4	14.7-34.5	10.3-18.1
1953	997	3.1- 6.9	17.1-27.9	6 -18.7
1954	864	4.1- 5.9	17.9-28.5	6.8-10.5
1955	2168	3.5-10.2	27.1-38.3	4 - 12
1956	3352	2.8- 6.3	16.7-30.4	1 - 4
1957	5332	3.0- 6.4	14.6-26.0	1 - 3
1958	4371	4.8-21.8	19.6-37.3	1 - 11.5
1959	2943	7.1-18.6	21.6-29.4	3 - 15
<u>(Jan-Aug)</u>				
	20,911			

Beginning at about the 240 level the ore has shown higher zinc content with occasional blobs of zinc-lead sulphide. At the 360 level the stopes encountered water and mineralization changed to higher proportion of sulphide. The main stope entering the water level on the 360 level is approximately 10 x 20 feet. The cost of mining, exploration and development in the Glove is in excess of the return from ore shipments. This has discouraged Sunrise Mining from sinking on the sulphide showing which would require another handling through hoists and pumping of water.

Sunrise Mining Co. has acquired the old Paymaster Mine in the Pima District, southwest of San Xavier Mine, and is presently engaged in an exploration program at that property. Sunrise has also acquired lease and option on claims in the Cooks Peak area near Deming, New Mexico. G.W. Irwin, local manager, and W.C. Lacy, Vice President of Sunrise Mining, are optimistic regarding possibilities at the old Paymaster property and in finding blind veins at Cooks Peak.

2. Bulldozer Mine, Helvetia District. This property has been leased by E. R. Torstenson of Tucson and Art Muller. The latter resides at the mine and has been experimenting for the past six months with precipitation of copper with vat leaching. Muller first approached the Arizona Bureau of Mines for metallurgical assistance and was advised the ore is not suitable for acid leaching because of the lime content. Receipts at Hayden and El Paso from the Bulldozer in 1944-1946 --in excess of 3,000 tons-- show up to 26% CaO. However, Muller is proceeding with leaching operation and has accumulated about 1.5 tons of precipitate assaying around 50% Cu.

3. C.D. Wilson Mining, Narragansett Group. On October 23 I visited the Narragansett mine which has been idle during the strike. The ore shipped by Wilson has come from surface trenching. Receipts at Hayden from April 1956 through August 1959 total 45,400 tons assaying 1.- 2.6% Cu, 35-55% SiO₂, 7-12% Fe, 5-17% CaO, 3.5-8% Al₂O₃. In 1957 1219 tons of Narragansett ore went to El Paso but was not suitable for fluxing purposes at that plant. It is not possible to estimate additional tonnage available for shipment from this property because practically all of this tonnage has been produced under unsafe working conditions. However, the zone carrying the mineralization has been extended to the northwest and by mining along the strike rather than deepening the cuts it is possible another 10,000 tons could be shipped.

C.D. Wilson, deceased, is represented by C. Darrel Wilson, his son practicing law in Tucson. Wilson advises me his father's estate is being settled and the Wilson family has been approached to sell all its mining interests, including royalty from Duval production.

4. Bear Creek Mining Co., Pima District. Claims in the Pima District located by Wilson, Chilson and Todd, known as the Utah and Colorado groups totaling 256 claims, have been acquired by Bear Creek Mining. Darrel Wilson, acting as attorney for George Edwards, D.G. Chilson and others, has assembled about 150 additional claims located south and east of the Utah-Colorado groups embracing part of the Emmons ranch. Wilson is now preparing to turn these claims over to Bear Creek Mining Co. This last group is the same ground Phelps Dodge leased on which they drilled one hole.

5. McFarland & Hullinger- Elgin Mine. To supplement tonnage from the Narragansett property and supply higher lime flux for Hayden, shipments from the Elgin were started about the middle of June. Through August receipts total 4894 tons averaging about 1.45% Cu with around 40% SiO₂, 25% CaO, 6% Fe, 3% Al₂O₃. McFarland & Hullinger continued work at the Elgin for about three weeks after the strike began and accumulated approximately 5000 tons of broken material similar to past shipments. Stripping the surface by bulldozer has opened up an area of higher copper content, not yet drilled for sampling but visual inspection indicates the ore will be about 2% Cu. This higher grade flux will be available when the road is completed to this location. The Elgin Mine could produce 50,000 to 100,000 tons of limey flux if this production is satisfactory for smelting operations at Hayden.

6. San Xavier Mine. Since February 1959 McFarland & Hullinger have been owners of the San Xavier Mine and Sahuarita Mill. The ore reserves in the mine are now depleted. McFarland & Hullinger engaged engineering and geological advice without success in finding additional ore within the range of their exploration ability and early in October began abandonment of the mine by pulling rails, pipe and equipment from underground. I understand they expect to sell the San Xavier claims.

7. Mar Pak Corporation, operating the Bonanza and other mines at Duquesne, has been producing three to four cars per week of zinc-copper sulphide ore since early July, shipped by rail from Patagonia to the Sahuarita mill for concentration. Zinc production has been shipped to Amarillo and the copper to El Paso. By the third week in October Mar-Pak had accumulated 100 tons of copper concentrates since the start of the strike at El Paso. Because of the difficulty in financing the Duquesne operation Mar-Pak has been released from

Mar-Pak Corp., Con't

holding copper for El Paso delivery and is now shipping to International Smelting Company at Miami. It is anticipated this production will return to El Paso within 30 to 60 days if the strike is terminated.

A shipment of crude copper ore from the Venados claim of the Kansas mine recently shipped to International Smelting Co. assayed 4.15% Cu which is submarginal. The Venados ore is currently being mixed with the Illinois-Bonanza production. On 12¢ zinc, 30¢ copper this production returns \$10 to \$12 per ton at the mine.

8. New Mexico Thorium Corp. This organization consisting of Lee Downey and associates of Carlsbad, N.M., is attempting to produce thorium from a deposit occurring in a monzonite intrusion located about 19 miles east of Capitan, N.M., in El Capitan Mountains. Mr. Downey reports the mineral occurs in multiple narrow veins 3 to 4 inches in width and states this occurrence has been projected over 1300 feet in continuity. However, surface work has been done in only two locations.

New Mexico Thorium has obtained financing through sale of stock and is now completing construction of a leaching plant at Capitan. The mill equipment, all new, provides for 600 tons per day in the coarse crusher. With screening and reject of oversize the remainder of the concentrating plant is designed for 300 ton daily capacity of 1% thorium oxide. The mill will start operation on an experimental basis of 50 tons per day. According to Downey, metallurgical laboratory work indicates 80% recovery. The test work was performed by T. J. Futch, formerly with Potash Corporation of America at Carlsbad. Muriatic acid for leaching can be purchased from potash producers in Carlsbad. Downey advises his company has an operating license from Atomic Energy Commission and can dispose of the thorium product to anyone in the industry having a license from A.E.C.

This is the property in which Quentin Drunzer was interested in 1956 but declined to become active in the operation. I understand samples taken by Drunzer did not stand up to expectations.

Mex-Tex Mine, Galbar Corp. In July 1959 Mr. Downey became interested in the Mex Tex property in the Hansonburg District and concluded an agreement with Mr. Bishop of Houston for purchase of the mine and mill. The purchase agreement provides royalty of \$2.00 per ton of ore mined and milled. Downey estimates the crude ore value is approximately \$7.40 per ton allowing for barium, lead and fluorspar products. The Mex Tex mill located at San Antonio produces barium ground to fineness 80% minus 320 mesh for use in oil wells, and lead concentrates from jigs and tables. The cost of hauling ore under contract from mine to mill is \$1.40 per ton. The Mex Tex mine and mill are not operating at this time and have on hand about 2,000 bags of barium and 38 tons of lead concentrates. The lead will be shipped to El Paso when the smelter resumes operation.

Prior to sale of the property the Bishop operation depleted all easily accessible ore and without suitable exploration program was unable to keep the mill in production. Mr. Downey rented caterpillar and shovel equipment and has started exploration along the favorable bed outcrop. In one location at the bottom of the hill near the

Mex-Tex Mine, Galbar Corp., con't.

Royal Flush mine he has encountered ore 12-15 feet thick with the other dimensions still expanding. The principal mineral is barite with silica. Large areas speckled with galena indicate the lead content will be maintained at about 4%.

The Mex Tex operation will be in the name of Galbar Corp. and production will depend upon outlet for the barium. Galbar is owned 50% by New Mexico Thorium Corp. and 50% by Atomic Minerals Corp., the latter being under New Mexico Thorium ownership. Downey assured me there is ample financing behind the Galbar project. However, his mining procedure is not consistent with an efficient operating plan and he is handicapped with old mine equipment, which is verified by his mine superintendent Mr. King.

9. Sunshine Mining Co., 300 West Mission, Spokane, Washington, earlier this year obtained an option on the Portales Mine, including ground owned by Mrs. Blanchard and adjoining claims located by Clarence Barrett of Socorro. Sunshine exploration is under the direction of Earl Elstone. At the time of my visit Mr. S. K. Garrett, Manager of Exploration for Sunshine, was at the Portales property and invited me to go underground. He advised, however, there would be more to see in about two months, indicating they were getting encouraging results. On this suggestion I told Mr. Garrett I should be glad to visit the mine in about 60 days.

Mr. Garrett requested a schedule for El Paso on the basis of about 70% Pb concentrate and indicated interest in delivery by truck. However, with favorable freight rate this production could be shipped by rail.

Sunshine Mining Co. started the project at Portales Mine by drilling from surface with rotary and percussion drills with a total of 3,000 feet, no holes exceeding 130 feet in depth. To verify intercepts in the drill holes No. 1 adit was driven under the ore horizon and nine raises were run into the ore bed. Work in this adit was satisfactory and the second adit about 1000 feet up dip from adit No. 1 is now being driven along the strike of the mineralized bed to give additional information. I understand work so far indicates tonnages to justify an operation.

The claims in the bombing range owned by Clarence Barrett ending Mrs. Blanchard's property have not yet been explored by Sunshine because of the difficulty in obtaining permission from the government. It is planned to expand the bombing range rather than reduce the area and the military is negotiating with Sunshine and others in the district to permit extension of the range 20 miles to the north. This expansion of the range would not prohibit mining but would require that mine operators and land owners abandon the area for one day at a time but not more than 22 days each year. Sunshine Mining indicates an interest in going along with the government on this basis, hoping also to obtain permission to explore Barrett's claims extending about one-half mile into the present bombing range. These claims have ore showings surpassing any other in the district.

10. New Mexico Copper Corp. In the course of search for uranium and copper deposits this organization built a flotation mill at Carrizozo and attempted concentration of copper-bearing sandstone in a deposit east of Alamogordo. The low copper content in this deposit was oxidized and the operation was not successful. A few months ago Mr. Jim Malfi of Albuquerque acquired control of New Mexico Copper Corp. and entered into an agreement with Tom Scartaccini, lessee at the San Pedro mine, to produce copper ore for milling at Carrizozo. Malfi supplied some money for the mining operation and arranged for hauling, but the ore delivered to the mill assayed about 1% Cu resulting in failure.

In seeking elsewhere for mill feed Malfi turned to the Magdalena area and obtained 150 tons of dump ore from the Waldo Mine under lease to Robert Chamberlin. This ore is low grade, contains some oxidized material, and was not acceptable when we were operating the Deming mill. Malfi proposed that this dump material be concentrated at Carrizozo for \$5.00 per ton milling charge and \$3.00 per ton trucking. The concentrates are to remain in the producer's name for shipment to the smelter. Malfi advised me milling of this dump ore would be completed this week, but it is doubtful if much tonnage can be expected from this operation. Malfi visited Magdalena and talked to Mr. Dobson, Lessee at the Nitt Mine, as well as Mr. Chamberlin. My conversation with these lessees indicates Chamberlin could produce about 10 to 15 tons per day at the Waldo and Dobson estimated 5 to 10 tons daily from the Nitt. This combined production could not keep the Carrizozo mill in operation even if the grade of the ore would support handling at that location.

11. Clarence Barrett has been doing some exploration work on his claims about three miles north of Magdalena in the foothills. The mineralization in limestone--barite with oxidized lead-zinc--as shown by Barrett's work may be 25 feet in width with length not defined. Mr. Barrett has mined and stockpiled about 50 tons which he reports assays .3 oz Au, 12% Pb. From inspection I estimate the lead content to be perhaps half that. Barrett advises Empire Zinc Co. has been watching his exploration and has talked with him about taking over the claims for an exploration project.

12. Empire Zinc Co. at Hanover is producing 2800 to 3000 tons of zinc concentrates and 200 tons of lead concentrates per month, 140 tons of ore per day coming from the Lynchburg Mine operated by Patten & Galassini. Work in the Lynchburg is continuation of the project started by Carl Elayer when he held the lease. Present production carries higher percentage of lead with some copper than ore mined in the past in the Lynchburg property.

As of November 15 Empire Zinc had 600 tons of 60-65% Pb in stockpile awaiting settlement of the strike at El Paso. On August 10 Empire Zinc made an agreement with labor to continue on the old rate without wage increase until August 10, 1960. The company employs 110 men at Hanover including office staff.

13. United States Smelting-Bayard Mill. Patten & Galassini, lessees at the Continental Mine, are operating on three shifts producing 8,000 tons of ore per month. Work at the mine is attempting to open up additional faces of ore to bring production up to 10,000 tons monthly which would allow the Bayard mill to operate on three shift basis instead of the present two shifts per day. Production at the Continental was started just as the strike was called at El Paso and the lessees had to borrow operating funds from American National Bank at Silver City and State National Bank, El Paso.

Approximately 1500 tons of 25% Cu concentrates are on hand at Bayard as of November 15 accumulated during the smelter strike.

14. American Exploration Inc. Douglas White and associates have been producing a small railroad car of copper precipitates per month from a leaching operation on the Zuniga claims owned by United States Smelting Co. For the past few months American Exploration, Inc. of San Francisco has been drilling areas on this property with the idea of taking over the operation. I understand Amex has drilled 2,000 feet with encouraging results. A larger drill is being brought into the district to continue this exploration program. This work is under the direction of Ed Scholz of San Francisco and Ted Johnson of Tucson. If the project is successful it is anticipated the operation will produce one carload of precipitates per week.

14. Brannan & Fuller have stockpiled approximately 5,000 tons of siliceous ore during the strike at El Paso--3500 tons from the Henry Clay and 1500 tons from the 85 mine. They have borrowed money to maintain the operation at a minimum rate during the strike period and can continue on this basis for another 30 days at least.

In its operation at the Henry Clay-Atwood property Werner Lake Nickel Mines spent approximately \$400,000 in exploration. The Werner Lake option expires December 31st of this year, at which time the final payments must be made to John Augustine and Strong & Moseley. As of November 12 the amount due Augustine was \$69,031.83 with \$46,337.95 owing to Strong & Moseley. The minimum \$500 per month required by Augustine has been paid by Brannan & Fuller during the strike period. The Werner Lake contract with Strong & Moseley requires notification by November 1 if Werner Lake does not intend to meet the final payments. So far Mr. Strong has not received notice from Werner Lake. To gain a better understanding of Werner Lake's intention Mr. Fuller made a trip to Toronto. No definite understanding was reached as a result of this trip but Mr. Fuller was led to believe the payments could be met. In the event Werner Lake does not make the final payment Mr. Strong feels it will be up to him to raise the money due John Augustine to protect Strong & Moseley's interest in the property. He suggests that Asarco be prepared to purchase the Atwood-Henry Clay property if dropped by Werner Lake.

15. Porter Bros. Corp., placer operators from Bear Creek, Idaho, have employed Chapman Wood & Griswold of Albuquerque to carry on investigation for columbium in the Ojo Caliente area.

In conversation with Mr. Griswold he told me activity of his firm in New Mexico at present is centered almost entirely around uranium properties. There is a good deal of consolidating and sale of interests, much of which is handled by Chapman Wood & Griswold.

16. International Metals Ltd. Mr. Griswold tells me International Metals has not continued exploration for copper in Jamaica. The original and limited work done on this property indicates the copper to be of a tactite type deposit and in mining requires care and a lot of hand sorting. International Metals has not given up this mining concession but for the time being is not active in exploration of the Jamaica property.

REED F. WELCH

cc:EMcLittmann DJPope
 RLJourdan CPPollock
 CNWaterman WJNock
 WGRouillard TAsnedden
 EEGroff KERichard-2

TO Messrs: E. McL. Tittmann

DATE August 13, 1959

R.L. Jourdan	C.P. Pollock
C.N. Waterman	TASnedden
W.G. Rouillard	<u>K.E. Richard</u>
B.D. Roberts	
E.E. Groff	

K. F.
AUG 14 1959

Please substitute attached corrected pages on report for
Southwest Production-First Half 1959

REED F. WELCH

REED F. WELCH

AMERICAN SMELTING & REFINING CO.
810 VALLEY NATIONAL BLDG.
TUCSON, ARIZONA

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 31, 1959
(Revised 8-13-59)

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-FIRST HALF 1959
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received - First Half</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	8,650	871	9,521
February	13,400	314	13,714
March	10,508	14,861	25,369
April	12,460	11,396	23,856
May	9,218	906	10,124
June	13,471	13,548	27,019
Total First Half	67,707	41,896	109,603
<u>Copper Department</u>			
January	20,833	452	21,285
February	10,932	234	11,166
March	15,300	-	15,300
April	16,138	4	16,142
May	20,124	107	20,231
June	12,632	-	12,632
Total First Half	95,959	797	96,756

Above receipts include tonnages from company operations and Inter-plant, exclude Intra-plant.

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated tonnages)

<u>Lead Department</u>	<u>First Half</u>		<u>On Hand- Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>7-1-59</u>
Concentrates	54,814	60,664	16,057	9,681
Residue	24,076	23,953	2,371	5,016
Dust	4,668	4,280	322	649
Siliceous Lead	5,453	5,411	1,277	1,340
Pyrite	-	-	7,190	826
Total	89,011*	94,308	27,217	17,512

*Excludes mined slag used as diluent.

Copper Department

Concentrates	54,297	60,253	7,316	1,475
Matte	13,771	14,646	965	147
Residue	9,999	9,756	3,949	1,001
Scrap	1,507	1,532	72	261
Sulphide	4,363	6,261	239	4,499
Reverb Flux	523	566	-	-
Converter "	20,221	19,077	11,848	13,142
Total	104,681**	112,091	24,389	20,525

**Includes Intra-plant matte and speiss

El Paso Fluxing Situation-Copper Dept., con't

Copper concentrate receipts should show improvement in the near future with resumption of zinc-copper production at Hanover and operation of the Coronado Mine at Johnson Camp under lease by McFarland & Hullinger. The Johnson Camp ore will be treated in McFarland & Hullinger mill at Sahuarita, the copper production shipped to El Paso.

Converter Flux supply continues to come principally from Brannan & Fuller operation at Lordsburg (Henry Clay & 85 Mines)--19631 tons received in the first half. No fluxing tonnage is moving from Mexico at present.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	11,415	April	15,642
February	10,539	May	16,434
March	12,467	June	19,541
Total 1st Qtr.	34,421	Total 1st Half	86,038

2. Fluxing Situation and Stocks
(From 15-Day Reports)

<u>Estimated tonnages</u>	<u>First Half</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>7-1-59</u>
Concentrates	60,262	59,603	1,872	2,531
Reverb Flux	16,970	18,747	10,292	8,516
Converter "	8,448	7,604	4,752	5,546
Total	85,680	85,954	16,916	16,593

Fluxing ore for the converters continues to come principally from the Chilito Mine, now delivered by rail. The Blue Bell mine ore was too low grade to sustain operation and shipments were suspended after delivery of 3200 tons. Reverb flux stocks are low but it is hoped may be built up from the Elgin property, Helvetia District (McFarland & Hullinger lease) with lime copper flux more suitable than Narragansett ore (C.D.Wilson). Elgin flux is now moving to Hayden at the rate of 2 cars per day, replacing Christmas tailings.

ZINC CONCENTRATES

Summary Receipts from Southwest Producers
Amarillo and Corpus Christi Plants

	<u>Tons Conc. Rec'd.</u>		<u>Tons Conc Rec'd.</u>
January	5,232	April	4,310
February	4,167	May	3,094
March	3,945	June	4,408
First Quarter	13,344	Total Half	25,156

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 31, 1959

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-FIRST HALF 1959
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

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(From Metal Purchase Reports)

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April	16,138	4	16,142
May	20,124	107	20,231
June	12,632	-	12,632
Total First Half	95,959	797	96,756

2. Fluxing Situation and Stocks
(From Semi-Monthly Reports)

<u>Lead Department</u>	<u>First Half</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>7-1-59</u>
Concentrates	54,814	60,664	16,057	9,681
Residue	24,076	23,953	2,371	5,016
Dust	4,668	4,280	322	649
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Total	89,011	94,308	27,217	17,512

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HAYDEN PLANT

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	<u>Tons Received</u>		<u>Tons Received</u>
January	11,415	April	15,642
February	15,713	May	16,434
March	12,467	June	19,541
Total 1st Qtr.	39,595	Total 1st Half	91,212

2. Fluxing Situation and Stocks
(From 15-Day Reports)

	<u>First Half</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>7-1-59</u>
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January	5,232	April	4,310
February	4,167	May	3,094
March	3,945	June	4,408
First Quarter	13,344	Total Half	25,156

COMMENTS ON SHIPPERS

Bagdad Copper Corp. deliveries to Hayden for the first half of 1959 total 17,645 tons assaying 29-36% Cu. At a recent meeting of the Board of Directors David C. Lincoln was elected President of Bagdad Copper Corp. to succeed the late J.C. Lincoln. No change in policy is expected for the Bagdad operation.

Banner Mining Co. production for the first 6 months of 1959 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>
Mineral Hill-Daisy	7341	-	6.1	25.7
Miser's Chest-Bonney	1521	.089	6.7	30.7

All of this production moves to El Paso Plant.

Brannan & Fuller operation at Lordsburg supplies El Paso Plant with siliceous fluxing ore. Receipts in the first half of 1959:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Fe</u>	<u>CaO</u>	<u>Al2O3</u>
Henry Clay	16,617	.06	3.6	1.87	65.2	7.1	3.8	4.0
85 Mine	3,014	.05	2.8	1.50	62.4	7.7	2.9	6.1

These operators have sufficient ore reserves to continue production at the present rate if they can hold the lease on the Henry Clay-Atwood property. In any case they will continue shipment from the Phelps Dodge 85 Mine.

Cyprus Mines Corp. resumed production at the Old Dick Mine the latter part of April, the copper concentrates moving to Hayden Plant. Receipts April through June - 1618 tons with about 23.9% Cu, 2.6 oz Ag. The zinc production goes to Bartlesville.

Duval Sulphur & Potash Co. production from the Esperanza Pit, starting in March through June was as follows:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
Hayden Plant Receipts	12,256	2.3	29.7
El Paso Plant "	5,925	2.0	29.1
Total	18,181		

About 4000 tons per month are now being shipped to Hayden, the balance (about 2000 tons monthly) to El Paso. Production for July and August will probably be low because of interruptions from powerline failure.

McFarland & Hullinger Operations

San Xavier Mine production is now at a rate of about 1000 tons ore per month. In order to maintain Sahuarita mill operation McFarland & Hullinger propose to treat about 150 tons per day of zinc-copper ore from the Coronado Mine at Johnson Camp to supplement San Xavier tonnage. Lead production from San Xavier for the first half of 1959 totals 1104 tons averaging about 30 oz Ag, 43% Pb, 8.6% Cu, 12.6% Zn. The zinc production is shipped to the Dumas Plant of American Zinc Co.

Southwest Production-First Half 1959

4

McFarland & Hullinger, Con't.

Blue Bell Mine operation at Mayer, after shipment of 3200 tons, proved unprofitable because of low grade tenor of the ore. This production delivered to Hayden for siliceous flux averaged about 1.48% Cu, 75% SiO₂, 3.1% Fe, 8.8% Al₂O₃.

Elgin Mine shipments from Sahuarita started late in June and are now moving at a rate of 2 cars per day. This fluxing ore assays about 1.5% Cu with 40% SiO₂, 25% CaO, 5% Fe, and is desirable for reverberatory flux, replacing Christmas tailings.

Nash-McFarland production for 6 months of 1959 from the Flux Mine lease, treated in the Trench Mill, is as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conc	748	.03	52.7	64.0	2.7	4.6
Zinc Conc	1978	.-	3.1	1.7	1.2	54.3

It is expected mining in the Flux will cease early in 1960 with ore reserves exhausted. Present production from Duquesne leases with Mar-Pak Corporation is shipped to the Sahuarita mill for concentrating because of unsatisfactory metallurgy in the Trench mill in conjunction with treating Flux ore.

Pima Mining Co. shipments to Hayden for the first six months of 1959 - 28,339 tons averaging about 27.6% Cu, 3.6 oz Ag.

Shattuck Denn-Iron King Mine production for first half 1959 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conc	20,179	.07	2.5	1.2	.2	56.0
Lead Conc	11,996	.88	34.0	33.0	1.4	11.0

A new contract is now being negotiated offering some improvement in zinc terms retroactive to October 1st. The new agreement will include purchase terms for Selby delivery on gold-silver precipitates produced at Iron King Mine that has been going to Salt Lake Valley.

C.D. Wilson shipments to Hayden from the Narragansett property, Helvetia District, for first half 1959 total 8,556 tons with average assays about 2.3% Cu, 41% SiO₂, 8.3% Fe, 14% CaO, 5% Al₂O₃. This ore is not desirable reverberatory flux and it is hoped may be replaced by more favorable tonnage in the near future. For the time being shipments are continuing from the Narragansett at a rate of about 3 cars per week. The operation is under the direction of Darrel Wilson since the death of his father C.D. Wilson.

REED F. WELCH

cc:EMcLittmann CPPollock
 RLJourdan TASnedden
 CNWaterman KERichard-2
 WGRouillard
 EEGroff

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 28, 1959

K. F.

JUL 30 1959

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-FIELD TRIP REPORT
July 22-23, 1959

1. Mar-Pak Corporation, Duquesne. On May 1, 1959, J.P. Nash leased the Bonanza, Illinois, Estelle-Louise and Kansas mines at Duquesne to Mar-Pak Corporation. Mar-Pak, primarily a packaging company, has become interested in mining in the Patagonia area, where they are working on a two-shift basis employing about 20 men.

In the Bonanza Mine, between the Bonanza shaft and the Estelle-Louise workings, Mar-Pak started on a small showing of ore and with combination of production from the other mines, shipped 12 railroad cars during July to the Sahuarita mill. The ore is shipped to Sahuarita for concentrating because E.W. McFarland, operating the Trench mill for Nash-McFarland, is of the opinion the Mar-Pak ore is not suitable metallurgically for treatment with Flux Mine ore.

On the Estelle-Louise claim D.C. Gilbert was sinking a winze through a rather shallow oxidized stope when Mar-Pak entered the district and he interested that firm in 50% participation to continue sinking the winze. Following Mar-Pak taking an interest, one round in the bottom of the winze opened up oxidized lead-silver ore and two cars have been shipped to El Paso Plant. The first shipment--Smelter Lot 1328--assays 13.3 oz Ag, 9.57% Pb, 2.48% Cu, 5.0% Zn. The second car is not economic because the ore face was mined too wide as a result of inexperienced management.

On the Venados claim of the Kansas Mine Mar-Pak has erected a small headframe and is sinking on a copper lens, now about 150 feet deep. Production from the Venados claim has been mixed with copper-zinc ore going to the Sahuarita mill. The copper assays 5% and may justify shipping direct to El Paso. Mar-Pak's interest in the Duquesne area is concentrated in the Bonanza-Estelle-Louise area on the 235 foot level with an objective to be run either on the 400 or 500 level beneath the present working face.

J.P. Nash took over the Duquesne mines early in 1951 on a purchase agreement with Byrd Investment Co. I understand that as of July 1, 1959, the property has been paid for out of royalties with the exception of the first down payment of about \$60,000.

2. Nash-McFarland, lessee of the Flux Mine, employs 47 men mining 3,000 to 3500 tons per month of ore treated in the Trench mill. Preparations are being made to install a hoist on the 750 level to mine ore at the 830 level. Unwatering of this winze is almost completed and McFarland is of the opinion the ore occurring in the footwall of this winze is worth going after.

Total ore mined under the Flux lease through June is 47,453 tons, most of this production coming from the 2-9 shaft area and from exploring small showings in the old stope walls. Some exploration work on

Nash-McFarland, Con't.

the 360 level proved to be a disappointment. McFarland estimates the Flux Mine will be pretty well cleaned out by January or February of next year.

A transmission line extending power from Nogales supplies the mine and mill with numerous interruptions in service as a result of lightening storms. The power rate is 2.375¢ per kilowatt plus .5¢ to amortize the powerline to be applied on 3 million kilowatt hours.

3. Sunnyside Mine. While I was visiting McFarland at the Trench mill on July 23rd Mr. E.F. Reed and his assistant Hugh Olmstead, of Inspiration Consolidated Copper came into camp. They indicated interest in the Sunnyside Mine and immediate area.

4. Coronado Mine, Johnson Camp. McFarland & Hullinger of Tocoale, Utah, have for several months been predicting termination of the San Xavier Mine operation. For economic operation the mine should produce about 3,000 tons of ore per month. Mine production is now only 1,000 tons monthly and the Sahuarita mill cannot continue on this rate. It is proposed to keep the Sahuarita mill in operation, supplementing San Xavier production with zinc-copper ore from Johnson Camp.

On July 13, 1959, McFarland & Hullinger obtained a lease from Coronado Copper and Zinc Company on the Coronado property at Johnson Camp. I am advised by F.G. McFarland that the mine is in pretty good shape. Ore reserves are low with estimated 80,000 to 100,000 tons assaying about 2.6% Cu, 7.5% Zn. The Coronado mill is in very bad repair and would require about \$50,000 to recondition. The mill circuit must recirculate water, and because of costly repair required and the water condition at Johnson Camp, McFarland & Hullinger will ship the crude ore to Sahuarita for milling beginning early in August. K.L. Erickson, Mill Superintendent, believes that with use of fresh water and regrind circuit available at Sahuarita the additional freight will be overcome by better metallurgy.

McFarland & Hullinger expect to ship 150 tons per day from Johnson Camp to Sahuarita mill and will produce about 300 tons per month of copper concentrates for El Paso delivery. I expect the zinc production of about 450 tons monthly will be of interest to International Minerals and Metals for smelting at Bartlesville.

5. Coronado-Burro Claim. Since March Strong & Moseley have been shipping low grade siliceous flux to Douglas from the Burro claim on Coronado property at Johnson Camp. I understand Phelps Dodge ordered five cars per day but during the month of June Strong & Moseley were able to supply only 90 cars. This horizon is about 25 feet wide, weakly mineralized along the strike. Shipments to Douglas have run as low as .3% Cu and average about .6% with 76 to 80% SiO₂.

6. Elgin Mine. McFarland & Hullinger have a lease on the Elgin Mine in the Helvetia District and are currently shipping two cars per day of limey copper fluxing ore to Hayden. This flux averages about 1.5% Cu with about 40% SiO₂, 25% CaO, 5% Fe, 2% Al₂O₃.

7. Pima-Banner Litigation

On June 23rd court proceedings were started wherein the State of Arizona and Pima Mining Company are attempting to obtain a slope easement and ingress and egress on part of Banner Mining Company's Daisy claim area. This would allow Pima Mining Company, Lessee of the State, to mine 600,000 tons of ore that cannot be mined without stripping a certain area on the Daisy claims. Count No. 1 instituted by the State was recessed for advisement by the Judge on July 23rd with several days of recess intervening. The State's case was presented by Pima Mining Company's attorney Mr. d'Antonio. Count No. 2, of similar nature, is to be instituted by Pima Mining Company. Mr. Travis of Banner Mining Company believes the losing side will probably appeal the case.

8. C.D. Wilson of Tucson died of a heart attack on the afternoon of July 16th. Mr. Wilson was lessor of the Duval Esperanza property and owner of the Narragansett mine, Helvetia District, from which he was shipping copper fluxing ore to Hayden Plant. We are currently receiving three railroad cars per week from the Narragansett property.

9. Childs-Auwinckle Mine. R. A. Burney recently obtained a lease on the Childs Auwinckle property at Copper Creek where there is a small tonnage of oxidized, fairly siliceous outcrop ore. This material could be used as reverberatory flux at Hayden and Burney expects to ship to that plant. He hopes that mining about 1,000 tons from this outcrop will assist him in dewatering the mine to the primary ore zone.

REED F. WELCH

cc:EMcLTittmann DJPope
 RLJourdan CPPollock
 CNWaterman WJNock
 WGRouillard TASnedden
 EEGroff KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J.H

July 14, 1959

JUL 17 1959

K. F

Mr. B. D. Roberts, Manager

JUL 17 1959

EL PASO PLANT

REED F. WELCH-FIELD TRIP REPORT JULY

1. Christmas Mine. Two years ago when copper price dropped Inspiration Consolidated Copper Co. postponed its program for sinking a new shaft and putting the Christmas Mine into operation. However, during this period work has continued underground with expenditure of approximately \$50,000 per month. Inspiration has recently contracted with Centennial Development Co. for sinking the new shaft, but because of the operating engineers strike, work in preparation for shaft sinking has been delayed. When the operating engineers resume work the shaft sinking will go forward.

Work underground has been concentrated in the Knight shaft area, principally in sinking to the O'Carroll bed. The old shaft has been deepened to the 1600 level but has not been completed with a sump because of high pressure water encountered in the quartzite bed under the O'Carroll horizon. This water encountered in drill holes is reported under 250 pounds per square inch pressure and held up sinking the shaft an additional 20 feet for skip pocket room. Drilling and grouting around the pocket area has now been done and it is expected the sump will be completed in the near future.

Earlier test work in the old mill gave disappointing results with concentrate assaying about 15% Cu. Inspiration has installed new cells in the mill circuit and is again operating the mill on a three-shift basis treating 150 tons per day of stockpiled ore. The mill will continue operating for about three months. Recent concentrates assaying about 19% Cu indicate improvement but still contain about 17% insoluble. Before the mill test is completed some tonnage of new ore will be treated to be sure that recovery in the stockpiled tonnage has not been affected by partial oxidation.

There are presently 55 men employed in the Christmas mine and mill.

2. Asarco Tailings: Mr. George Luman has been hauling about five cars per week to Hayden from the Christmas tailings pond. Inasmuch as Hayden is now receiving limey copper flux from the Elgin property and the smelter has 1700 to 1800 tons of tailings in stockpile, we will not move any more tonnage from the Christmas tailing pond for the immediate future. An estimated 10,000 to 20,000 tons remain in the Christmas dump, all of which is below the present road level.

Asarco Tailings, con't

The Inspiration people advise the tailings will not interfere with their mining plans and as far as they are concerned the remaining tonnage can be moved any time the necessity arises at the smelter. However it is possible in the not too distant future the Southern Pacific Company may abandon the Christmas line and if railroad action appears imminent we may wish to resume moving the tailings into the smelter yard.

3. B.S. & K. Mining Co. at the Atlas Mine. Silverbell District, has been producing about 400 tons per month of 60% Zn and Mr. Kalaf, Manager of the operation, is of the opinion his product should be purchased on the basis of similar grade produced in the Tri-State area. He asked that I cancel our contract for delivery of zinc to Amarillo so that B.S. & K. Mining Company may ship to a more favorable outlet Kalaf thinks is available. Recent discussion with Mr. Kalaf indicates his interest in obtaining quotations from other firms for sale of his zinc output. By the end of September he expects to have the information so that he may advise me his interest in contract renewal for Amarillo delivery. I am prepared to offer a reduction in treatment charge at Amarillo but have not advised Kalaf the amount of such concession. I hope to meet him some time in September to submit our proposal. The new contract would be made effective with receipts at Amarillo beginning October 1, 1959, if B.S. & K elects to continue shipments to Amarillo.

4. Copper Loss at Cananea: In Phoenix on July 10th I met Jim Wells, Traffic Manager of Cananea Consolidated Copper Co., who reports approximately 30 tons per month loss of copper at the Cananea smelter. This copper is being smuggled into scrap yards in Arizona. Wells advises National Metals Co. in Phoenix has 60 to 100 tons of scrap copper which he is attempting to identify as originating at Cananea. If successful, Cananea will probably institute proceedings for repossession. Cananea has been unable to stop the loss at its plant. Even though customs officials at the border are on the alert, copper is still brought across the line. In some instances thrown across the fence to a truck waiting on the Arizona side. Cananea hopes to stop this traffic by preventing sale of scrap copper to buyers in the States and has asked our cooperation in this matter. I have given our assurance of refusal to purchase any secondary copper products of undetermined origin originating from converter aisle or blister bars.

5. Clemenceau Smelter Site: J.T. Williams, who has a shoe repair shop at Cottonwood, holds authorization to ship cleanup from this old smelter site and has sent three carloads of low grade cleanup material to Hayden coming from the bottom of the old reverberatory furnace. Mr. Williams employed Rice and Padilla for this cleanup work. The results of the last two cars--1.92% Cu--were very disappointing and I advised Williams we could not accept any more of such material at Hayden. He then advised me he was of the opinion his employees had high-graded his shipments and we were alerted for shipment that might be made by Rice and Padilla.

Clemenceau Smelter Cleanup-Con't.

Rice and Padilla own the Little Chief claim south of Cottonwood. from which they shipped 33 tons in 1958 assaying 4.66% Cu, 66.4% SiO₂, 11.8% Fe, 3.3% S, 1.7% Al₂O₃. A few weeks ago, following Williams call to my office, Rice and Padilla delivered 11 tons to Hayden by truck, alleged by shippers to originate at their Little Chief claim. This trucklot, obviously not crude ore, assays: 20.85% Cu, 17.7% SiO₂, 14.3% Fe, 6.5% S, 7.6% Al₂O₃. In talking with Paul Padilla by telephone he admitted to me this lot did not come from the Little Chief claim. I advised him settlement would be held up until the origin had been identified and ownership verified. I further advised Padilla that if the product comes from the Clemenceau smelter site, as I suspect after observing similar material at the old ore bin site, he must make satisfactory arrangement with J.T. Williams.

6. W.L. Schrambling, Green Monster Group: While in Cottonwood on July 10 I met Mr. Schrambling, Lessee of a portion of the Silver Plate property near Cottonwood. With his former partner, E.H. Querin, he recently shipped 95 tons to Hayden assaying 4.5-5.7% Cu, about 62% SiO₂, 5.5% Fe, 10% Al₂O₃. Schrambling is considering accepting offered outside financing whereby mining equipment will be supplied for production of a car per day. From my observations on previous visit to the Silver Plate property I advised Schrambling I thought he would be in a better position by shipping one or two cars per week of a sorted grade rather than attempt to ship on a tonnage basis. Cost of mining, delivery and smelting requires 4% Cu or better. Schrambling hopes to have another carload for Hayden within the next two weeks.

7. Joe Starnik of Humboldt owns the Ambassador Mine near Dewey, and is interested in shipping siliceous gold ore to Hayden Plant. This ore must be mined underground and according to Starnik assays \$6 to \$8 per ton. I discouraged Mr. Starnick from attempting to ship from this property, since it would not be economic with underground mining cost and freight rate of \$3.12 per ton to Hayden.

8. Shattuck Denn-Iron King Mine has been experiencing a shortage of water. The main supply comes from the valley below Humboldt and when this source of water was obtained several years ago rights were acknowledged to property owners in the area and the town of Humboldt. This now leaves the mine without adequate supply with the present pipeline and Shattuck Denn is spending about \$30,000 on an auxiliary line to supply the mine exclusively.

The operation continues without other difficulties at present. A new contract is being prepared for lead and zinc output to be made effective with receipts October 1st and will give somewhat better returns on the zinc concentrates.

Iron King is producing about 3,000 pounds per month of gold-silver precipitates assaying 400-500 ozs Au, 3500-4500 ozs Ag, 5-6% Cu, 20% Zn. This product has been going to Midvale and since lead smelting in Salt Lake Valley is now done at Tooele, Iron King has asked for Selby terms for purchase of this product.

9. Bagdad Copper Corporation will hold a directors meeting on Friday, July 17th, to elect a new Chairman of the Board to succeed the late J.C. Lincoln. The recent drop in copper price is of concern to Messrs. Colville and Webb (a director of Bagdad).

Experimental work on laboratory scale at Bagdad leads the management to believe they have developed a process for precipitating copper electrolytically direct from leaching solutions from oxide dumps. A pilot plant is near completion to test this on a small scale. Dorr-Oliver was asked for a cost estimate of plant constructing using the Dorr-Oliver method for treatment of concentrates and generation of acid. A rough estimate by that firm indicates cost of \$5 to \$6 million.

The Bagdad operation is non-union and pays top wages hoping to avoid union organization.

For seven months Bagdad has been without measurable precipitation. Burro Creek, the principal source of water, has been dry for the past 30 days. The mill has been operating on water from the tailing pond. The town is supplied from the Tungstona Mine through a pipeline installed after last year's threatened dry spell. Unless rainfall comes within the next two weeks Bagdad may be forced to curtail or shut down.

10. Oro Fino Mines Inc. Mr. L.W. Rayner, Manager of Oro Fino Mines has recently shipped several mixed cars to El Paso containing crude lead ore and table concentrates. He is a convalescent heart patient and has eastern capital backing him on this small venture. There have been numerous obstacles in the operation and as a result of recent setback in health, Rayner recently shipped three cars of crude ore of questionable grade. This ore was produced with a new mine foreman with the operation on two-shift basis. On advice of outcome on recent lots Rayner immediately changed his setup and put the old mine foreman on day shift when the mining is done. In the future shipments should be of acceptable grade.

The practice of shipping a few tons of table concentrates with the crude ore has resulted in difficulties at the smelter as well as with the railroad. In one instance, the railroad observing sand in one end of the car set about to clean out this material on the right of way. The railroad was acting in good faith, thinking they had delivered a dirty car, and did not realize this was the table concentrate assaying \$90 to \$100 per ton. Mr. Rayner is now holding the concentrates for shipment in separate cars.

REED F. WELCH

cc:EMcLTittmann DJPope
RLJourdan CPPollock
CNWaterman WJNock
WGRouillard TASnedden
EEGroff KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 29, 1959

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-FIRST QUARTER 1959
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-1st qtr.</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	8,650	871	9,521
February	13,400	314	13,714
March	10,508	14,861	25,369
Total First Qtr.	32,558	16,046	48,604

Copper Department

January	20,833	452	21,285
February	10,932	234	11,166
March	15,300	-	15,300
Total First Qtr.	47,065	686	47,751

2. Fluxing Situation and Stocks
(From Semi-Monthly Reports)

<u>Lead Department</u>	<u>First Quarter</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>4-1-59</u>
Concentrates	22,439	29,996	16,057	8,469
Residue	12,529	13,001	2,371	1,823
Dust	2,101	2,391	322	42
Siliceous Lead	2,896	2,442	1,277	1,674
Pyrite	-	-	7,190	826
Total	39,965*	47,830	27,217	12,834

Lead Department stocks are reduced to about 50% of tonnage on hand January 1st as a result of suspended operations with low metal prices.

Copper Department

Concentrates	24,536	29,803	7,316	1,936
Matte	6,724	7,123	965	784
Residue	6,475	4,323	3,949	5,961
Scrap	245	350	72	121
Sulphide	566	2,002	239	4,892
Reverb Flux	308	304	-	-
Converter "	9,783	7,413	11,848	14,194
Total	48,637	51,318	24,389	27,888

* Excluding mined slag used for diluent

El Paso, Copper Dept. Con't.

Copper Concentrates: Diversion of Duval tonnage in excess of Hayden capacity, beginning in April, will increase El Paso intake by approximately 5000 tons per month when full production is reached.

Converter Flux is supplied by Brannan & Fuller at the Henry Clay and 85 Mines at Lordsburg at the rate of about 3,000 tons monthly, the balance of requirements comes from barren silica.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Received</u>
January	11,415
February	15,713
March	<u>12,467</u>
Total 1st Qtr.	39,595

2. Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	<u>First Quarter</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-59</u>	<u>4-1-59</u>
Concentrates	24,559	25,247	1,872	1,184
Reverb Flux	4,345	7,303	10,292	7,335
Converter "	<u>4,280</u>	<u>3,037</u>	<u>4,752</u>	<u>5,995</u>
Total	33,184	35,587	16,916	14,514

Fluxing ore has come principally from Chilito Mine (converter silica) and C.D. Wilson (reverb flux), supplemented by some miscellaneous tonnage. In April siliceous copper ore started moving to Hayden from the Blue Bell mine at Mayer, which should take care of present silica requirements.

ZINC CONCENTRATES

Summary Receipts from Southwest Producers
Amarillo and Corpus Christi Plants

	<u>Tons Concentrate</u>
January	5,232
February	4,167
March	<u>3,945</u>
Total First Quarter	13,344

COMMENTS ON SHIPPERS

Bagdad Copper Corporation production for the first quarter of 1959 delivered to Hayden Plant - 9237 tons with average assays about 31.8% Cu, 1.7 oz Ag.

Comments on Shippers, Con't

Banner Mining Co. production January-March 1959:

	<u>Tons Conct.</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>
Mineral Hill-Daisy	4203	-	6.5	25.4
Miser's Chest-Bonney	680	.076	6.2	30.7

A new three-year contract has been signed for the Lordsburg output and Banner expects to place that operation in full production.

Brannan & Fuller are supplying siliceous fluxing ore for El Paso from the Henry Clay-Atwood property and from a lease on the Phelps Dodge 85 Mine at Lordsburg, shipments from the latter property starting late in February. First quarter receipts -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Fe</u>	<u>CaO</u>	<u>Al2O3</u>
Henry Clay	8656	.05	3.2	1.9	67	6.9	3.2	3.5
85 Mine	674	.065	3.0	1.5	65	7.3	2.5	5.0

Duval Sulphur & Potash Co. production started moving to Hayden on March 17th with receipts for that month 1784 tons assaying 29.5% Cu, 3.5 oz Ag. Beginning April 26th tonnage in excess of Hayden's present smelting capacity was diverted to El Paso. Duval expects to be in full production in June.

McFarland & Hullinger have completed purchase of the San Xavier property from Eagle-Ficher Co. Lead production for the first quarter 1959 - 629 tons averaging about 30 oz Ag, 38% Pb 10% Cu, 13% Zn. San Xavier Mine is operating at a loss and is not expected to continue much longer.

Nash-McFarland Trench Mill production for the first three months of 1959 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conc	1153	-	3.2	1.7	1.2	52
Lead Conc	394	.03	55.7	60.5	4.6	4

There are no mining operations at present at the Duquesne properties.

Pima Mining Company production January-March 1959 - 14,115 tons assaying about 3.5 oz Ag, 28% Cu. All Pima tonnage is now smelted at Hayden Plant

Shattuck Denn-Iron King tonnage delivered to El Paso and Amarillo January-March 1959 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conc	6406	.07	3.2	1.3	-	56
Lead "	5840	.96	34.0	34.0	1.4	10

Sunrise Mining Company continues to ship ore from the Glove Group. Receipts at El Paso in first three months of 1959 total 1255 tons assaying approximately 15.6 oz Ag, 28.5% Pb.

cc:EMcL.Tittmann WGRouillard CPPollock REED F. WELCH
 RLJourdan EEGroff TASnedden
 CNWaterman KERichard-2

JOHN WELCH & COMPANY
Tucson Arizona

March 9, 1959

Mr. B. D. Roberts, Manager

EL PASO PLANT

K. R. *JHC*

MAR 11 1959

REED F. WELCH - FIELD TRIP REPORT

Howe Sound Property: About ten days ago Aaron Bracken of McFarland & Hullinger called to my attention a possible source of siliceous copper-bearing flux located in Canada del Oro north of Tucson. It has been determined that these patented claims are owned by Howe Sound Co. An old shaft sunk through the mineralized zone penetrated some secondary copper, principally chrysocolla and malachite. This mineralization is confined to an andesitic intrusion which detracts from the potential value as converter silica.

To determine the value of the copper showing a grab sample was taken of the shaft dump which assays 1.15% Cu, .10 oz Ag, 72.6% SiO₂, 12.5% Al₂O₃. The mineral zone outcropping a short distance north of the shaft shows the andesite dike in contact with brecciated quartzite. A sample cut across 20 feet in this zone assays 0.7% Cu, 83.8% SiO₂, 5.6% Al₂O₃. The mineral zone along which this sample was taken extends 200 to 300 feet and constitutes a prominent part of a low ridge. A sample assaying 0.9% Cu with approximately the same analysis was cut in the bottom of the wash by Mr. Bracken on his first visit to the property.

On the footwall side of the mineral zone there is an indication of primary mineralization from which most of the exotic copper may have originated. Inasmuch as a short adit from the gulch level penetrated some of this zone without showing ore I am convinced the copper values are confined to a relatively shallow zone in the siliceous gangue.

Central Claim, Rosemont: On March 1st, accompanied by Aaron Bracken, I visited the Central Claim in the Rosemont District, for which McFarland & Hullinger are negotiating a lease with Lewisohn Copper. Surface showings on the Central indicate considerable amount of alteration and some silicification with large blobs of copper ore--tenorite or melaconite oxidized from chalcopyrite, some remnants of which are still present.

McFarland & Hullinger are interested in this property with the idea of drilling in the hope of encountering sulphide ore of a grade that will support mining and hauling to the Sahuarita mill for concentration. I have been interested in the possibility that the oxidized surface ore may be of satisfactory grade and analysis for purchase as reverberatory flux for Hayden delivery. A grab sample from cuts representing about 200 feet in width was taken for analysis of the country rock. Pulp sent to Hayden assays .88 Ag, 1.4 Cu, 52.6 SiO₂, 3.6 Fe, 8.3 Cao, 17.6 Al₂O₃. Because of the high alumina content this material is unsatisfactory for reverberatory flux.

Rosemont District, Con't

A similar sample was taken on the adjoining Mueller property. This assayed .9 oz Ag, 1.5% Cu.

Lucky Lou Claims: Recently R.J. Lundwall of Tucson acquired the Lucky Lou claims near Redington, about 35 miles east of Tucson with truck haul of about 60 miles to Hayden. In June of last year Mr. Robert Eenson delivered 20 tons of 1.61% Cu with 92% SiO₂ to Hayden from the Lucky Lou; 36 tons trucked to Hayden in February by Lundwall assays 2.01% Cu, 88.5% SiO₂. A second lot has recently been delivered by Lundwall, assays not yet available.

Lundwall, who is inexperienced in mining, is enthusiastic about the property and because of interest as a possible source of converter flux, I visited the claims on March 4th. The mineralization is a pegmatitic quartz vein occurring in granitic country rock. The quartz contains minor amounts of copper mineralization irregularly scattered through a portion of the vein, which also contains some mica. The quartz vein is typical of this type of occurrence and varies from 2 to 6 feet in thickness.

Lundwall is of the opinion that in depth he will encounter higher grade and that the entire vein width might be shipped as converter flux. However, the sporadic showing of copper and irregularity of the quartz vein preclude the possibility of developing any important tonnage for Hayden delivery. Upon my advice Lundwall will clean off the vein for shipment of a cleaner product, after which he can evaluate his economic position.

Duval Sulphur & Potash Co. On a visit to the Duval plant on March 3rd Mr. George Atwood advised me he had accumulated about 150 tons of copper concentrates produced while breaking in the A section of the mill with low grade pit material. Operation of this section indicated the need for some minor modifications and it will be shut down and a test run with B section by March 6th.

The Duval plant is of particular interest because of the mechanical and electronic controls employed throughout the mill circuit. It has been necessary to start the operation with gradual adoption of the electronic devices. In spite of inexperienced operators, Mr. Atwood expects to produce at least 4,000 tons of concentrates during the month of March. Concentrate storage area at the mill will accommodate 600 to 700 tons and Duval expects to start shipment to Hayden on Monday, March 9th.

San Xavier Mine, McFarland & Hullinger: This operation has been on a precarious basis as far as ore reserves are concerned since last October. Very little additional ore has been found since that time and present mine production rate of 1,000 tons per month is insufficient to justify continued operation on present metal prices. The mine is now losing money and could be closed at any time.

San Xavier Mine, Con't.

Cyprus Mines has been examining the San Xavier Mine for an underground exploration project. Mr. Spaulding tells me he thinks a project of about one year duration would be worthwhile but so far no offer has been made to McFarland & Hullinger by Cyprus Mines. Banner Mining Company also has shown interest in the San Xavier mine.

Nash Mines, Duquesne. D. C. Gilbert is the only active lessee at the present time. Present work is on the Illinois claim, working through the Bonanza shaft, and on the Estelle Louise claim. The Illinois claim is 500 feet south of the Bonanza shaft on the 235 foot level where Gilbert is stoping a small showing of ore 5 feet wide and about 16 feet long on which he has raised about 70 feet. This showing is 120 feet below an old surface stope from which oxidized lead ore was shipped. Gilbert's production from this stope has assayed about 2% Pb, 5 oz Ag, 4% Cu, 17% Zn. The last shipment to the Trench mill contained less than 1% Pb with other metals unchanged. Because of the low lead content the mill experienced some unsatisfactory results with this last lot.

Work on the Estelle Louise claim indicates some ore assaying 8% Pb, 2.5% Cu, 10 oz Ag, 15% Zn. From both leases Gilbert has delivered about 900 tons to the mill.

Nash-McFarland, Trench Mill: In a recent conversation with J.P. Nash he advised operation in January and February was unprofitable. In January they milled and paid royalty on 3073 tons, in February 2081 tons. In anticipation of obtaining some tonnage from the January vein near Trench Mill, McFarland put in a new set of timbers at the collar of the Trench shaft, obtained a pump, and installed a new cable for the hoist. It was planned to unwater the Trench Mine to the 500 level where a crosscut connects to the January vein. Unwatering the Trench shaft would allow examination of the January vein through the raise on the January vein. However, because of recent drop in metal prices work in the Trench Mine has been suspended for the time being.

In the Flux Mine McFarland unwatered the flooded area to the 750 level and stoped on the mineralization above that level, principally pyrite and sphalerite. Much of the mill feed in the past two months came from this area in the Flux resulting in low lead production and unsatisfactory returns for zinc. It has been reported to me by Mr. Nash that the Flux Mine will be allowed to flood again rather than attempt to exploit the ore reserves below the 750 level as reported by our Mining Department.

Coronado Copper & Zinc Co., Johnson Camp. Since early in November McFarland & Hullinger have been negotiating with Mr. George Dub, President of Coronado, for underground operating privilege at Johnson Camp. McFarland & Hullinger offered to operate the mine on a straight royalty or split check basis after determination of mining and milling costs. Mr. Dub admits that Coronado cannot operate

Coronado Copper & Zinc, Con't.

economically at Johnson Camp on present metal prices and is therefore interested in the proposal made by McFarland & Hullinger but no definite agreement has been reached. Mr. Dub estimates Coronado mine has 120,000 tons of blocked ore assaying 2.8% Cu, 7.5% Zn allowing mining dilution estimate of 10%. In addition to the ore reserves in the Mudd shaft there is a substantial unestimated tonnage in pillars in the Republic Mine.

Burro Claim Strong & Moseley have been attempting to obtain a lease from Coronado on the Burro claim as a source of siliceous fluxing ore. Shipments in 1958 from the Burro claim indicate one quartzite bed about 30 feet in thickness containing .7 to 1.5% Cu. Mr. Strong's negotiations so far have not produced satisfactory terms or duration for a lease and present lease arrangement will not justify shipment of this low grade product to Hayden. During this period of lease negotiations, to prospect the area Moseley has drilled four holes 50 to 70 feet in depth, all showing minor amounts of copper. Mr. Moseley obtained permission from Phelps Dodge to send 20 railroad cars to Douglas as a trial shipment to determine that company's interest in the product. Because of lower freight charge to Douglas any tonnage developed in this area may be disposed of to Phelps Dodge. However, any time tonnage can be developed that could be purchased for Hayden delivery we could arrange for diversion to that plant.

About ten days ago I visited Moseley at Johnson Camp, at which time he was making his first shipment to Douglas. Phelps Dodge terms for the 20-car trial shipment specifies in excess of 80% SiO₂ and includes payment for 100% of the copper content up to 1.5% Cu with 3.75¢ deduction from E&MJ price. Above 1.5% Cu assay five pounds are deducted. In either case there is no treatment charge for pay value not exceeding \$15 per ton with a charge of 10% of the value over \$15. The freight rate Dragoon to Douglas is \$1.48 per ton for value not exceeding \$15.

REED F. WELCH

cc:EMcLTittmann DJPope
RLJourdan CPPollock
CNWaterman WJNock
WGRouillard TASnedden
RMMcGeorge KERichard-2
EEGroff

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

K. R

FEB 11 1959

January 30, 1959

Mr. B. D. Roberts, Manager

EL PASO PLANT

MR. Courtright-Blecher-Kirkman
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS
Van Jay
JFK

SOUTHWEST PRODUCTION - YEAR, 1958
RECEIPTS EL PASO, HAYDEN & AMARILLO

J. H. C.

EL PASO PLANT

FEB 24 1959

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-Year, 1958</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	17,020	18,495	35,515
February	14,991	15,017	30,008
March	17,804	12,603	30,407
April	18,723	14,727	33,450
May	18,656	7,350	26,006
June	16,687	12,449	29,136
July	15,798	8,222	24,020
August	15,611	4,163	19,774
September	18,359	8,609	26,968
October	9,828	3,942	13,770
November	10,813	9,722	20,535
December	12,020	16,818	28,838
Total Year	186,310	132,117	318,427

<u>Copper Department</u>			
January	23,163	3,104	26,267
February	18,880	2,982	21,862
March	20,253	2,295	22,548
April	19,946	3,442	23,388
May	21,083	1,956	23,039
June	21,259	2,092	23,351
July	19,851	1,254	21,105
August	20,596	1,040	21,636
September	11,010	1,817	12,827
October	13,905	865	14,770
November	13,329	500	13,829
December	16,348	615	16,963
Total Year	219,023	21,962	241,585

2. Fluxing Situation and Stocks
(From Semi-monthly Reports)

<u>Lead Department</u>	<u>Year, 1958</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>1-1-59</u>
Concentrates	159,806	155,273	14,261	16,057
Residue	60,696	63,155	3,501	2,371
Dust	9,114	10,058	927	322
Siliceous Lead	10,323	10,486	1,016	1,277
Pyrite	-	-	7,569	7,190
Total	239,939*	238,972	27,274	27,217

*Excluding Mined slag used for diluent.

Southwest Production
Year, 1958

Copper Department

	Year, 1958		On Hand-Tons	
	Received	Smelted	1-1-58	1-1-59
Concentrates	186,653	182,497	4,000	7,316
Matte	27,570	27,146	657	965
Residue	15,575	14,641	3,092	3,949
Pyrite	310	140	-	-
Scrap	1,318	1,436	-	72
Sulphide	-	1,770	1,951	239
Reverb Flux	1,193	1,574	282	47
Converter	27,327	28,172	12,597	11,848
Total	259,946	257,376	22,579	24,389

Siliceous Flux: Atwood-Henry Clay Mine at Lordsburg, Brannan & Fuller lease, has delivered 18,509 tons of fluxing ore during the year 1958. Brannan & Fuller have recently obtained a lease from Phelps Dodge on the 85 mine and some additional fluxing ore may be available for El Paso from that property. The balance of siliceous ore has come from Durango, Mexico, and miscellaneous shipments. Silica fluxing requirements in addition to ore receipts, have been met by purchase of silica, sand and sandstone.

HAYDEN PLANT

1. Summary of Monthly Receipts.
(From Metal Purchase Reports)

	Tons Received	
January	30,920	July 2,761
February	30,144	August 2,801
March	27,211	September 10,621
April	17,452	October 12,051
May	7,116	November 11,159
June	4,973	December 11,234
Total First Half	117,816	Total, 1958 133,999

2. Fluxing Situation and Stocks
(From Semi-Monthly Reports)

	Year, 1958		On Hand-Tons	
	Received	Smelted	1-1-58	1-1-59
Concentrates	118,101	135,343	19,114	1,872
Reverb Flux	51,450*	52,892	4,405	10,292
Converter "	25,143	23,819	3,962	4,752
Total	194,694	212,054	27,481	16,916

*Includes intake of Christmas tailings January-August.

CONCENTRATES: Pima Mine concentrates are now moving to Hayden at the rate of about 5,000 tons per month; Bagdad concentrates about 3,000 tons monthly. Duval production will start some time in February with estimated 500 tons for the first month increasing in March to 6,000 tons monthly with the expectation of reaching maximum 9,000 ton production by September.

REVERB FLUX: This has been supplied by C. D. Wilson at the Narragansett and, since the latter part of July, 1958, by the Lewisohn Copper Corporation (King-Exile Mine). The King-Exile ore carries sufficient lime to meet fluxing requirements and shipment of Christmas tails was suspended early in November.

SILICEOUS FLUX: Chilito Mine has been able to meet converter fluxing requirements, supplemented by miscellaneous tonnages. To date, the Chilito flux has been delivered by truck. On completion of a new ramp, now under construction at Burns Siding, Chillico Copper Company will start shipping by rail at the rate of two cars per day.

ZINC CONCENTRATES - AMARILLO PLANT

Summary Receipts from Southwest Producers (Custom Shippers)

	<u>Tons Concentrate</u>		<u>Tons Concentrate</u>
January	3,105	July	4,137
February	3,265	August	3,594
March	3,852	September	2,733
April	4,095	October	4,150
May	4,129	November	3,258
June	4,013	December	3,556
Total Half	22,459	Total Year	43,887

COMMENTS ON SHIPPERS

B. S. & K. Mining Co. has been shipping approximately 400 tons per month of 59% Zn concentrates from the Atlas Mine, Silverbell district and has recently been authorized to ship without tonnage restriction. Receipts in 1958 are as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	4744	.005	.2	.7	59
Copper "	202	.4	5.0	25.2	13

Bagdad Copper Corporation Deliveries of Bagdad concentrates during 1958 were as follows:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
El Paso	32,041	1.6	23.5-31.0
Hayden	11,858	1.6	28.2
	<u>43,899</u>		

Monthly average grade of concentrates delivered to Hayden Plant is fairly uniform but individual lots vary from 20% to 34% Cu. Rail equipment supplied at Hillside for movement to Hayden has been satisfactory. It is expected production will be maintained in 1959 at approximately 3500 tons monthly.

Banner Mining Co. production in 1958 from Mineral Hill and Bonney operations is shown below:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>
Mineral Hill Mill	13,616	-	5.0	25.5
Bonney Mine	537	.095	5.8	30.0

Mineral Hill mill feed is coming from the Daisy Shaft. The mill at Lordsburg has been treating development ore from the Bonney Mine. Banner expects to reactivate the Lordsburg property if copper price remains above 30¢, and a new contract is now being negotiated for production of approximately 650 tons per month.

Brannan & Fuller have been supplying El Paso Plant with siliceous copper ore from the Atwood-Henry Clay property - 18,509 tons delivered in 1958 average about Au .07, Ag 3.5, Cu 1.6, SiO₂ 65.0, Fe 6.9, Al₂O₃ 5.0. Brannan & Fuller have recently taken a lease on the 85 mine owned by Phelps Dodge Corporation. This mine may also be a source of siliceous fluxing ore for the El Paso Plant.

Chillito Copper Co. is the principal source of converter flux for Hayden Plant - 9900 tons received in 1958 average about Cu 1.5, SiO₂ 78.0, Fe 3.5, Al₂O₃ 6.0. In the past two months approximately 2000 tons have been delivered by truck averaging over 2% Cu and at least a few thousand tons more of this grade is available. On completion of a new loading ramp and installation of spur track at Burns, Chillito flux will move to Hayden by rail with increased production estimated about two cars per day.

Eagle Picher Co.- McFarland & Hullinger operation at San Xavier continues production at a rate of about 1500 to 2000 tons monthly, treated in the Sahuarita Mill. Lead concentrates shipped to El Paso Plant - 2935 tons averaging about 31 oz. Ag, 45 Pb, 5 Cu, 15 Zn. Zinc concentrates from Sahuarita Mill have been shipped to the Dumas Smelter since suspension of operations at Henrietta.

Lewisohn Copper Corporation King-Exile sorted ore has been moving to Hayden for the past 7 months. Deliveries in 1958 total 4460 tons of 4-7% Cu with about 34 SiO₂, 11 Fe, and 19 CaO. It is expected this operation will continue to supply Hayden with approximately 1500 tons per month of reverb flux.

Trial run of King-Exile newly-mined ore has recently been completed at Sahuarita Mill. Approximately 600 tons treated, assaying about 3.6% Cu, produced about 62 tons of Cu concentrate, mill assay indicating 30% Cu. This carload is now at Hayden pending settlement. It is expected additional tonnage of King-Exile run-of-mine ore will be available for milling.

Nash-McFarland 1958 production at Trench Mill is shown below:

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conc.	3642	-	2.0	.9	1.3	57.0
Lead Conc.	1672	.02	47.0	70.0	1.3	5.0

Gold, silver and copper content in the concentrates increased in the last quarter, recent lots of the lead product assaying over 7% Cu. The copper bearing ore came from 600 tons of Duquesne ore produced under lease by D. C. Gilbert at the Bonanza and Estelle Louise Mines.

Pima Mining Co. Shipments in 1958:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
El Paso	47,954	3.5	26.5
Hayden	19,935	3.6	28.9
Total	67,889		

This production resulted in nearly 36,000,000 lbs. of Cu in 1958 which is again the objective for this coming year.

Shattuck Denn - Iron King - 1958 production:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct.	35,308	.06	4.1	1.2	.3	56
Lead "	25,154	.90	30.3	30.5	1.6	10

Metallurgical improvement at the mill has continued at Iron King. 58% Zn concentrate and 40% Pb concentrate is the continued objective of Mr. Kentro, Manager.

Sunrise Mining Co. shipments to El Paso for 1958 from the Glove Group total 4371 tons assaying 4 to 27 oz. Ag, 19 to 37 Pb. Receipts in December carry higher silver content than previous production with good lead values in oxidized ore.

C. D. Wilson, Narragansett Mine: Receipts at Hayden in 1958 from this open pit operation total 19,743 assaying 1.8 to 2.8 Cu. Wilson hopes to increase production to meet Hayden fluxing requirements in 1959 and has recently been authorized to ship up to 8 to 12 cars per week.

REED F. WELCH

cc:EMcL.Tittmann	C.P. Pollock
R.L. Jourdan	T.A. Snedden
C.N. Waterman	K.E.Richard-2
W.G.Rouillard	
E.E. Groff	

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

K. R

NOV 18 1958

November 17, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-LOS ANGELES TRIP
NOVEMBER 13-14, 1958

The purpose of this trip to Los Angeles was to discuss purchase or smelting of Old Dick Mine copper production, the possibility of operations at Johnson Camp, and potential of copper scrap that may be available in the Southwest for Hayden delivery.

Old Dick Mine, Bagdad, Arizona. In my recent field trip report (Oct. 28-30) I reported the Old Dick shaft was deepened to the 650 foot level during the shutdown period. At the 650 level the ore assays 4.5% Cu, 11% Zn.

In the upper levels the ore is in such close proximity to the shaft that scrapers are used to fill the skip pockets, with employment of 40 men in the mine and mill (240 tons per day). However, mining from the 650 level downward will require installation of track and use of cars.

Ore intercepts in diamond drill holes as deep as the 800-foot level indicate continuation of good grade copper-zinc ore. Ore on the 650 level is still very massive and Mr. Allen advises carries more pyrite than on upper levels. The pyrite will not disturb the metallurgy, and beginning in January the Old Dick mill is expected to be producing monthly around 600 tons of copper concentrates averaging about 25% Cu, 11% Zn and 2200 tons of 55-56% zinc concentrates.

The present contract for smelting Old Dick copper concentrates at International Smelting & Refining Company's Miami smelter will expire on April 15, 1959, and renewal option has not been exercised by Cyprus Mines Corp. The zinc contract with International Minerals & Metals Corp. for smelting at Bartlesville will terminate June 1, 1959. I discussed with Mr. Allen the terms we could offer for the copper production for Hayden delivery on termination of the contract with International Smelting & Refining Co. The proposed terms include a penalty for zinc in excess of 8%. I made no overtures with respect to the zinc production, but believe Cyprus Mines will ask us to bid on the Old Dick zinc concentrates early next year.

Burro Claim, Johnson Camp, Arizona. On the Burro claim, owned by Coronado Copper and Zinc Company Strong & Harris, Inc. has been working under a temporary lease arrangement and opened surface mineralization indicating that considerable tonnage of 1% Cu, 80% SiO₂, may be available. In order to work out suitable terms on this property I discussed the possibilities with Mr. George Dub, President of

Coronado Copper & Zinc Co. He indicated willingness to grant a minimum 3-year lease or preferably a 5-year lease. As a result of my meeting with Mr. Dub I believe Strong & Harris will obtain a new lease agreement with Coronado that will justify drilling a few holes on the Burro claim. This exploration work may substantiate tonnage and grade so far indicated.

Republic Mine: Inasmuch as Coronado Copper & Zinc Co. has had limited ore reserve at Johnson Camp for the past several years and operating costs are more than present metal prices will support, I suggested to Mr. Dub that he allow McFarland & Hullinger to mine underground on a contract, as they are presently doing on the Eagle-Picher property at Sahuarita. Mr. Dub was interested in the possibilities of such an arrangement and will investigate this, as well as the Burro claim lease, on November 24th when he plans to visit Tucson and Johnson Camp.

Mr. Dub tells me the Republic Mine, when the operation was shut down about a year ago, had 125,000 tons ore reserve assaying, with dilution for mining, 2.7% Cu 7.01% Zn. The operation employed 140 men in the mine, mill and office and milled 220 tons of ore per day. At this rate 5-6 million pounds of copper and 11-12 million pounds of zinc were produced annually.

El Paso Plant purchased the copper concentrates from Johnson Camp up to about the middle of May 1956, the last four months' receipts averaging about:

<u>Ag</u>	<u>Cu</u>	<u>Ins</u>	<u>Fe</u>	<u>CaO</u>	<u>Zn</u>	<u>S</u>	<u>As</u>	<u>Sb</u>	<u>Bi</u>
4.5	28.3	5	23	3	9.8	31	.16	.07	.03

Through June 1949 Coronado's zinc concentrates were shipped to our Amarillo Plant, the last 6 months' receipts averaging about:

<u>Ag</u>	<u>Cu</u>	<u>Zn</u>	<u>Fe</u>	<u>S</u>	<u>Cd</u>
1.0	2.5	54	4	30	.13

If McFarland & Hullinger are successful in obtaining an operating contract on the Republic property it is possible we will be asked to purchase their production at Johnson Camp.

Banner Mining Co. While in Los Angeles I met Messrs. Allen Bowman and Lee Travis of Banner Mining Co. These gentlemen had been in Los Angeles since Monday, November 10th, for conference with Cyprus Mines Corp. on the endline area common with Pima Mining Co. Mr. Travis asked that I advise Mr. Pope that Banner is again meeting with Cyprus Mines to resolve terms for mining the pit cone area on the Banner Daisy ground.

In anticipation of this conference, Pima Mining Co. was given the privilege of entering the Daisy Mine to evaluate tonnage and ore grade existing in the cone area. This work by Pima verified both the tonnage and grade as estimated by Banner.

In the Los Angeles meetings it was proposed that Pima mine and mill the Banner ore, the concentrate production to be sold by Pima Mining Co. The milling cost proposed by Pima was satisfactory and was accepted by Banner Mining Co. However, Pima took the position that in mining the cone area, Banner should bear the cost of mining and stripping its own ground plus the stripping cost on the adjacent Pima ground; in other words, Banner was asked to assume \$4 million stripping cost. As a result of this attitude on the part of Cyprus and Pima, Banner Mining Company wanted to conclude the meetings without agreement. When I met with Messrs. Travis and Bowman on Thursday evening, however, they had decided to discuss the matter further with Cyprus, meeting again early in December, at which time I believe there will be a modification of Pima Mining Company's demand on the stripping cost. Under the Pima mining and stripping proposal Banner would benefit over any realization from underground mining operation, but Banner has been reluctant to assume the cost of stripping on Pima's ground because of the importance of the cone area to the Pima orebody.

Federated Metals Division. In a meeting with Messrs. R.A. Kenkel and R.C. Whisenand at the Federated Plant I was advised there are available in the Southwest certain high grade copper scrap tonnages that might be shipped to Hayden Plant. Mr. Whisenand thought that if a concerted effort is made, eventually 500 tons per month might be available in the area. This would involve securing tonnage now sold to International Minerals & Metals which is shipped to Phelps Dodge at El Paso. Copper scrap in the Southwest purchased by Federated Metals is shipped to Tacoma Plant, and it is not our intention to divert any tonnage that normally moves to Tacoma. Consequently the amount of scrap copper available for Hayden Plant would be limited perhaps to the southern Arizona area.

Tacoma Plant apparently has established a purchase schedule on the West Coast which is met by International Minerals & Metals, the only difference being in freight differential. It has been proposed that Hayden purchase scrap on terms similar to those offered for precipitate and on such basis Hayden would not be competitive even with tonnage in southern Arizona.

Mr. Whisenand tells me that Sam Shapiro of National Metals Co. in Phoenix has the 1959 contract for salvage of planes at Davis Monthan. In addition to large tonnage of aluminum from this salvage operation, there will be about 200 tons of copper wire.

Apex Mine, St. George, Utah. While I was in Los Angeles, Emerald Cox, owner of the Apex Mine, called me with reference to shipping his copper ore to Hayden. The ore is clean copper carbonate and could easily be handled at Hayden and I assured him of an outlet at that plant. I understand he could not ship more than 400-500 tons per year.

cc: JDMackenzie, RLJourdan, CNWaterman
WGRouillard, RLHennebach, RMMcGeorge
PComstock, BNHight
DJPope, CPPollock, WJNock, TASnedden
KERichard-2

REED F. WELCH

MR.

READ AND RETURN

PREPARE ANSWERS

FILE

HANDLE

INITIALS

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

September 16, 1958

K. R

Mr. B. D. Roberts, Manager

SEP 17 1958

EL PASO PLANT

REED F. WELCH-FIELD TRIP
TUCSON AREA, SEPT. 8-11, 1958

Last week Mr. R. M. McGeorge and I visited the following properties in the Tucson area.

1. King-Exile Mine, Helvetia District: Lewisohn Copper Corporation has been shipping its production to Hayden Plant since the middle of July--four to five cars per week assaying about 7% Cu. This corporation has been reduced in personnel to R. E. Chilson, President, who oversees exploration and operation of the mine. Mr. Chilson has been very successful in following the ore in the King-Exile property. According to his estimate, about 10,000 tons can be shipped with present development work.

To maintain the above grade the ore is sampled carefully and sorted at the ore bin. Since June 1950 Chilson has mined about 70,000 tons, rejecting approximately 20,000 tons in the sorting operation. This reject pile has accumulated at the bottom of the ore bin and was estimated to contain 2% Cu. An agreement to purchase the reject ore has been made between Lewisohn and McFarland & Hullinger operating the Sahuarita mill. Strong & Harris has a contract to haul this dump ore to the mill beginning September 11th, 700 tons to be run through the mill for test purposes. Two lots have been delivered to the mill and sampled, one assaying .86% Cu, the other 1.75%. The second lot represents about 3,000 tons and if succeeding lots hold to similar grade this limited tonnage will be available for milling.

In the Rosemont District Lewisohn Copper is operating the Fall claim on a split-check basis with Lauren Van Horn. The initial car from this claim was recently shipped to Hayden and grab samples indicate about 4% Cu. I authorized Lewisohn to ship from the Fall claim as tonnage accumulates and this operation may produce two to three cars per month.

2. McFarland & Hullinger, San Xavier Mine. This property has been under a strain to continue mining on present lead-zinc prices. The old mine workings and shaft require considerable maintenance and the ore reserves are depleting faster than exploration work is finding ore. W.D. Nelson, Mine Superintendent, conservatively estimates two more months during which the operation will break even. After that continued production will depend upon the amount of money McFarland & Hullinger are willing to put into the property.

3. Narragansett Group. C. D. Wilson is still working in his open pit. Over the past few months there has been a conflict with Lewisohn Copper Corp. over access road and Wilson is presently engaged in construction of a new road to bypass the King-Exile property. The new road has about 20% grade and will be almost impassable. Strong & Harris, formerly hauling Narragansett ore under contract, could not afford to haul for \$1.35 per ton allowed by Wilson. Wilson has leased a truck and is now doing his own hauling.

Wilson is under operational handicap in the pit and is moving at least 10 tons of waste to one of ore to ship two to three cars per week of limey ore assaying 2-3% Cu. He has a new one-quarter yard Lima shovel in the pit, which is about 80 feet wide by 100 feet long with steep footwall standing at about 75° 100 feet above the bottom. Wilson realizes he cannot go deeper with this pit and is now preparing to extend the west end for mining.

4. Sunrise Mining Co. Pollard Simons, of Dallas who is financing operation of the Glove Group, employs 14 men including supervision on a one-shift basis. According to the foreman, Sunrise expects to ship four to five cars of ore per month, at the same time raising the vertical shaft from the 240-level to the surface. This shaft is in use between the 240 and 360 foot. The shaft location is too great a distance from the meandering orebody but plans call for completion of this development work.

For the past six months Sunrise Mining Company has shipped 400 tons per month assaying 20-36% Pb. In spite of low lead price the operation has accumulated a small profit as a result of the high grade ore. This experience is gratifying to Mr. Simons and he has employed Dr. W. C. Lacy, Geologist at the University of Arizona, as consultant and hopes to expand his mining operations in Arizona.

5. Duval Sulphur & Potash Co. Our visit to Duval's Esperanza pit confirms Mr. George Atwood's statement that the project will be ready for operation in February 1959. Stripping and mill construction are on schedule. We were told that a few places in the pit some higher spots in the ore zone are beginning to appear.

To supply fuel for the molybdenum plant Duval has a contract with Tucson Gas and Electric to install a gas line to the Duval property for \$140,000. This installation is currently under way and should be completed within 60 days.

Mr. Atwood is quite concerned about the copper price situation since the big producers have increased rate of production which he feels minimizes the chance of higher copper price by February.

6. Banner Mining Company. Mill feed is coming almost entirely from the Daisy shaft at a rate of about 400 tons per day with cutoff 3.5-4% Cu. Banner is presently engaged in sinking the shaft from the 500 to 600 level.

Banner Mining Co., Con't.

Concentrates from Mineral Hill mill assay 4-13% Zn which is some concern to Mr. Bowman, as some lots are penalized for excess zinc. He estimates July production contained 342,000 pounds of zinc. An attempt is being made to change the metallurgy in the hope of producing a saleable zinc concentrate and avoid penalty in the copper product. However, metallurgical test work to date has not been successful.

To check Banner's tonnage estimate in the cone area adjacent to Pima endline, Pima Mining Company drilled 14 holes. This work checked Banner's estimate within a range of 50,000 tons which was considered to be a good comparison. There have been no further negotiations between Pima and Banner for extending the pit into this area.

On the 200 level of the Daisy shaft a 150-foot crosscut penetrated part of the Daisy oxidized orebody assaying 2.6% Cu. This is limey gangue and the ore could be made available if needed at Hayden.

At Lordsburg, Banner is exploring the vein on the 1360 level of the Bonney shaft. This is a new level resulting from deepening the shaft in the past few months. Current production from development work is treated in the mill resulting in about three cars of copper concentrates per month from this operation. Mr. Bowman does not contemplate resumption of full time production at the Lordsburg property on present copper price, but the mine will be in a position for 500-ton per day operation when the price justifies. According to my estimate this will require about 30-cent copper price.

7. Pima Mining Company. Effective with cars loaded August 29 and 30 Pima consigned shipments to Hayden. This delivery requires dump-bottom equipment and, although the Southern Pacific supplies fairly new cars for this movement, Pima finds it necessary to caulk the doors resulting in additional cost to the mine. The mine management is putting pressure on the railroad to assign new cars to this service so that caulking will be reduced to a minimum. It is too early to evaluate the result in shipping to Hayden as compared with delivery to El Paso in solid-bottom cars, but the first few cars arriving at Hayden indicated about 600 pounds per car loss in dry weight.

8. Gold Hill Claims, Saginaw Mine, Amole District. Russ Harris of Tucson is mining high-silica low-copper ore at this property under a lease held by Strong & Harris, Inc. Harris estimated 2,000 to 3,000 tons of 1% Cu with 86% SiO₂ content and I agreed to purchase this production under very favorable terms for Hayden delivery. The first six cars received assayed in excess of 1% Cu with 86% SiO₂. The next three cars dropped in grade to .89% Cu as a result of loading one car from a dump which I had advised Harris not to ship. He is having difficulty underhand mining and slushing with low powered equipment for a short tram to the ore dump. Because of inefficient equipment Harris may not be able to meet his estimate of production.

9. B.S. & K. Mining Co. is still mining zinc ore in the Atlas property in the Silver Bell district. The heads assay 20-22% Zn with the mill operating three shifts per day treating about 60 tons per 24-hour period. Exploration underground is still opening up ore and increasing the dimensions of the zinc mineralization, finding massive zinc sulphides scattered through the limestone for thickness of 150 feet. With more exploration work and proper equipment it appears this whole zone may lend itself to mining, although mill heads would be lower than now maintained by B.S. & K. Mining Co. About 15 men are employed at the Atlas property and this operation will continue to ship about 400 tons per month of zinc concentrates from exploration headings with some stoping.

10. Coronado-Keystone Lease, Strong & Harris: Ira Moseley, financed by Earl Strong, obtained authorization to ship dump and surface ore from the Keystone Copper Co. and a lease on adjoining claims owned by Coronado Copper and Zinc Co. Moseley shipped 1161 tons from the O.K. shaft dump assaying .89-1.5% Cu with about 60% SiO₂, 6-7% Al₂O₃, 6-12% Fe. By the time the dump ore had been shipped Mr. Norman Rehg, President of Keystone Copper, contested the position of Coronado's patented claim endline. This discouraged Moseley from shipping the few hundred tons of broken copper-bearing quartzite outcropping on the contested area and he moved to the Burro claim on Coronado ground which covers some of the quartzite ledge containing copper stain. With my encouragement Moseley drilled and blasted two railroad cars on the Burro claim, settled at Hayden as Lot 445 assaying .66% Cu, 79% SiO₂, 4.5% Al₂O₃, 3% Fe, 1.4% CaO.

On September 9th Mr. McGeorge and I visited Moseley at Johnson Camp to evaluate the importance of the quarry on the Burro claim, at which time we advised Moseley to discontinue shipments to Hayden because of limited requirement for such flux on the 4-day week. The two cars shipped from this operation contained considerable overburden that could not be cleaned from the outcrop, which reduced the copper and silica content. With the limited amount of drilling done by Moseley at this quarrrysite it is evident that the quartzite is fairly well impregnated with copper. Even though the test cars were low grade I believe newly mined material would assay a minimum of 1% Cu. This quarry could develop an important source of siliceous flux for Hayden, and with some improvement in grade, possibly could ship to El Paso at some future date.

11. Shattuck Denn-Callahan Mining, Lake Shore Exploration. During a luncheon with Jack Pierce on September 12th he told me Shattuck Denn and Callahan Mining are completing the third and fourth diamond drill holes on the Lake Shore property near Casa Grande. This joint venture project, testing a geophysical anomaly, called for four holes some distance from the known ore reserve. So far drilling in this area has been discouraging but one hole is being deepened and shows an increase in copper values. The contract requires completion of the four holes by October 1st, at which time a decision must be made to continue or drop the exploration.

12. Shattuck Denn-Iron King. Shattuck Denn is striving for increased metallurgical efficiency and considerable thought is being given to recovery of metals now in the tailings pond. Milling of the tailings will not be justified unless the pyrite has some value, and Shattuck Denn is trying to evaluate use of pyrite for making sulphuric acid. However, there seems to be a lack of market to justify manufacture of acid. Mr. Pierce advises the tailings pond contains 750,000 tons of sulphuric acid and he estimates a contact sulphur dioxide gas plant could make acid for \$10 per ton.

REED F. WELCH

cc:RLHennebach DJPope
 CNWaterman CPPollock
 RLJourdan WJNock
 WGRouillard TASnedden
 RMMcGeorge KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 7, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-FIELD TRIP
OCTOBER 28-30, 1958

1. Molly-Lead Mine: On a trip through northern Arizona I visited this property located south of Wikieup, now idle. Wayne Johnson, Manager of this North Dakota corporation, financed by people in that state, about two years ago constructed a dry mill in an attempt to concentrate wulfenite ore and separate the molybdenum and lead. When the dry mill operation resulted in failure it was decided to change to jigs. With some modification of the mill, Johnson hoped to concentrate the ore. However, conversion of the plant resulted in collapse of activity because of shortage of funds. No production was accomplished and it is doubtful if any tonnage can be expected.

2. McCracken Mine, Signal: It was reported to me that Percy Ramsden was reopening the McCracken property in the name Ari-Vada Mining Co., financed by California capital. Poor road conditions made it impossible for me to drive to the mine on this trip, but advice obtained at Yucca and at Wikieup confirmed that Ramsden expects to move mill equipment into the area. It would appear no construction work has been started yet and if Ramsden is successful in completing the mill it will be several months before the plant is in production. The ore is partially oxidized silver-lead-zinc. I was unable to learn what type of concentrating plant is to be installed.

3. Bagdad Copper Corporation is again having trouble over water rights in Burro Creek with litigation now in progress. Mr. Colville tells me he is installing a secondary crushing plant that will permit the ball mills to run at higher efficiency and increase mill capacity by 200 to 300 tons of ore per day.

Increase in copper price has given impetus to the hope that Bagdad will be able to continue in operation. Mr. Roxie Webb, of Prescott, one of the Bagdad directors, thinks 30-cent copper price is sufficient to maintain a successful operation.

Mr. Colville reports he is maintaining steady stripping ratio of the oxidized copper-bearing caprock, although he is doing no stripping of the upper benches. As predicted in my February field trip report the grade of the concentrates is dropping.

At Hillside station I examined the railroad equipment being supplied by Santa Fe for moving Bagdad concentrates to Hayden. The railroad is supplying labor and material for caulking these cars, which are coming back in clean condition.

4. Old Dick Mine, Bagdad. Cyprus Mines Corporation will reactivate the Old Dick Mine early in December, employing a new mining engineer who will also do the geological work. This operation will produce about 2200 tons per month of 55-56% Zn and 600 to 650 tons of copper concentrates. The average grade of copper production June 1957 through January 1958 was 25% Cu, 13% Zn.

The zinc production has been sold through International Minerals for delivery to Bartlesville; the copper product smelted by International Smelting at Miami with return of wire bars at Perth Amboy. Contracts for both products terminate in April 1959 and Mr. Paul Allen of Cyprus Mines has discussed with me our interest in purchasing Old Dick copper production, which may require return of refined copper. Although Mr. Allen did not advise me that Cyprus Mines will be interested in a new outlet for the zinc production, in a recent conversation with Mr. Rundle of Cyprus Mines he indicated the zinc product also may be available for our consideration.

During the period of shutdown at Old Dick Mine Cyprus Mines has maintained a minimum crew sinking the shaft two more levels (200 feet). The orebody has increased in size and copper content. ✓

5. Shattuck Denn-Iron King Mine at Humboldt is pleased with increased metal prices. Metallurgical performance is producing 45% Pb concentrates in daily mill runs, although the average of receipts at El Paso in recent months is about 10% lower. The re-grind circuit in the mill is responsible for improved lead grade. Zinc product is being maintained at 57-58% Zn and with increased grade of production overall recovery has been stepped up.

During operation of Iron King mill in past years overflow from the flotation section was collected in a topographic depression below the mill. This accumulated overflow is estimated at about 30,000 tons and is represented by shipment recently purchased from Iron King Assay Office--El Paso Lot 2661, 62 tons assaying: Au .318 oz, Ag 11.7 oz, Pb 8.4%, Zn 23.3%, Fe 14%, S 28.6%, smelter margin \$22.03 per ton. This middling does not lend itself for treatment again in the mill and in the event El Paso is interested in smelting this tonnage it could be purchased on a special treatment rate with margin approximating the above-mentioned lot.

6. Lake Shore Mine, Casa Grande Area: In a joint venture Shattuck Denn and Callahan Mining are engaged in a drilling project at the Lake Shore property south of Casa Grande. This exploration is predicated upon geophysical anomalies within about two miles of the Lake Shore ore showing and recently has produced some encouragement. One diamond drill hole intersected 40-50 feet of about 1% oxidized copper mineralization. The anomalies are under valley fill and it is hard to evaluate the drilling results. The ore

Field Trip Report
October 28-30, 1958

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intercept is encouraging but correlation of stratigraphy and the mineral showing is difficult. I invited Mr. Kentro, Manager at Iron King, who is in charge of the Lake Shore project to feel free to discuss this problem with our Exploration Department and I believe he will take advantage of this offer.

King-Exile Reject Dump, Helvetia District: In my last report I mentioned that McFarland & Hullinger had an agreement with Lewisohn Copper Corp. to treat tonnage in the reject dump at the King-Exile Mine. About 560 tons of 1.4% Cu were treated in the Sahuarita mill in October, the resulting concentrates assaying 27.79% Cu, 6 oz Ag shipped to El Paso Plant. These shipments were made for the purpose of sampling the dump to determine if the entire tonnage represented milling grade. It was found the upper portion contains better copper value and McFarland & Hullinger are now purchasing this section of the dump estimated to contain approximately 5,000 tons. This material is being hauled to Sahuarita mill by Earl Strong, to be moved at the rate of about 200 tons per day and treated in the mill intermittently with tonnage from the San Xavier Mine.

Reed Welch
REED F. WELCH

cc: JDMackenzie DJPope
 RLJourdan CPPollock
 CNWaterman WJNock
 WGRouillard TASNedden
 RLHennebach KERichard-2
 RMMcGeorge
 PComstock
 BNHight

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

October 30, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION - NINE MONTHS 1958
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-Nine Months 1958</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	17,020	18,495	35,515
February	14,991	15,017	30,008
March	17,804	12,603	30,407
April	18,723	14,727	33,450
May	18,656	7,350	26,006
June	16,687	12,449	29,136
July	15,798	8,222	24,020
August	15,611	4,163	19,774
September	18,359	8,609	26,968
Total Nine Months	153,649	101,635	255,284

<u>Copper Department</u>			
January	23,163	3,104	26,267
February	18,880	2,982	21,862
March	20,253	2,295	22,548
April	19,946	3,442	23,388
May	21,083	1,956	23,039
June	21,259	2,092	23,351
July	19,851	1,254	21,105
August	20,596	1,040	21,636
September	11,010	1,817	12,827
Total Nine Months	176,041	19,982	196,023

2. Fluxing Situation and Stocks
(From Semi-monthly Reports)

<u>Lead Department</u>	<u>9 Months</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>10-1-58</u>
Concentrates	122,536	129,373	14,261	5,423
Residue	50,484	52,281	3,501	2,899
Dust	6,629	7,075	927	447
Siliceous Lead	8,933	8,736	1,016	1,214
Pyrite	-	-	7,569	7,569
Total	188,582*	197,465	27,274	17,552

*Excluding mined slag used for diluent.

Siliceous Lead Ore: Sunrise Mining Company continues to ship approximately 400 tons per month and this rate of production is expected to continue. Ore buyers in Sonora have been supplying a small amount of lead ore --average about 250 a month over the first nine months.

Copper Department

	<u>9 Months</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>10-1-58</u>
Concentrates	155,846	149,180	4,000	10,231
Matte	20,496	19,488	657	1,516
Residue	9,543	12,103	3,092	505
Scrap	855	859	-	108
Sulphide	-	264	1,951	1,687
Reverb Flux	1,141	1,502	282	48
Converter "	<u>20,316</u>	<u>21,031</u>	<u>12,597</u>	<u>11,865</u>
Total	208,197	204,427	22,579	25,960

Siliceous Flux: Brannan & Fuller at the Henry Clay-Atwood property near Lordsburg have been supplying satisfactory converter flux--11,517 tons January through September. Fluxing ore receipts from Durango, Mexico, total 8,013 tons for the nine-month period.

HAYDEN PLANT

1. Summary of Monthly Receipts
 (From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	30,920	July	2,761
February	30,144	August	2,801
March	27,211	September	10,621
April	17,452		
May	7,116		
June	<u>4,973</u>	Total 9 Months	133,999
Total First Half	117,816		

2. Fluxing Situation and Stocks
 (From Semi-Monthly Reports)

	<u>9 Months</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>10-1-58</u>
Concentrates	92,432	111,061	19,114	485
Reverb Flux	43,952*	36,136	4,405	12,134
Converter "	<u>22,053</u>	<u>20,319</u>	<u>3,962</u>	<u>5,162</u>
Total	158,437	167,516	27,481	17,781

*Includes intake of Christmas tailings January-August

Hayden Plant, Con't.

Concentrate stocks from Kennecott were cleaned up in August with termination of the contract. Pima and Bagdad concentrates started moving to Hayden at the end of August for arrival September 2nd.

Reverb Flux: Lewisohn Copper Corp. has been shipping King-Exile Mine 6-7% copper ore to Hayden since July 14 (formerly moving to Miami)-- 2068 tons received in the third quarter. C.D. Wilson has resumed shipments to Hayden from the Narragansett property following shutdown for road construction. This source of reverb flux may be shut off at any time but can be replaced by satisfactory ore available when needed.

Siliceous Flux: Hayden is limiting receipts from Chilito Mine to current requirements. R.H. Harris (Strong & Harris) is shipping about 300 tons monthly of 85% SiO₂, 1% Cu, to meet this year's assessment work at the Gold Hill claims (Saginaw Mine) west of Tucson.

ZINC CONCENTRATES-AMARILLO PLANT

Summary of Receipts from Southwest Producers

	<u>Tons Concts</u>		<u>Tons Concts</u>
January	3,105	July	4,137
February	3,265	August	3,594
March	3,852	September	2,733
April	4,095		
May	4,129	Total 9 Months	32,923
June	4,013		
Total First Half	22,459		

COMMENTS ON SHIPPERS

Bagdad Copper Corporation January-September 1958 production is as follows:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
El Paso	32,041	1.6	23.5 - 31
Hayden-Sept.	2,691	1.5	29.8

Continued high stripping ratio of oxidized ore is being maintained, this tonnage going to stockpile for potential leaching. No stripping is being done on the upper levels at the present time. Since September 1st Bagdad concentrates have been moving to Hayden Plant with improved outcome to the mine. The increase in copper price has given the management renewed enthusiasm, as the operation sustained a loss during low copper market.

Banner Mining Company. Mineral Hill mill production for nine months, shipped to El Paso Plant, totals 10,327 tons averaging about 25.5% Cu, 5 oz Ag. The concentrates contain an average of about 7.5% Zn, some lots penalized for excess zinc. So far metallurgical tests attempting to separate the zinc have been unsuccessful.

Banner Mining Co., con't.

At Lordsburg Banner is seriously considering reopening the Bonney Mine for full production if the price of copper holds at 30 cents or more, and a new contract is currently being negotiated for this production.

B.S. & K. Mining Co. Atlas Mine production January-September 1958 totals:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	3318	.005	.3	.7	59.0
Copper "	146	.05	4.8	25.6	12.7

Mill heads assay 20-22% Zn with minor copper content, coming from development work and mining the high grade zinc orebody. Exploration continues to extend the zinc ore mineralization.

Brannan & Fuller: El Paso Plant intake of siliceous fluxing ore from the Atwood-Henry Clay property totals 11,517 tons for the first nine months 1958, averaging approximately: Au .075, Ag 3.1, Cu 1.56, SiO₂ 64, Fe 6.9, CaO 3.2, Al₂O₃ 5.8.

Eagle-Picher Co.- McFarland & Hullinger are approaching the end of operation at San Xavier Mine, although recent improvement in metal prices may extend production for the balance of this year. Lead concentrates shipped to El Paso total 2322 tons January through September averaging about 33.5 oz Ag, 46% Pb, 5% Cu, 15% Zn.

King-Exile reject ore: A mill test was recently made at Sahuarita treating 500 tons of 1.4% Cu from the King Exile reject dump. This produced 21.4 tons of concentrates assaying 27.8% Cu, 6 oz Ag shipped to El Paso. With increase in copper price, additional tonnage will be milled coming from the upper higher grade portion of this dump, containing an estimated 5,000 tons.

Lewisohn Copper Corporation since mid July has shipped to Hayden from the King-Exile Mine, Helvetia District, 2068 tons assaying 1.4 oz Ag, 6.6% Cu. On the Fall claim at Rosemont Lewisohn is opening up a surface showing of oxidized ore--79 tons shipped in September assay 4% Cu. Better grade is expected from development work now in progress.

Nash-McFarland operation at the Trench Mill is encouraged by increased lead-zinc prices and continues to find small showings of ore in the Flux Mine. Production through September totals -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	2653	.001	1.7	.7	1.2	57
Lead "	1311	.01	35.0	71.7	.5	5.4

Southwest Production
Nine Months 1958

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Pima Mining Co. production January-September 1958 is as follows:

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>
El Paso	47,954	3.5	26.5
Hayden(Sept.)	4,335	3.3	25.2

For the balance of 1958 it is expected concentrate production will be maintained at approximately 6,000 tons per month.

Shattuck Denn-Iron King production for the first 9 months of 1958

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Concts	26,801	.05	4.2	1.2	-	56
Lead "	19,489	.89	30.0	29.5	1.2	10

Improvements in metallurgy with resultant higher grade concentrates enabled Iron King to weather the period of low metal prices. Lead concentrate receipts for the third quarter average about 32% Pb and recent daily mill runs assay as high as 45% Pb.

Strong & Harris-Coronado Lease: From the Burro claim at Johnson Camp owned by Coronado Copper and Zinc Co. five test cars were recently shipped--2 to Hayden and 3 to El Paso. The first cars were diluted with overburden but the last car received at El Paso assays 1.185% Cu with 80% SiO₂. If suitable royalty terms for low grade flux can be worked out with Coronado and the deposit responds successfully to exploration this source may meet fluxing needs at El Paso and Hayden over an extended period, which will justify a request for more favorable freight rates.

Sunrise Mining Co. has been doing some development work at the Glove group while continuing mining operations. Receipts for 9 months of 1958 total 3553 tons averaging approximately 9.3 oz Ag, 31.6% Pb. The orebody is not large enough to allow a buildup in reserves over tonnage currently mined and consequently there is some variation in monthly production.

C. D. Wilson suspended shipments from the Narragansett claims for about a month to construct a new access road, bypassing Lewisohn Copper Corporation's property. He has extended the pit to the west and resumed shipments to Hayden - 16,624 tons delivered in the first nine months of 1958 assay about 2.28% Cu, 53.2% SiO₂, 9.5% Fe, 11.8% CaO, 4.1% Al₂O₃. Other sources of reverberatory flux will be available when this operation is forced to shut down.

EL PASO RECEIPTS-MEXICO

9 Months 1958

Lead Ore & Concts-Fcc. del Pacifico	2,111
Fcc. de Nacozari	<u>435</u>
	2,546
Copper Ore & Ppts.	76
Siliceous Flux - Durango	<u>8,013</u>
	8,089
	<u>10,635</u>

Southwest Production
Nine Months 1958

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Lead ore shipments from ore-buyers and producers in Sonora were suspended during most of October as a result of U.S. import quotas. All regular shippers have been advised to resume shipments to El Paso Plant at the usual rate for the balance of the year, subject to Mexican export license regulations.

REED F. WELCH

cc: JMacKenzie CPollock
 RLJourdan TASnedden
 CNWaterman KERichard-2
 WGRouillard
 FJDowney

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 28, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION - FIRST HALF 1958
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-1st Half 1958</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	17,020	18,495	35,515
February	14,991	15,017	30,008
March	17,804	12,603	30,407
April	18,723	14,727	33,450
May	18,656	7,350	26,006
June	16,687	12,449	29,136
Total First Half	103,881	80,641	184,522
<u>Copper Department</u>			
January	23,163	3,104	26,267
February	18,880	2,982	21,862
March	20,253	2,295	22,548
April	19,946	3,442	23,388
May	21,083	1,956	23,039
June	21,259	2,092	23,351
Total First Half	124,584	15,871	140,455

2. Fluxing Situation and Stocks
(From Semi-monthly Reports)

<u>Lead Department</u>	<u>First Half 1958</u>		<u>On Hand -Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>7-1-58</u>
Concentrates	95,363	85,043	14,261	22,897
Residue	35,312	35,573	3,501	4,048
Dust	3,746	4,057	927	600
Siliceous Lead	6,204	5,555	1,016	1,718
Pyrite	-	-	7,569	7,569
Total	140,625*	130,228	27,274	36,832

Siliceous Lead Ore: Sunrise Mining Co. delivered 400 tons per month of lead ore during the first half and will continue shipment at this rate. Miscellaneous lead ore shippers in Arizona, New Mexico and Sonora delivered 2394 tons during the first half year. Mined slag was used for the balance of diluent requirements.

*Excluding mined slag

Southwest Production-
First Half 1958

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El Paso Plant- Con't.

Copper Department

	<u>First Half 1958</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>7-1-58</u>
Concentrate	113,457	110,634	4,000	6,795
Matte	14,286	14,492	657	347
Residue	7,241	9,312	3,092	956
Scrap	652	581	-	48
Sulphide	-	-	1,951	1,951
Reverb Flux	573	850	282	82
Converter "	12,723	14,617	12,597	10,790
Total	148,932	150,486	22,579	20,969

Converter Flux is coming from the Henry Clay Mine at Lordsburg, Brannan & Fuller lease, with 5907 shipped in the first half year, and from Minera Avino in Durango--6123 tons January-June, the balance of requirements being met with purchase of barren silica.

HAYDEN PLANT

I. Summary of Monthly Receipts
 (From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	30,920	April	17,452
February	30,144	May	7,116
March	27,211	June	4,973
Total 1st Qtr.	88,275	Total Half	117,816

2. Fluxing Situation and Stocks
 (From Semi-monthly Reports)

	<u>First Half</u>		<u>On Hand- Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>7-1-58</u>
Concentrate	85,086	97,410	19,114	6,790
Reverb Flux	36,829	32,369	4,405	8,865
Converter "	18,685	18,460	3,962	3,660
Total	140,600	148,239	27,481	19,315

Fluxing Ores continue to be supplied by the Chillico Mine (5702 tons of converter flux in first half) and the Narragansett property operated by C.D. Wilson shipping reverberatory flux-14,142 tons January through June. Approximately 600 tons of converter flux was received from miscellaneous shippers in Arizona. Balance of fluxing tonnage came from the Ray pit. Arrangement have been made for shipment in August of 2000 to 3000 tons of high-silica ore from the Saginaw Mine west of Tucson and additional tonnage of siliceous ore is available at the Blue Bell property near Mayer.

ZINC CONCENTRATES-AMARILLO PLANT

Summary Receipts from Southwest Producers (Custom Shippers)

	<u>Tons Concentrate</u>		<u>Tons Concentrate</u>
January	3,105	April	4,095
February	3,265	May	4,129
March	<u>3,852</u>	June	<u>4,013</u>
Total 1st Qtr.	10,222	Total Half	22,459

COMMENTS ON SHIPPERS

Bagdad Copper Corp. has a serious water shortage with present supply coming from the Tungstona shaft. However, production has been maintained through the first half year at about 4,000 tons per month - total 23,426 tons assaying 24 to 31% Cu with about 1.5 oz Ag per ton. A new contract has been submitted for delivery of Bagdad production to Hayden plant beginning September 1st.

Banner Mining Company Daisy Mine production for six months of 1958 totals 6922 tons - average grade approximately 5.4 oz Ag per ton, 25.5% Cu. The Daisy shaft is supplying all mill feed with no production coming from the lower grade Mineral Hill orebody at this time.

The Lordsburg operation continues on exploration and development only.

B.S. & K. Mining Co. is mining zinc ore in the Atlas Mine, Silver Bell District. Production for the first half of 1958 totals 2272 tons averaging about 58.5% Zn, shipped to Amarillo Plant. The zinc ore carries a small amount of copper and copper concentrates are being accumulated for shipment to El Paso.

Brannan & Fuller at the Henry Clay Mine, Lordsburg, with the help of revised smelter schedule, are sinking below the 6th level to develop ore shown in diamond drill holes. Present production is from pillars on the 350-foot level and mining on the 4th level. Some dump ore also is being shipped. Deliveries to El Paso January through June total 5907 tons averaging approximately: Au .085 oz, Ag 3.2 ozs, Cu 1.68%, SiO₂ 65%, Fe 7.5%, CaO 3%, Al₂O₃ 5%.

Gibraltar Minerals Co. has been milling ore from the Hornet Mine near Hachita, shipping lead concentrates to El Paso and stockpiling the zinc. Lead production for the first half - 297 tons assaying .09-.30 Au, about 28 ozs Ag, 55% Pb and 7% Zn.

Nash-McFarland production from Trench Mill for the first half of 1958 -

	<u>Tons</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	825	36.0	72.4	0.4	5.4
Zinc Conct	1740	1.7		1.1	56.0

In a recent conversation with Mr. Nash he now appears to be hopeful of increased metal prices in the near future and optimistic about the outcome of the operation at Trench.

Southwest Production
First Half 1958

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Pima Mining Co. production January through June 1958 - 35,587 tons, Cu 25-27% with about 3.5 oz Ag per ton. Beginning September 1st Pima concentrates will move to Hayden Plant.

Shattuck Denn at Iron King continues at full capacity and with increased efficiency in the mine and mill is operating at a profit under present market conditions. Improvement in metallurgy has increased the grade of concentrates and installation of a new filter plant has reduced the moisture content, effecting a saving in delivery costs. Receipts at El Paso and Amarillo plants during the first six months of 1958 are as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	18,296	.05	4.8	1.3	-	55.3
Lead conct	13,386	.84	25.4	29.0	1.1	10.6

C.D. Wilson is open-pit mining at the Narragansett property in the Helvetia Mining District, shipping copper-bearing flux to Hayden Plant. The operation is in difficulty as a result of poor mining method and may become uneconomic as a result of high waste-to-ore ratio now required and low grade tenor of the ore in recent shipments. During the first half year Hayden received 14,142 tons from this operation assaying 1.86-2.86% Cu with about 54% SiO₂, 10% Fe, 11% CaO, 4.3% Al₂O₃.

REED F. WELCH

cc:JDMacKenzie CPPollock
RLJourdan TASnedden
CNWaterman KERichard-2
WGRouillard
FJDowney

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 16, 1958 'K. R

JUL 29 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-FIELD TRIPS
JUNE-JULY 1958

1. Shirk & More, Arivaca claims. On June 23rd I accompanied Mr. L.V. Shirk of Gary, Indiana, on an inspection of the Coppa and Santa Lucia groups about 3½ miles southwest of Arivaca. Mr. Shirk is managing direction and A.C. More is geologist but incapacitated because of his age. NW

These claims were acquired about three years ago, nine purchased from Mr. J.D. Mitchell, the remainder located on State and Federal land. Mitchell offered to sell his group for \$50,000 to be paid out of 10% royalty, but Shirk and associates did not want to be paying royalty to a disinterested party and negotiated a cash deal. As a result Mitchell has moved into a new house and is driving a new Fairlane Ford.

Work on the claims by Shirk and More involves a complete survey and corner posting by Blanton and Cole. At three locations the shallow alluvium overburden has been scraped from the surface exposing the bedrock which is highly fractured granitic or rhyolitic intrusive. In the center of claim #3, where the alluvial cover has been scraped aside over an area approximately 100 x 200 feet, three pits have been sunk to about 5 foot depth into the bedrock. The rock excavated from these pits carries some chryscolla stain along fracture planes. There is no evidence of the presence of chalcopyrite or pyrite in the country rock and it is my conclusion that the chryscolla has been deposited from surface waters and will not extend more than 50 feet in depth.

When I met Mr. Shirk at Kinsley's Ranch he was waiting for an Isbell caterpillar and rooter, this equipment to be used in the pit area to extract ore, which Mr. Shirk proposed to ship to Hayden. I advised him such equipment would be inadequate and if any ore were available in the pit it would be mixed with too much country rock to be commercial. I suggested they explore the property by a few diamond drill holes rather than attempt to make shipment at this time. In an effort to determine what grade of ore could be produced with selective mining and sorting methods I took chip samples from the ore piles, with results as follows:

	<u>Au-oz</u>	<u>Ag-oz</u>	<u>Cu-%</u>
No. 1 Pits 2 & 3	.005	.4	2.43
No. 2 Cut #9	.01	.3	1.72

2. Fred Gunter and Associates, Woolsey property: Mr. Fred Gunter of Odessa, Texas, associated with T.J. Colbin and Johnny Ray, has acquired a group of claims in the Arivaca area owned by Bud Woolsey (Pima Mine claim jumper). Mr. Gunter advises me he is interested also in the Papago Chief Mine in the Baboquivari District, which property has been held by Mr. Woolsey for several years. During the period 1943 through 1945 Hayden Plant received 1594 tons from the

Fred Gunter, Woolsey Property, con't.

Papago Chief averaging about .03 oz Au, 4.3 ozs. Ag, 1.7% Cu with 70% SiO₂, 12% Al₂O₃. This tonnage includes 937 tons of dump ore shipped in 1944 assaying .02 oz Au, 2.9 ozs Ag, 1.4% Cu.

The latter part of June Mr. Gunter delivered a sample of about 1,000 pounds to Hayden from the Arivaca claims with assay report as follows: Au .86 oz, Ag 2.2 ozs., Cu 1.1%, SiO₂ 85, Fe 6.3, CaO 1.5, Al₂O₃ 1.6%. Gunter is currently sinking a small shaft on the Arivaca property but is now vacillating between continued exploration on this group of claims and moving to the Papago Chief where Woolsey reports high grade copper ore available for shipment. On one of my field trips to the Papago Chief with Mr. Woolsey I discounted the possibility of making any economic shipments from this mine.

3. Strong & Harris, Inc., Saginaw Mine. About two years ago Strong & Harris obtained a lease on the Gold Hill claims -- 36 in the group--part of the old Saginaw Mine, located about 10 miles west of Tucson and a short distance south of the Ajo road. During the latter part of 1956 and early 1957 Strong & Harris shipped 40 railroad cars from this property to Phelps Dodge at Douglas with average assays: Ag .489 oz, Cu .999%, SiO₂ 89.4%, Fe 2.7%, Al₂O₃ 2.7%.

To maintain the good standing of the lease through 1958 Mr. Strong arranged with Russell Harris to do certain work on the claims. Harris was in charge of mining for the tonnage shipped to Douglas. It is recognized by all parties that ore of similar grade will not justify shipping to Douglas or Hayden under purchase terms presently available. However, the assessment work must be completed and may be applied against shipment of flux to Hayden. Harris believes he can mine 2,000 to 3,000 tons of ore similar to the Douglas shipments and terms will be worked out for delivery of this high-silica flux to Hayden Plant.

4. C.D. Wilson, Narragansett Group. On July 8th I accompanied Mr. Wilson to the Narragansett property in the Helvetia District, from which he is shipping low grade reverberatory copper-bearing ore to Hayden. From April 1956 through May 1958 the smelter received 18,646 tons from this operation assaying .10-.20 oz Ag, 1.5-2.5% Cu, 53-68% SiO₂, 6-10% Fe, 4-10% CaO, 4.5-6.6% Al₂O₃.

Wilson has advised me of his intention to ship siliceous quartzite that must be removed from the footwall side of the pit to continue the present operation, but as yet he has not been in a position to ship this material. Wilson has now started two benches on the upper part of the footwall, standing 100 feet above the bottom of the pit with slope of about 75 degrees. On the second bench he has broken two to three railroad carloads of weakly mineralized quartzite which I authorized him to ship on a trial basis in place of 15 to 20 cars he requested that we accept at Hayden. On the basis of the outcome of this experimental shipment we may be able to purchase a limited tonnage of the footwall material. The tonnage will be relatively small compared to the material in the bench that must be moved and pushed over the dump.

The bottom of the pit is 25 feet below the outside rim edge, allowing storm drainage to go into the hole. A new truckloading ramp at lower elevation must be cut to continue mining in depth.

C.D. Wilson, Narragansett Mine, Con't.

In spite of the hazardous conditions, Wilson is carrying on a "poor-man" operation. As observed from showings in the bottom of the pit, ore of about 2 to 2.5% grade could be mined 20 feet wide and 80 to 100 feet along the strike. In the hanging wall limestone side copper occurs in fractures and small veinlets 50 to 75 feet along the strike. When sampled in carload tonnage the hanging wall mineralization assays 1 to 1.5% Cu. As a result of Wilson's mining methods he has now worked the ore deposit to minimum size without removing sufficient waste until the waste-to-ore ratio now required for safety is prohibitive economically. The copper minerals are oxidized.

Wilson recently purchased a new one-yard diesel shovel but the equipment used by Strong & Harris to haul ore to Sahuarita is in deplorable condition. Three trucks are out of commission at this time; one turned over on the road, the other two are disabled by broken axle and radiator failure. No doubt Wilson will mine more tonnage from the Narragansett pit, but the economics of his present situation, or perhaps an accident, may terminate operation at this location at any time. Wilson says he has other showings on the property he can mine if this present operation becomes unprofitable.

The purchase price for the Narragansett property is \$25,000. Mr. Wilson tells me he has paid \$22,000 to \$23,000 to date in royalties.

5. C.D. Wilson, Esperanza Area: Mr. Wilson still holds a large number of claims adjacent to the property taken over by Duval Sulphur & Potash Company at the Esperanza pit location. In the early examination Duval eliminated these claims from its interest. Since that time Wilson has brought the property to the attention of other companies. Without knowledge of mineralization, Wilson believes these claims are as valuable or perhaps more so than the property taken by Duval. He tells me that recent assessment work in two diamond drill holes at least 1800 feet apart went through 15 to 20 feet of waste and then penetrated chalcocite and chalcopyrite-bearing ore for distances of 300 feet with ore still in the bottom of the two holes. He reports the driller recovered about 95% of the core which is stored in boxes at Wilson's home. He invited me to look at the cores which I will do at a later date.

Wilson indicates that Duval engineers paid close attention to the drilling on these claims as the assessment work was in progress but Duval Sulphur & Potash Company has not made any overtures toward acquiring the additional ground. Such disinterest on Duval's part has hurt Wilson's feelings and consequently he has invited other parties to make an examination of the claims. Wilson's purchase agreement with the McGees for this ground calls for annual assessment work to be performed by Wilson and payment of \$25,000 per year on the purchase price.

6. Lewisohn Copper Co., Helvetia District. The King-Exile Mine operation is under the direction of R. E. Chilson and is the only activity Lewisohn Copper has had in the Helvetia District for some time. Several months ago the ore reserves in the King-Exile were exhausted but Chilson has picked up the ore continuation with a limited amount of diamond drilling and by close observation. At present

Lewisohn Copper Co., Con't.

Mr. Chilson is working two shifts with a total of nine men, including himself. Two men are on production, mining and sorting about four cars per month assaying 7 to 8% Cu. Within the next 30 days Chilson expects to increase the rate of shipments to three cars per week. Current exploration work in the King-Exile workings indicates about 10,000 tons of ore available from about the 300-foot level of the incline below the adit. Since starting operation at the King-Exile property in 1950 Chilson has mined approximately 50,000 tons of plus 7% Cu. The ore occurs in lenticular masses of rather small tonnage in limestone near the granite contact.

Since March 1953 Chilson has been shipping King-Exile ore to International Smelting Company at Miami, with some tonnage going to Magma Copper Company at Superior. He now requests the privilege of shipping his production to Hayden and the first two carloads of King-Exile ore have been received at Hayden.

Copper World Mine: Chilson has obtained a lease from Mrs. Ruth Blankenship on the Copper World Mine at Helvetia with the idea of mining a quartzite copper mineralized area for converter flux at Hayden. I visited the property with Chilson and, by visual inspection only, concluded the quartzite would be acceptable for the silica content but the copper value is too low to justify moving at the present time.

Access Road: C.D. Wilson has been trucking ore from the Narragansett claims over the Lewisohn property and a controversy arose over use of this road which Lewisohn wishes to maintain as a private road. As a result of the difference of opinion Chilson closed the road to Wilson for two weeks, insisting that Wilson carry liability insurance and admit the right of way belongs to Lewisohn Copper Company. This difficulty has been overcome and Wilson is again trucking over the Lewisohn property.

7. J.P. Nash, Twin Buttes claims. About four years ago J.P. Nash located about 30 claims in the Twin Buttes area in Sections 5 and 32, T. 17-18 S., R. 14 E., immediately east of the Republic group and east of Banner's Glance Mine. Mr. Nash also took up several claims adjoining the west end of the Republic group. Location work and annual assessment work were performed by Nash for about two years. In 1957 several claims on the east side were dropped and in 1958 the remainder of the group to the east of the Republic was dropped by Nash. Mr. Nash was in Tucson on July 9th, at which time he told me he was abandoning these claims. In response to inquiry as to the reason, he told me the trouble was "the bedrock was too deep." One or two holes penetrated the gravels to bedrock at a depth of about 800 feet where crystalline granite was encountered. When asked about the mineralization, Nash reported no copper mineralization was encountered in the drill holes.

The Nash claims immediately west of the Republic Group are being held with assessment work performed for this year. Drilling in this area encountered granite at 100-125 feet.

8. Nash-McFarland, Trench Mill Operation. Early in January Nash-McFarland began operation of their lease on the Flux Mine in the Harshaw District, treating the ore in the Trench Mill which has been purchased from the Mining Department. Current production is about 3,000 tons crude ore per month.

Evaluation of the operation through May 1958 shows 12,166 wet tons milled with concentrate production as follows:

	<u>Tons</u> <u>Dry</u>	<u>Ag</u> <u>oz</u>	<u>Pb</u> <u>%</u>	<u>Cu</u> <u>%</u>	<u>Zn</u> <u>%</u>	<u>Net Return at</u> <u>Trench Mill*</u>
Zinc Conct	1642	1.7		1.2	56.7	\$ 49,137.95
Lead Conct	774	35.5	71.7			101,129.94
						<u>\$150,267.89</u>

*Return after deducting smelting charges, railroad freight and trucking to Patagonia.

Although metal prices have dropped since Nash-McFarland took over this operation, the partnership has adjusted costs by reducing wages and hauling charges to help offset the decreased revenue. In a recent conversation with Mr. Nash he does not seem to be discouraged about the operation and feels they will be able to return the investment from the operation and salvage the Trench mill at the end of the Flux lease or maintain the concentrating plant for Duquesne production. Nash is quite hopeful over the possibility of increased metal prices.

Mr. Nash does not anticipate starting production from Duquesne mines in the near future. However, D. C. Gilbert is negotiating with Nash for a lease on the entire group of mines for subleasing. In talking recently with Mr. Gilbert he indicates Nash is thinking favorably along this line.

9. Strong & Moseley, Keystone Copper Mine, Johnson Camp. Earl Strong and Ira Moseley have been negotiating with Mr. Rehg of Keystone Copper Mining Co. for a lease on the O.K. shaft area of the Keystone property. The outcrop of the O.K. shaft vein runs through the end-line of Keystone Copper property into ground held by Coronado Copper and Zinc Co. In anticipation of working the outcrop of this vein, which is about 8 feet wide, dipping easterly about 30 degrees, Strong and Moseley have approached Mr. Dub of Coronado Copper and Zinc Co. for a lease on this surface area. In a telephone communication, Mr. Dub responded favorably and subsequently visited the property with Mr. Strong.

Upon completion of lease agreements with Keystone and Coronado Strong and Moseley would like to start shipping the dump at the O.K. shaft and at the same time explore the outcrop area for a potential of a few thousand tons that may be shipping grade. In 1957 Aztec Mining and Development shipped the following two lots to our plants and I understand additional tonnage went to International Smelting Company at Miami.

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Al2O3</u>	<u>Fe</u>	<u>CaO</u>	<u>As</u>	<u>Sb</u>
Hayden Lot 603	36	.51	3.85	61.0	6.9	5.1	4.4		
El Paso Lot 3006	18	.20	1.8	63.2	8.4	3.4	6.3	.25	.27

Strong-Moseley, Keystone Mine, Dagoon, con't.

The El Paso lot assaying 1.8% Cu represents what Aztec Mining produced from the O.K. shaft dump.

When lease agreements are completed I will work out terms for accepting a few hundred tons of the dump ore to determine if it is satisfactory for Hayden. Although delivery cost would be less to Miami, Mr. Strong wants to ship to Hayden.

10. B.S. & K. Mining Co., Atlas Mine, Silver Bell. About two months ago I went underground at the B.S. & K. Mining Company property in the Silver Bell District. At that time Mr. Kalaf, Manager, had a program of exploration under way on the first level to reach a diamond drill objective showing high grade zinc sulphide. The exploration drift had cut about 100 feet of blobby zinc mineralization in a tactite-type alteration, the zinc occurring in small masses rather than disseminated throughout the tactite. Mr. Kalaf was mining a high grade zinc orebody assaying more than 30% Zn, mixing the drift exploration muck assaying about 10% Zn for mill feed. This results in mill heads of approximately 20% Zn.

In visiting the Atlas property again on July 2nd I found the exploration drift has been stopped in the same type of material as described above after penetrating about 110 feet of zinc-bearing tactite. The mine foreman told me two 30-foot raises have been put up in this area, both carrying zinc mineralization with one higher grade than the other. Because of depressed zinc price Mr. Kalaf has not pressed exploration in this area and has been concentrating on ore showings in other portions of the mine. Mill heads are still assaying about 20% Zn.

Present program is for ten days work, four days off. The property will be shut down for summer vacations from July 11th to 27th. In spite of this shutdown Mr. Kalaf advises me he will ship 300 to 350 tons of zinc concentrates in July.

In milling the zinc ore B.S. & K. Mining Co. has accumulated about two carloads of copper concentrates that will be shipped in the near future.

11. Southwestern Iron & Steel Industries, Inc. Four or five years ago J.W. Martin and W.H. Martin of Tucson and Mr. Shoemaker of Phoenix started promotion on magnetite-bearing alluvium deposits in Pinal County north of Oracle Junction. As a result Omega Mines and Garpac Mines were organized and received some unfavorable promotional publicity. About a year ago some Tucson residents with a sober approach to the project acquired Shoemaker's interest and incorporated Southwestern Iron & Steel Industries, Inc. with office in the Valley National Building. Mr. Milford Kay, 406 Valley National Building, is Secretary of Southwestern Iron & Steel.

Mr. O. A. Sundress was employed by Murmanill Corporation of Dallas to make an evaluation of the property and he recommended an economic study. Mr. Sundress estimated 1,895 short tons potential magnetite concentrate per acre to 25-foot depth.

Southwestern Iron & Steel Industries, Con't.

Southwestern Iron & Steel, according to Mr. Kay, controls 70 square miles of magnetite-bearing alluvium on which it must perform approximately \$60,000 in assessment work annually. The company is incorporated for 5 million shares at \$1.00 par value with one million shares outstanding. Southwestern Iron & Steel has been attempting to interest operating steel companies in this deposit as a source of iron but so far without success.

Effective June 4, 1958, a nine-month option for lease and purchase has been given to Baroid Division of National Lead Company. This agreement is signed by J.W. Hofstetter for Baroid Division and covers not to exceed 3200 acres. Within 90 days Baroid must decide upon the ground desired for lease, which is to be for 20 years with privilege of a 10-year renewal. At the end of the nine-month option Baroid is to pay \$50,000 and a like amount every year thereafter, royalties to apply on the annual payment. The royalty payable to Southwestern Iron & Steel is \$1.00 per ton iron concentrates.

In the event Baroid Division elects to purchase the ground, the sale price is \$2 million for any 1280-acre block of ground or \$3 million for 3200 acres. Under the lease Baroid is privileged to purchase 1,000 tons of iron concentrates produced with equipment on the property owned by Southwestern Iron & Steel at \$12 per ton, this tonnage to be used for experimental purposes. Baroid Division proposes to use the magnetite concentrate for oil and gas well mud. Because of the high specific gravity (about 5.0) the product may prove more satisfactory than barite with specific gravity about 4.2. Concentrates produced by Southwestern Iron & Steel assay 67-68% Fe, .1 to 1.14% Ti, .17% P, 1.53 to 2.3% SiO₂.

Ralph Langley of Los Angeles claims to have an option on the Kelly group of claims west of the ground held by Southwestern Iron & Steel, which would reduce the latter's holdings to 23 instead of 70 square miles. Mr. Langley also reports that a third party claims interest in some of the ground held by Southwestern Iron & Steel and litigation is being initiated to protect that ownership.

12. Lone Star Mining Co.-La Bajada Mine, Santo Domingo, N.M.
On one of my field trips to Santa Fe, New Mexico, in 1956 I visited La Bajada property near Santo Domingo, being promoted as Lone Star Mining Co. This is an old mine located a short distance above the wash in basalt flow rock. Considerable alteration has taken place in the basalt and the shaft was sunk in this showing. The dump from development work was entirely decomposed and showed evidence of containing considerable amount of pyrite.

At the time of my visit there was hardly any direction of the mining. Lone Star Mining was attempting to retimber the old shaft which had collapsed. Comments made to me by miners on the property referred to uranium content of the ore and specimen samples assaying up to 7% Cu. I looked closely for evidence of copper minerals on the dump but none could be identified.

Lone Star Mining Co., Con't.

Apparently Lone Star Mining Co. is now endeavoring to verify to A.E.C. the presence of uranium ore in La Bajada property. Mr. E.V. Reinhardt of Grand Junction, in a letter dated July 3rd quotes grade of the crude ore: .22% U₃O₈, 2.85% Cu, 0.40% Ni, 0.14% Co. Apparently Mr. Reinhardt is representing Lone Star Mining Company and if so the copper content reported may be correct. If this operation is successful it is apparent that Lone Star Mining is employing experienced mining supervision, which was not the case at the time of my visit two years ago.

REED F. WELCH

cc: JDMackenzie DJPope
CNWaterman CPPollock
RLJourdan WJNock
WGRouillard TASnedden
RMMcGeorge KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 11, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH - FIELD TRIP
JUNE 2-6, 1958K. R
JUN 17 1958

1. Western Gold & Uranium, Inc., managed locally by Pat Sayre, is producing uranium at the Orphan Girl claim on the rim of the Grand Canyon. The ore is mined about 1100 feet below the rim, hoisted over a cable tramway to the rim and loaded into trucks for shipment to Tuba City. Last year's production assayed between .8% and 1.0% U_3O_8 . Employees total 35 men with 20 working underground.

An exploration project is under way at the canyon rim where a shaft is being sunk under contract by Centennial Development, now at about 65 foot depth. Centennial has erected an 80-foot steel headframe and the shaft is collared on the very rim. This shaft is to be about 1600 feet deep with a crosscut approximately 1200 feet to the north at the 1500 level to intersect the ore. The ore occurs in a vertical breccia pipe 200 to 300 feet in diameter and assays about 1% U_3O_8 with other elements as follows: Cu less than 1%, Ag 1-2 oz per ton, Zn less than 2%, Pb less than 1%, Co about .4%, Ni .6%. The uraninite ore is a sooty black mineral, easily mistaken for chalcocite, which no doubt attracted the attention of the early prospector who made the discovery in 1893. One diamond drill hole encountered 7-8% Cu near the contact of the irregular breccia zone and the undisturbed sediments.

Estimated expenditure for the shaft and crosscut is about \$800,000. This development will facilitate mining about 5,000 tons per month averaging about 0.5% U_3O_8 , and it is expected the cost of the project will be paid from the mining of pillars in the internal shaft in the adit level.

The Park Service will not permit dumping of waste on the slope of the canyon. Waste material encountered in mining is mixed with the ore and shipped to Tuba City. The waste resulting from shaft sinking must be hauled seven miles to a site leased from the Forest Service for dumping purposes.

2. Chapman, Wood & Griswold, Albuquerque, N.M.

International Metals, Ltd. John Wood repeated much of the information previously given to me on the International Metals property in Jamaica. He tells me the torrential storms experienced for the past three weeks have subsided and work at the Jamaica property is being resumed.

Preliminary metallurgical work on the Jamaican ore was performed in Chapman, Wood & Griswold laboratory with results as follows:

International Metals, Ltd.-Con't.

	<u>Cu</u>	<u>Co</u>	<u>Ni</u>	<u>Au</u>	<u>Ag</u>	<u>Fe</u>	<u>S</u>
Heads	18.27	.407	.06	.01 oz	0.45 oz		
Concts	33.48	.10	.03	.015	1.2	29.62	33.82
Tails	1.0	.377	.06	.06		5.3	5.42

Mr. Wood was concerned about the possibility of the cobalt-nickel concentrating with the copper and was pleasantly surprised at the concentrate assays.

Financing for the Jamaican venture is supplied by friends and business associates of John Wood, operating in Mexico under the names Cia. Minera Peralta, D.E.C.V., S.A., and Cia. Minera Puricima, D.E.C.V., S.A., with offices in the Wagner Building, Albuquerque. These firms are interested in mining cinnabar in Mexico. Mr. Wood is unimpressed with mining operations in Mexico as a result of the experiences of these two companies.

International Metals, Ltd., was incorporated to purchase an iron concession in Jamaica and the business management negotiated for the Jamaican property without an engineer's examination. Under pressure of competition with Kennecott Copper Corporation, International Metals paid \$500,000 for this concession without knowledge of the mineral potential. Examination by Mr. Wood for iron ore possibilities indicated the deposit could not be operated economically for iron production, but on further examination, away from the iron showing, some cobalt bloom and copper oxides were observed on the surface resulting in the copper discovery. The copper deposit is in limestone adjacent to an intrusive and the mineralization appears to make a sizable orebody in fissure intersections within the limestone. Two exploration shafts 75-100 feet deep are located at opposite ends of one fissure zone. Exploration so far has not extended to the area between the shafts nor evaluated the potential tonnage that may be produced.

Mr. Wood advises me the concession has seven years tax free privilege provided a processing plant is constructed at the property. A mill would be considered a processing plant under this concession, which may necessitate milling ore as high as 18-20% Cu. After exploration proves there is sufficient ore to justify a concentrating plant International Metals may need some outside financing. However, the people putting up the money so far have not invited outside capital.

Mr. Wood's trip to Jamaica is delayed until July and he still expects to visit New York and undoubtedly will call at Mr. Jourdan's office.

Chapman, Wood & Griswold, Albuquerque, Con't.

Craigmont Mines, Ltd. Mr. Ted Chapman of Chapman, Wood and Griswold is consulting engineer on the Craigmont Mine exploration project in British Columbia by Canadian Exploration Company. He recently returned from a ten-day trip to the property and advises me the adit to explore the orebody has been started and is expected to be 1700 feet in length, driven in what he believes to be the footwall. This adit is 500 feet below the apex of the surface showing and will explore the ore zone at 100-foot intervals along the strike. At present there are four diamond drills working at the surface.

Although there has been no news release on the Craigmont project for several weeks, Mr. Chapman tells me that within the next few days there will be some information available for the press. He advises that Mr. Dirom at Vancouver has been keeping in close touch with this exploration.

Mr. Chapman tells me there is a report at Craigmont that Noranda has been doing some geophysical work on its claims in the Craigmont area and has two diamond drill rigs working.

3. R. B. Morton of Santa Fe advised me he has dropped his lease on the Conglomerate Mine. Under present metal prices he does not think operation can be resumed in the Cuba area. Morton is now doing some small contract road work. However he is interested in getting back into mining when conditions permit.

4. San Pedro Mine: Carl Anderson and associates were holding this property for exploration purposes but recently turned the option back to the owners. Tom Scartaccini who leased from Anderson in a small way is now negotiating with the owners for a lease agreement on the entire property and tells me he has assurance the lease will be granted. Scartaccini has been authorized to resume mining and hopes to ship at least one railroad car per month of sorted ore assaying 7-8%.

5. John Morrison, of Barite Corporation of America, has called me a number of times in recent months from Albuquerque about potential production from a mill being constructed at Bernalillo to treat ore from the Montezuma and Carreo mines near Placitas, east of Bernalillo. The mineralization is supposed to be lead and fluoride.

At the millsite the building framework is up and the yard scattered with a litter of old jig and table equipment in such poor condition it would not work. There has been no activity at the millsite for the past two months and no one in Bernalillo knew where Morrison could be located, nor could I find him at Albuquerque. I was advised in Bernalillo the last labor bill was not paid and I assume no production can be expected from Barite Corporation of America.

6. Mex-Tex Company's property in the Hansonburg District east of San Antonio, New Mexico, is still operating in the face of decreasing lead price. I visited this mine about two years ago, at which time the operation was running short of ore and it was apparent there was pressure on the mine to keep up production to meet mill requirements.

Since my last trip, pillars have been robbed and the apex of the outcrop has been weakened, allowing about two-thirds of the overburden to collapse. Current production is coming from the surface of the collapsed pillars and represents a scavenger operation totaling 100 to 120 tons per day.

Mr. Glenn King, Mine Superintendent, is handicapped by lack of satisfactory equipment to explore another outcropping of ore to the southeast of the present stope. A new road must be built for this area and his equipment is inadequate for road construction.

The Mex-Tex mill is producing a jig and table lead concentrate. Last month 36 tons were shipped assaying 77.4% Pb. This production is under contract to St. Joseph Lead Company.

The greater production of the Mex-Tex mill is barite concentrates, specific gravity about 4.0. This is purchased by the oilwell-drilling industry, apparently for use in the Four Corners area. The barite is in such demand there is hardly time to dry the product before shipment is requested. The Mill Superintendent is F. R. Williams, who seems to be doing a good job in spite of the old equipment.

Mex-Tex local manager, Mr. Scott, indicated interest in having someone buy the mine.

7. Oscura Mining Company. In 1956 Oscura Mining Co. (Hogg and Greer of Dallas) operated a dry mill at the Portales Mine which closed down last year as a failure. All the machinery except that under mortgage has been attached for indebtedness. Another mill was built at San Antonio to handle custom ore from the Hansonburg District but burned down before any ore was purchased for treatment.

8. Brannan & Fuller, operating the Henry Clay mine at Lordsburg, are still sinking the winze below the 6th level. As of June 5th the winze was 60 feet deep, still in ore assaying about 3% Cu. Beginning June 4th the operation went on two-shift basis. In addition to sinking the winze, they are drawing broken ore on the 4th level and mining pillars on the 350-foot level east of the Atwood shaft. The operation employs 17 men, including Mr. Brannan.

They have been waiting for the new freight rate of \$1.89 per ton to become effective before shipping the low grade material on the dump. I advised Brannan the new rate will be effective June 18th and he will then start loading this dump material.

We requested this shipper to try loading in hopper-bottom gondolas to reduce handling costs at the smelter. The loading ramp will accommodate this type of gondola and Brannan thinks this equipment may assist him in loading and save one move of the car at the ramp. During the week of June 9th the railroad will deliver a couple of these cars for trial. I cautioned Brannan to be sure the ore chunks are kept to maximum 1-foot diameter and he thinks this will cause little trouble.

Brannan and Fuller appreciate the revised schedule we have issued for their production and on the strength of the improved smelter terms they were able to obtain financing for exploration work below the 6th level.

9. Banner Mining Company at Lordsburg has completed sinking the Bonney shaft to the 1560-foot level and crosscut to the vein, some 55 feet from the shaft. Ore at this intersection is average mine grade, about 2.5% Cu. Banner will explore in both directions along the vein. This exploration work at the Bonney mine employs 12 men. Even though the ore has been reached, Banner does not contemplate mill operation until copper approaches 30¢ per pound.

Banner recently made a stock purchase offer to stockholders to obtain financing for further exploration work. In this offering it is proposed that 40,000 shares be sold without commission at \$7.50 per share, which will yield \$300,000, making total issue of 580,000 shares with 600,000 shares authorized. The Bonney Mine will receive about \$50,000 from the stock sale for further exploration work, the remaining \$240,000 to be spent on Mineral Hill-Daisy area in the Pima District.

REED F. WELCH

cc: JDMacKenzie CPPollock
 CNWaterman WJNock
 RLJourdan TASnedden
 WGRouillard KERichard -2
 RMMcGeorge
 p.3 only to
 REShinkoskey
 DASomerville

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 23, 1958

K. R

Mr. B. D. Roberts, Manager

MAY 24 1958

EL PASO PLANT

REED F. WELCH--FIELD TRIP
NORTHERN ARIZONA - MAY 1958

1. Shattuck Denn Mining Corp. On May 21st Shattuck Denn held its annual meeting in Prescott. On Wednesday and again on Thursday I met with Mr. Bardon and other company officials and was advised no immediate change is anticipated in Iron King operation. Messrs. Bardon and Kentro told me the mine is still operating at a profit on 10¢ zinc, 11.5¢ lead. Kentro indicated they could probably break even on 8¢ zinc and 9.5¢ lead in six months after completing the mill revamping for better efficiency in the lead circuit.

I have previously reported metallurgical improvements in the mill and it is gratifying to see modifications still in progress to effect further savings. With installation of the new filter plant, moisture content of concentrates has been reduced. Recent shipments show 6.5 to 7.5% moisture in the lead product and moisture has also been reduced in the zinc.

Cement platforms have been built under the filters so that concentrates can be handled without waste. Zinc concentrates now assay up to 56% as compared to 49% to 50% a few years ago. A regrind circuit is being installed for the lead product which will result in improving the grade to 30% Pb and ultimately Iron King hopes to ship 35% Pb. When Messrs. Kentro and Jeffers took over metallurgy of the Iron King mill the index of recovery was 65%. It has been raised to 80% and they hope to attain 90%. Mr. Kentro told me that if the mill efficiency realized for the last quarter of 1957 had been effected earlier the additional return to the operation would amount to \$2 million for the period 1952 through 1957.

The drop in metal prices has been partially overcome by improvements in the mill and reduction of moisture content helps to offset the increases in freight charges.

No. 7 shaft is still sinking and No. 6 shaft will require deepening below the 17th level. From No. 7 shaft two stopes have been started on the 19th level and stoping will soon be started on the 20th level. Kentro finds the No. 7 shaft hoist motor is inadequate to maintain production of 1,000 tons per day from the increased depth and more horsepower must be installed to raise hoist speed from 1,000 to 1500 feet per minute.

Field Trip Report
May 1958

Shattuck Denn-Iron King, Con't

On May 1st Shattuck Denn's lease expired on the uranium mine at Uraven. Since they had mined out all the ore within economic limits, equipment is being moved to a new lease acquired by Shattuck Denn from Kerr-McGee in Indian Creek Gulch which has 30,000 tons indicated by drill assaying 0.5% U₃O₈. This property will require an 800-foot shaft. The lease provides that Shattuck Denn will receive two-thirds and Kerr-McGee one-third of the net returns.

Multiple lotting of cars, recently instituted at El Paso Plant, is proving satisfactory as far as Iron King is concerned.

2. Eugene Fredericks of Consolidated Mining Co. last year did some exploration work at the Minor Mine east of Mayer in an attempt to intercept an orebody reportedly showing in an old diamond drill hole. The Minor property is being held on watchman basis. This firm produced manganese north of Wenden but that operation also has now been discontinued.

Since abandoning the Minor property, Consolidated Mining Co. has acquired the Pocohontas Mine south of Mayer and on the 135-foot level has developed 10,000 to 15,000 tons of 75-85% SiO₂ carrying 1% Cu or less and 6% to 8% Pb, all oxidized. Mr. Cregar, the Hollywood member of this firm is having some new samples taken in the Pocohontas to be assayed at Iron King, the results of which will be sent to my office for evaluation.

3. Bagdad Copper Corporation is producing 135,000 to 140,000 tons of ore per month, all coming from the old pit immediately north of the crushing plant. The west end of the pit that was being mined during my visit in February is reported to be mined out and there is no activity there. Bagdad is stripping about 600,000 tons per month of oxidized copper-bearing capping. This ratio of stripping results in an operating loss. Mr. Colville believes that within six months to a year he can again reduce the stripping ratio and will then have one to two years ore reserve without high ratio.

In changing the filter plant to accommodate the larger tonnage of concentrates coming from the new ballmill section several hundred tons of low grade slimes assaying about 20% copper were drained on the ground and into other tanks. These slimes were taken from the settling tank during March and April but still are so wet they cannot be handled for shipment. Mechanical equipment stirs the slimes occasionally for aeration and eventually this product will be shipped separately from the filter concentrates.

Bagdad Copper Corp., Con't

Bagdad management expresses great concern as to how soon we can accept Bagdad concentrates at Hayden. It told Mr. Colville I thought this could be realized some time early in September, which will require preparation of a new contract. Present production objective at Bagdad is 2 million pounds of copper per month.

REED F. WELCH

cc: JDMacKenzie CPPollock
 CNWaterman TASnedden
 RLJourdan KERichard-2
 WGRouillard
 RMMcGeorge
 GHPlayter

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 24, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-FIRST QUARTER 1958
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-1st Qtr. 1958</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	17,020	18,495	35,515
February	14,991	15,017	30,008
March	<u>17,804</u>	<u>12,603</u>	<u>30,407</u>
Total First Quarter	49,815	46,115	95,930
 <u>Copper Department</u>			
January	23,163	3,104	26,267
February	18,880	2,982	21,862
March	<u>20,253</u>	<u>2,295</u>	<u>22,548</u>
Total First Quarter	62,296	8,381	70,677

2. Fluxing Situation and Stocks
(From Semi-monthly Reports)

<u>Lead Department</u>	<u>1st Qtr. 1958</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-58</u>	<u>4-1-58</u>
Concentrates	55,083	41,628	14,261	25,771
Residue	15,881	18,718	3,501	1,454
Dust	2,098	2,477	927	624
Siliceous Lead	3,033	2,141	1,016	1,921
Pyrite	-	-	7,569	7,569
Total	76,095 *	64,964	27,274	37,339

Siliceous Lead Ore: A small tonnage of lead ore is still coming in from ore buyers in Sonora. Sunrise Mining Co. has been a steady shipper since 1952 and is expected to continue deliveries to El Paso at about 400 tons per month.

* Excluding mined slag used for diluent.

El Paso Plant, Con't.

Copper Department

	1st Qtr. 1958		On Hand - Tons	
	Received	Smelted	1-1-58	4-1-58
Concentrates	56,086	57,743	4,000	2,448
Matte	6,982	7,439	657	131
Residue	2,673	5,438	3,092	245
Scrap	183	213	-	-
Sulphide	-	-	1,951	1,951
Reverb Flux	220	498	282	55
Converter "	<u>6,547</u>	<u>8,057</u>	<u>12,597</u>	<u>11,005</u>
Total	72,691	79,388	22,579	15,835

Siliceous Flux: Some fluxing ore--2600 tons--has been received from the Henry Clay Mine at Lordsburb, the balance from Durango, Mexico. Stocks are being depleted and with present low price there is no prospect of developing a new source of copper-bearing flux.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received
January	30,920
February	30,144
March	<u>27,211</u>
Total 1st Qtr.	88,275

2. Fluxing Situation and Stocks
(From Semi-monthly Reports)

	1st Qtr. 1958		On Hand - Tons	
	Received	Smelted	1-1-58	4-1-58
Concentrates	70,841	54,437	19,114	35,518
Reverb Flux	19,880	18,228	4,405	6,057
Converter "	<u>11,275</u>	<u>10,555</u>	<u>3,962</u>	<u>4,682</u>
Total	101,996*	83,220	27,481	46,257

Siliceous Flux has come from the Chilito Mine north of the smelter and from the Narragansett property at Helvetia (reverb flux) with small tonnages from miscellaneous shippers, the balance from Ray pit.

ZINC CONCENTRATES-AMARILLO PLANT

Summary Receipts Southwest Producers

	Tons Concentrate (Custom Shippers)
January	3,105
February	3,265
March	<u>3,852</u>
Total 1st Qtr.	10,222

*Includes Christmas tailings used as reverb flux.

COMMENTS ON SHIPPERS

1. Bagdad Copper Corporation. Receipts for the first three months of 1958 total 10,053 tons averaging about 28.5% Cu. The operation is now producing in excess of 3000 tons per month resulting from installation of the new ball mill section. Even though this new section adds to the production of copper the mine is operating at a loss and the management is looking forward to being able to ship to the Hayden smelter.

2. Banner Mining Co., Pima District. Concentrate production for the first quarter of 1958 from Mineral Hill-Daisy operation is 3665 tons, average grade approximately 25% Cu, 6 oz Ag. This rate of production is anticipated for the balance of the year.

The Bonnie Mine at Lordsburg will continue shut down except for exploration work on the new (12th) level.

3. Brannan & Fuller, Henry Clay Mine lease. In the first quarter of 1958 this operation delivered to El Paso Plant 2604 tons of siliceous copper ore averaging about: .08 oz Au, 3.3 ozs. Ag, 2% Cu, 63% SiO₂, 8% Fe, 3.6% Al₂O₃. This ore was developed in the exploration work done by Werner Lake Nickel Mines, coming from the 600 level. Brannan & Fuller, to continue production, must now sink to open up tonnage below the 600 level indicated by drill holes. Inasmuch as our estimate of the cost of such work and tonnage and grade of ore on lower levels of the mine does not warrant the development loan requested by these operators, revised purchase terms have been issued to encourage continued production at this property.

4. Chillito Copper Co. has been trucking copper-bearing quartzite to Hayden from the Chillito Mine in the Banner Mining District. Beginning in 1953 fluxing ore shipped from this operation totals 27,950 tons averaging about 1.5% Cu with 70-85% SiO₂. A recent landslide covered the best producing area and the operators are now attempting to remove the rubble to resume deliveries to Hayden.

5. Eagle-Picher-San Xavier Mine, Pima District. In January 1958 McFarland & Hullinger resumed mining in the San Xavier Mine and assumed operation of the Sahuarita mill. Lead concentrate produced in the first quarter delivered to El Paso - 994 tons with average assays about 33 oz. Ag, 45% Pb, 5.2% Cu, 15.4% Zn. Ore reserves are estimated to be around 12,000 tons, expected to be mined out in four to six months.

6. Nash-McFarland operation in the Trench mill started late in February, treating ore from the Flux Mine. The mill was purchased from the Mining Department, the Flux operated under a lease agreement. Purchase of the mill was stimulated by the need for a plant to handle complex ores from the Duquesne properties held by Nash Mines. However, unless metal prices improve it is doubtful if this project will be successful. Receipts through March at El Paso and Amarillo from the Trench Mill were:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	278	.01	39.0	71.0	.25	5.9
Zinc Conct	546	.001	1.6	.9		54.5

7. New Jersey Zinc Co. at Hanover continued mining and milling operations through the first quarter in spite of anticipated shutdown, and a new contract has recently been completed for delivery of lead concentrate to El Paso -- 406 tons received January through March assay about: Au .02 oz, Ag 29 ozs, Pb 62%, Cu 6%, Zn 7.8%.

8. Pima Mining Company's first quarter production delivered to El Paso Plant totals 18,299 tons with average grade about 25.5% Cu, 3.7 ozs. Ag. Pima mine is working at capacity and plans are to continue on that basis.

9. Shattuck Denn-Iron King production for first quarter 1958 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	6855	.762	27.7	27.0	1.06	11.6
Zinc Conct	8409	.054	5.1	1.3	.3	54.7

Providing the price of zinc does not drop further this operation will continue to produce about 2200 tons of 30% lead and 3100 tons of 55% zinc concentrates per month.

10. Sunrise Mining Co., Glove Group -- 1172 tons received at El Paso January through March average about 8 ozs. Ag, 26% Pb. Recent lots have assayed up to 45.6% Pb coming from a high grade lens between the 240 and 300 levels.

11. United States Smelting Co. at Bayard continues to operate the mill on production from leasing operations on the Continental, Princess and other company properties, shipping the copper and lead production to El Paso Plant. First quarter receipts -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Copper Conct	1473	.08	2.5	-	24.4	4.3
Lead Conct	330	.12	11.2	46.5	3.1	8.5

12. C. D. Wilson has been supplying reverberatory flux to Hayden from the Narragansett property in the Helvetia Mining District - first quarter shipments 6118 tons with average assays about 2.7% Cu, 53.5% SiO2, 11.5% Fe, 10.7% Cao, 3.7% Al2O3. This producer is now faced with the necessity of stripping considerable tonnage of low copper bearing quartzite to correct the pit slope. It may be possible to move this low grade flux to supplement Hayden supply until such time as Wilson can resume mining the better grade material.

REED F. WELCH

cc: JDMacKenzie CPPollock
 RLJourdan WRLandwehr
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 19, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH--FIELD TRIP
NORTHERN ARIZONA-FEBRUARY 1958

On February 11th through 15th R. M. McGeorge and I made a trip to Prescott and neighboring mining district. As a result of drop in metal prices there has been lack of interest in miscellaneous shipments and the only producers remaining in the area are Bagdad Copper Corporation and Shattuck Denn Mining Corp.

1. Bagdad Copper Corp. Late in 1957 Bagdad put the fifth ballmill section into operation, permitting mining and milling of 5,000 tons of ore per day. Installation of the new ballmill section created a filter and concentrate storage problem and Bagdad is now moving the filter to a new location, elevating the filter cake into the old concentrate bin. This will give more concentrate storage and result in better efficiency in the filter plant.

Mr. Colville reports present mill production is approximately two million pounds of copper per month and this will continue for the next six months. Currently mill heads assay 0.9% total Cu with 80% recovery. The stripping ratio has been reduced from 10 to 1 to 5 to 1. Mr. Colville advises me present mining cost for ore is about 34 cents per ton, waste removal costs 17 cents per ton.

In 1956 Bagdad made \$1,750,000. In 1957, producing the same amount of copper, the operation barely broke even. According to Mr. Colville, when copper price is below 27¢ the operation loses money. To overcome the deficit on low price Colville has reduced the stripping ratio and increased the ore grade. To accomplish this Bagdad is mining from the west section of the pit where there is a relatively small tonnage of about 0.9% Cu. Reduction of the ratio has eliminated stripping of the conglomerate overburden and operation is confined to moving the oxidized portion of the orebody. After about 6 months on the present basis it will be possible to reduce stripping below the 5 to 1 ratio and further cut mining costs by extending the pit northerly and to the northwest, where oxide is now being removed. Such procedure, however, will impair future economic operation and in these sections the grade will drop below .9% Cu.

Last year return from sale of molybdenum is reported as \$800 per day. Present mining in the west section is near surface and the molybdenum content does not float as readily as in the primary ore zone. Consequently current production of MoS₂ concentrate is below favorable sale specifications.

Bagdad employees, including office personnel, total 350. Wage of average mine and equipment operator is \$16 per day. They are mining two shifts 5 days per week; the mill operated 3 shifts on a 7-day week.

Bagdad Copper Corp., Con't.

In August 1957 Bagdad stopped the experimental fluo-solids plant and Colville reported they were satisfied with operation of the pilot plant but capital necessary for construction is still not available. Colville estimates there are approximately 75,000 tons of copper metal in the dumps and he thinks that leaching may someday be resumed. The operation has accumulated a small tonnage of precipitates, and in cleaning up the fluo-solids plant additional tonnage of copper sludge or sponge has been reclaimed, to be shipped in the near future with the precipitates. These products assay about 70% Cu. Experimental leaching of dumps is still producing a small amount of precipitates, but this production will decrease and cease as the leaching quality of the solution is exhausted.

For some time Bagdad has been unable to balance net weight of concentrate shipments as determined at Hillside with receipts at the smelter. They have been providing me with monthly comparisons which show little difference in moisture content between Hillside and El Paso. In recent months moisture content as determined at Hillside has been less than reported by the smelter. For this reason we stopped at the Hillside weighing station and discussed the problem with Mr. Kennedy who represents Bagdad. Mr. McGeorge will supplement this report with his findings as a result of our discussion with Mr. Kennedy.

2. Shattuck Denn-Iron King Mine: Under the management of H.F. Mills the Iron King operation made excellent strides in improvement of mining method and reduction of mining costs, with emphasis on underground facilities and little improvement in metallurgy or mill efficiency. His successor, Dan Kentro, Manager at Iron King since the fall of 1956, is a metallurgist and has a very capable assistant in A. W. Jeffers who is in charge of research work. The mill superintendent is Tom Hoskins who replaced Al Pessin last June. Iron King not only uses selective flotation but operates a cyanide plant for treating the float middlings. In the past these units were intermingled and poorly connected with pipelines and inadequate pump sumps. In modernizing, the cyanide plant has been disconnected and placed outside the flotation mill in a compact unit. Unnecessary settling tanks have been eliminated and a new concentrate filter plant section is now being constructed. The old filter permitted runover and wasteage of concentrates into the tailings sluice. Messrs. Kentro and Jeffers feel confident the increased mill efficiency will pay for the construction work within a few months. Returns from the cyanide plant increased from \$5,000 per month to \$20,000 for the last month. The new filter plant will assure drier concentrates for Amarillo and El Paso smelters and will reduce delivery costs. Already there has been a reduction of 50¢ per ton in milling cost and additional savings are anticipated.

Present production rate will be maintained. The improvement in metallurgy has increased the grade of the zinc concentrate from less than 50% to as high as 55% average Zn. Kentro believes he can improve

Shattuck Denn-Iron King, Con't.

on this. The lead product fluctuates from 20% to 30% Pb with the average of last year's receipts at El Paso approximately 26% Pb. Iron King experiences difficulty in maintaining a steady lead assay in the concentrates when pulling the lead heavy. This causes a high precious metal content in the iron middling.

By the time renovation of the cyanide plant has been completed greater efficiency will be realized in recovering gold from the middling. For this reason I have not been able to offer terms for purchase of pyrite concentrate for delivery to Selby Plant. However, this purchase proposal may be accepted some time later this year in the event economy of the cyanide plant does not materialize.

For the past four or five years underground exploration in the Iron King Mine has been held to about 500 feet per month. This footage has been inadequate to maintain safe tonnage reserves. The new management is exploring at the rate of 900 feet per month and will continue this rate for the next 2 or 3 years.

The No. 7 shaft is being sunk on a 2-shift basis with 3 men on shift. The shaft is now at the 21st level, equivalent to 2340 feet below the collar. The ore rake is to the north at about 50° along the Iron King structure, so the entire orebody is north of the No. 7 shaft at the 18th level and below. By introducing additional mechanical equipment, efficiency in the mine has been stepped up from .5 ton per man hour to .63 ton per man hour, which is equivalent to about 5 tons per man shift.

Most of the 1000-ton per day production comes from the 18th level and above, with minor tonnage still being moved from the 12th level. For the year 1957, 310,000 tons of ore were milled averaging about: Au .13 oz, Ag 2.5 oz, Pb 4.5%, Zn 9.0%. The grade is increasing with depth; for example, the F vein has picked up ore on the 18th level whereas on the 12th and 15th levels no ore occurs in this vein.

With the low price of metals Iron King management has reached the conclusion that their only hope to continue the operation is to effect economies such as the mill improvements described above. The margin of profit is low but with the prospect of never receiving more than present prices for metals, Shattuck Denn is faced with accepting profits available on present markets.

3. Golden Crown Mining Co., now Western Gold & Uranium, Inc., has claims on the Iron King structure contiguous with the north end of the Shattuck Denn property. Several years ago Golden Crown sank a shaft 1,000 feet and did some diamond drilling below that level hoping to intercept ore on the structure. The only mineralization encountered in this hole was pyrite at a depth equivalent to about the 13th level of Iron King Mine. Since that time there has been no activity by Golden Crown Mining Company in the Iron King area.

Golden Crown Mining (Western Gold & Uranium), con't.

About three years ago Golden Crown Mining Company acquired the Orphan Girl uranium claim in the Grand Canyon close to the Lodge. Ore was discovered down the canyon wall and Golden Crown has been hoisting ore up the rim on a 60° tramline. This ore assays in excess of 1% U₃O₈. To mine the ore more efficiently and remove pillars in the internal shaft, Golden Crown will sink a vertical shaft 1800 feet from the canyon rim. It is expected this development will more than pay for itself in permitting mining of pillars.

4. Cyprus Mines, Inc. has recently closed the Old Dick Mine and mill at Bagdad. Production amounting to 250 tons of ore per day was milled on the property. Copper concentrate was smelted by International Smelting Co. on toll basis at Miami and the zinc product was purchased by National Zinc and smelted at Bartlesville. Cyprus Mines brought this mine into production just at the time zinc price started to drop, and in the hope of improvement in the zinc market the zinc metal was stockpiled. No doubt this became discouraging and production was stopped about February 10th.

The lowest level in the Old Dick is at 500 feet and while the property is shut down a small crew is engaged in sinking the shaft.

Cyprus Mines purchased the Old Dick for \$750,000. With construction of the mill and camp of about 20 houses, I estimate total investment to be in excess of \$1,500,000.

5. United Verde Mine, Mark Gemmill, Lessee: According to Mr. Bliss, trucker at Mayer, Mark Gemmill of Prescott is still operating the United Verde pit on a lease, shipping to Phelps Dodge at Douglas about 100 tons of ore per day assaying around 7% Cu. This production comes from lenses on the various bench levels, mined by drifting along the lenses.

6. Rice and Padilla of Cottonwood have been doing a little work on the Little Chief claim east of Humboldt. Two shipments from this claim have been received at Hayden, one a trucklot of 11 tons assayed 18.7% Cu. The second lot delivered by rail--about 33 tons--assayed 4.66% Cu with 66.4% SiO₂, 11.8% Fe, 1.7% Al₂O₃. In telephone conversation Mr. Rice advised me he hoped to ship two cars per month from this operation. I was unable to locate Rice to look at his property but have assured him I will arrange to visit him on my next trip to Prescott.

7. Eugene Fredericks of Consolidated Mining Co. in 1956 did some exploration work on the Minor Mine east of Mayer but has given up that property and is now doing exploratory work at a property south of Mayer.

8. Cripplecrew Mining Co., P.H. Ramsden and K.L.Franzen, partners, have shipped two carloads of ore to Hayden from the Columbia group of claims in Cunningham Pass about 8 miles north of Wenden. These claims are along the strike of a small copper-bearing quartz vein in igneous and gneissoid country rock. The veins are tight and difficult to mine and the ore shipped assays about 3% Cu with .075 to .125 oz Au per ton. This partnership is not financed for mining and it is obvious there will be little production from this operation. At the time of our visit Franzen was attempting to interest a sublessee in certain claims of this group.

REED F. WELCH

cc: JMacKenzie CPFollock
 CNWaterman WJNock
 RLJourdan TASnedden
 WGRouillard KERichard-2
 RMMcGeorge
 GHPlayter

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 5, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-YEAR 1957
RECEIPTS EL PASO, HAYDEN,
AMARILLO & CORPUS CHRISTI

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-Year 1957</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	16,599	11,394	27,993
February	15,443	9,574	25,017
March	16,494	9,552	26,046
April	17,382	12,491	29,873
May	15,383	1,484	16,867
June	17,380	17,848	35,228
July	14,662	10,730	25,392
August	15,230	15,155	30,385
September	15,266	9,713	24,979
October	18,420	4,119	22,539
November	15,579	13,613	29,192
December	15,885	14,340	30,225
Total Year	193,723	130,013	323,736
<u>Copper Department</u>			
January	23,825	2,459	26,284
February	25,009	1,641	26,650
March	24,152	1,947	26,099
April	26,948	1,405	28,353
May	20,251	1,749	22,000
June	24,782	1,752	26,534
July	20,004	2,652	22,656
August	19,210	2,541	21,751
September	19,331	2,735	22,066
October	22,160	2,773	24,933
November	19,186	1,965	21,151
December	17,565	3,059	20,624
Total year	262,423	26,678	289,101

El Paso Plant, Con't.

2. Fluxing Situation and Stocks
(From Semi-monthly Reports)

<u>Lead Department</u>	<u>Year 1957</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>1-1-58</u>
Concentrates	161,399	165,643	19,524	14,261
Pyrite	-	-	7,569	7,569
Residue	72,670	79,391	4,391	3,501
Dust	10,478	10,242	375	927
Siliceous Lead	15,687	16,745	1,900	1,016
Total	260,234*	272,021	33,759	27,274

*This total does not include mined slag used for diluent, which tonnage is included in total Lead Dept. receipts shown in summary of receipts from Metal Purchase Reports.

Copper Department

	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>1-1-58</u>
Concentrates	223,812	222,243	3,882	4,000
Residue	21,946	18,720	1,098	3,092
Matte	29,694	29,144	413	657
Sulphide	-	-	1,951	1,951
Scrap	1,476	1,472	-	-
Reverb Flux	5,983	6,544	129	282
Converter "	26,789	44,860	29,737	12,597
Total	309,700	322,983	37,210	22,579

Siliceous Flux stocks are reduced to a few months' supply. Some siliceous ore is now moving to El Paso from Durango, Mexico, but barren material furnishes the bulk of fluxing requirements.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	<u>Tons Rec'd.</u>		<u>Tons Rec'd.</u>
January	20,850	July	26,807
February	20,803	August	22,324
March	17,752	September	20,304
April	18,448	October	7,728
May	23,178	November	19,051
June	18,764	December	25,884
Total 1st Half	119,795	Total year	241,893

2. Fluxing Situation and Stocks (From Semi-monthly Reports)

	<u>Year 1957</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>1-1-58</u>
Concentrate	192,513	196,954	23,726	19,114
Reverb Flux	64,053	64,278	4,675	4,405
Converter "	26,905	29,890	6,945	3,962
Total	283,471*	291,122	35,346	27,481

*Includes Christmas tailings used as reverb flux.

Hayden Plant, Con't

Fluxing ore, in addition to Ray crude, has come from Chilito Mine in the Banner District (13,700 tons) and from the Narragansett property at Helvetia (14,170 tons), together with some 3,000 tons from miscellaneous shippers.

DEMING MILL - See report Nov. 7, 1957 for first nine months 1957; mill operation suspended since July.

ZINC CONCENTRATE

Summary Receipts Southwest Producers
Amarillo and Corpus Christi

	Tons Zinc Conct.		
	Asarco	Custom Shippers	Total
January	4,173	3,587	7,760
February	2,141	3,155	5,296
March	3,247	2,959	6,206
April	2,342	3,524	5,866
May	3,080	4,069	7,149
June	2,896	2,931	5,827
July	3,447	2,996	6,443
August	2,595	2,995	5,590
September	1,131	3,161	4,292
October	977	2,743	3,720
November	282	3,605	3,887
December	-	3,082	3,082
Total	26,311	38,807	65,118

COMMENTS ON SHIPPERS

Bagdad Copper Corporation deliveries to El Paso in 1957 total 34,496 tons, average about 1.85 oz Ag per ton, 24.5% to 32% Cu. The mill expansion was completed early in November with installation of another ballmill section. With heads remaining the same, this will increase concentrate tonnage which should show up in coming months.

Banner Mining Co., Pima District, shipped 17,127 tons of concentrate during 1957 with average about 6 oz Ag, 25% Cu. Most of the Mineral Hill workings are now idle with production coming principally from the Daisy shaft. Mill heads average around 3.5% Cu with production approximately 340 tons per day.

Banner's Miser's Chest operation at Lordsburg has been shut down since October 1957 because of low metal price.

Chilito Copper Company has been trucking copper-bearing siliceous flux to Hayden from the Banner Mining District at a rate of about 1500 tons per month - total deliveries in 1957 - 13,702 tons averaging approximately 1.34% Cu, 75% SiO₂, 5.3% Fe, 6.5% Al₂O₃.

Empire Zinc Company will suspend operations in New Mexico early in 1958 when Tennessee zinc properties come into production. Lead concentrates shipped to El Paso from the Hanover mill in 1957 total 2600 tons averaging approximately: Au .04 oz, Ag 34 ozs, Pb 62.5%, Cu 1.2%, Zn 8.9%.

Pima Mining Company production for 1957 totals 64,823 tons of concentrate delivered to El Paso Plant with about 3 oz Ag per ton, 21.8 to 25.9% Cu. The operation claims 32 million pounds of copper produced during the year with mill heads averaging 1.75% total Cu, 87% recovery.

Shattuck Denn Mining Corp. - Receipts in 1957

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct.	25,469	.81	25.0	26.1	0.9	9.0
Zinc "	33,829	.12	7.3	1.5	.3	53.0

This operation is attempting to offset low metal prices by increase in production and improved metallurgy. The zinc product has been improved in recent months and the management is still working on modifications to increase the value of the lead production.

United States Smelting, Refining & Mining Co. - Hanover mill shipments to El Paso in 1957:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct.	1387	.16	12.0	56.0	3.2	9.7
Copper Conct.	6176	.08	1.8	-	24.5	6.2

In January McFarland & Hullinger gave up the Continental lease and this mine has been taken over by Mr. Patton, who has been mining in the Princess property. Copper concentrate resulting from the Patton operation will probably be on a reduced basis.

C.D. Wilson is mining copper-bearing surface material on the Narragansett property in the Helvetia Mining District, delivered to Hayden Plant for flux. Shipments in 1957 total 14,172 tons averaging about 2.27% Cu, 58.7% SiO₂, 9.8% Fe, 8.6% CaO, 4.8% Al₂O₃.

RECEIPTS FROM MEXICO (El Paso & Amarillo Plants)

<u>West Coast-Fec. del Pacifico</u>	<u>Tons Rec'd-1957</u>	
Lead Ore	5,069	
Copper Ore & Conct	370	
Zinc Conct	<u>1,302</u>	6,741
<u>Nacozari District</u>		
Lead Ore	745	
Copper Ore	<u>237</u>	982
<u>Other Custom Shippers in Mexico</u>		
Siliceous Flux from Durango	7,080	
Chihuahua & Miscel.	<u>8,768</u>	
		<u>15,858</u>
Total Receipts from Mexico		<u>23,571</u>

REED F. WELCH

cc: JDMacKenzie CFPollock
 RLJourdan WRLandwehr
 CNWaterman TASnedden
 WGRouillard KERichard-2
 FJDowney

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 17, 1958

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-JANUARY 1958 TRIP TO HERMOSILLO
WITH SUMMARY 1957 RECEIPTS FROM SONORA

1. Minerales, S.A., Santa Ana: Marcos Serrato is currently buying siliceous copper ore for shipment to Cananea. Mr. Serrato advises me the small miners or gambusinos have almost entirely lost interest in mining lead ore because of depressed lead price and threatened increase in U.S. duties, together with higher costs such as freight. Mr. Serrato believes there will be no increase in lead mining activity until the price improves and the question of U.S. duty is resolved. During 1957 this ore-buying agency shipped 3107 tons of lead ore to El Paso Plant.

Mr. Serrato reports the gambusinos are being very careful in selecting siliceous-gangue copper ore to obtain favorable treatment at Cananea.

2. A.A. Antunez of Hermosillo became interested in shipment of lead ore in September 1957 and through December delivered 218 tons to El Paso Plant. Antunez reports the gambusinos from whom he has been purchasing lead ore have discontinued operation for the same reasons as indicated by Marcos Serrato at Santa Ana.

Antunez is now engaged in mining copper ore at his La Verde Mine about 50 kilometers northwest of Hermosillo. He reports considerable tonnage of 4% to 5% Cu, all oxidized. The ore is limey gangue and in shipping to Cananea, Antunez pays the maximum \$8.50 per ton treatment charge. Recent shipments to Cananea show 5.0-6.5% Cu with settlement on export price of around 22.7¢ per pound. After the usual R & D smelter deduction of 2.5¢ and approximate 20% reduction in price brought about by marketing of blister through Cobre de Mexico, the shipper nets about 15.8¢ per pound. The freight charge to Cananea is \$5.25 U.S. currency per metric ton. Antunez reports he is just breaking even on this basis.

Antunez has been experimenting with concentration of the carbonate and silicate copper. Fomento Minero has an office and laboratory in Hermosillo and has been doing experimental work on Antunez's ore. This test work indicates a concentrate can be produced assaying 19% Cu. The flowsheet requires sulfidizing for the first concentrate, after which the gangue mineral is floated resulting in a middling product assaying 11-12% Cu. Antunez tells me the lower grade copper can be marketed at the Boleo smelter in Baja California and the 19% concentrate sold to Cananea. He believes he can buy a mill at a very reasonable price at this time because of depressed mining conditions in Mexico.

3. Raul F. Lemas at Hermosillo has been a steady shipper of lead ore to El Paso Plant since June 1957. Including one car shipped in February, lead ore shipped in his name totals 1150 tons. Lemas has shipped 759 tons to El Paso under the names of Leo Davila and Jose M. Lemas, making a total of 1909 tons for the last half of 1957, the largest shipper on the West Coast.

Raul Lemas has investigated the feasibility of hauling ore direct to El Paso in his own trucks instead of using rail equipment. The mines operated by him will support steady production of about 30 tons per day. I looked into this proposal when I was in Nogales recently and learned the ore can be entered in trucks as far as customs are concerned. The plan to deliver to the smelter by truck has been deferred pending improvement in lead price and decision on proposed increase in U.S. duty. In the meantime lead production from mines controlled by Lemas will be limited to higher grade ore.

4. Minas de Guatamo, S.A. Mining engineer Quiroga advises me they are still mining in the Guatamo mine and operating the mill at Batuc. When I arrived in Hermosillo Grattan Lynch was enroute to Mexico City to obtain permit to export additional lead tonnages. In January 1958 El Paso Plant received 98 tons of Guatamo lead concentrate. Minas de Guatamo lead production has been under contract, now expired, to American Metal Company for Torreon delivery, diverted to Mazatlan for the convenience of the shipper. Since the plant at Mazatlan ceased smelting operations the latter part of November, in the near future Minas de Guatamo must resolve the delivery problem for the lead product.

Through November 1957 this operation delivered 1203 tons of 56% Zn concentrate to Amarillo. After payment of Mexican taxes, brokerage, freight and smelting charges, the zinc product nets \$8 to \$10 U.S. currency per short ton, out of which must come the cost of trucking 90 miles from the mill to Hermosillo, milling and mining.

5. Minerales de Occidente, Juan Serrato, Manager, shipped 1663 tons of lead ore to El Paso during the year 1957. With the exception of an occasional trucklot brought in by gambusinos, lead purchases are now down to a minimum. The only activity in the patio at present is for accumulation of copper ore for Cananea delivery. At the time of my last visit this ore-buying agency was humming with activity. In contract there are now only a few piles of copper ore with an occasional laborer or office man present. Juan Serrato is not optimistic about accumulating ore for shipment to El Paso under present conditions.

6. Sonora Receipts in 1957: Following is a summary of ore and concentrates shipped from Sonora during the past year, with total 6405 tons delivered to El Paso Plant, 1203 tons to Amarillo. With existing conditions we cannot expect more than minimum tonnages from Sonora for 1958.

Receipts from Sonora at El Paso & Amarillo-1957

Lead Ore

Fcc.del Pacifico:

	<u>Tons Received</u> <u>1957</u>
A.A. Antunez, Hermosillo	218
Leo Davila "	701
Raul F. Lemas "	940
" " Benjamin Hill	151
" " Carbo	59
Jose M. Lemas	58
Minerales, S.A. Carbo	49
" Santa Ana	1258
Minerales de Occidente, Carbo	389
" " Hermosillo	1274
	<hr/> 5,097

Nacozari Railroad:

M.A. Castillo, Esqueda	112
Raul Ochoa C.- Plomocita Mine, Nacozari	238
San Francisco Mine	51
Fortuna & Misc.	50
La Colorada	238
La Terca	25
	<hr/> 714

Copper Dept.

Fcc.del Pacifico
& Baja Calif.:

Caborca Min & Dev. Co., Caborca	133
Alfonso Martinez, Tijuana	110
Minerales, S.A. (Ppts.) Santa Ana	114
	<hr/> 357

Nacozari Railroad:

Gustavo Aldana Albarran, Nacozari	47
M. A. Castillo, Esqueda	52
Raul Ochoa C., Nacozari	138
	<hr/> 237

Total Receipts El Paso Plant-Sonora Shippers 6,405

Zinc Concentrate-Amarillo Plant

Minas de Guatamo, Hermosillo (thru Nov. 1957) 1,203

Total 1957 from Sonora Shippers 7,608

cc: JMacKenzie CFPollock
 CNWaterman DJPope
 RLJourdan TASnedden
 WGRouillard KRichard
 RMMcGeorge
 RAMora

Reed Welch
 REED F. WELCH

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 7, 1957

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-FIRST 9 MONTHS
RECEIPTS EL PASO, HAYDEN, DEMING
AMARILLO AND CORPUS CHRISTI

EL PASO PLANT

I. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-9 Months</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	16,599	11,394	27,993
February	15,443	9,574	25,017
March	16,494	9,552	26,046
April	17,382	12,491	29,873
May	15,383	1,484	16,867
June	17,380	17,848	35,228
July	14,662	10,730	25,392
August	15,230	15,155	30,385
September	15,266	9,713	24,979
Total 9 Months	<u>143,839</u>	<u>97,941</u>	<u>241,780</u>
 <u>Copper Department</u>			
January	23,825	2,459	26,284
February	25,009	1,641	26,650
March	24,152	1,947	26,099
April	26,948	1,405	28,353
May	20,251	1,749	22,000
June	24,782	1,752	26,534
July	20,004	2,652	22,656
August	19,210	2,541	21,751
September	19,331	2,735	22,066
Total 9 Months	<u>203,512</u>	<u>18,881</u>	<u>222,393</u>

II. Fluxing Situation and Stocks
(From Semi-Monthly Reports)

Lead Department

	<u>Total-9 Months</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>10-1-57</u>
Concentrate	121,626	122,292	19,524	18,895
Pyrite	-	-	7,569	7,569
Residue	56,631	62,086	4,391	3,269
Dust	7,731	8,223	375	224
Siliceous Lead	12,254	12,390	1,900	1,910
Total	198,242*	204,991	33,759	31,867

*This total does not include mined slag used for diluent, which is included in total Lead Dept. receipts shown under I above.

Southwest Production
First 9 Months 1957

2.

El Paso Plant, Con't

Copper Department

	<u>Total - 9 Months</u>		<u>On Hand -Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>10-1-57</u>
Concentrate	170,082	169,625	3,882	4,672
Residue	13,042	12,985	1,098	681
Matte	22,184	22,049	413	232
Sulphide	-	-	1,951	1,951
Scrap	1,248	1,262	-	14
Reverb Flux	4,817	5,623	129	30
Converter "	23,251	40,216	29,737	13,734
Total	234,624	251,760	37,210	21,314

Siliceous Flux: More tonnage has been drawn from stocks in the third quarter. Although some fluxing ore has been received from Mexico in recent months, under decreasing copper price all marginal siliceous deposits in this area are unable to operate

Hayden Plant

I. Summary of Monthly Receipts
 (From Metal Purchase Reports)

	<u>Tons Received</u>		<u>Tons Received</u>
January	20,850	July	26,807
February	20,803	August	22,324
March	17,752	September	20,304
April	18,448		
May	23,178	Total 9 Months	189,230
June	18,764		
Total First Half	119,795		

II. Fluxing Situation and Stocks
 (From Semi-monthly Reports)

	<u>Total-9 Months</u>		<u>On Hand-Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>10-1-57</u>
Concentrate	150,638	145,130	23,726	29,063
Reverb Flux	48,922	47,513	4,675	6,039
Converter "	21,250	22,350	6,945	5,847
Total	220,810*	214,993	35,346	40,949

*Includes Christmas tailings used as reverb flux, not included in receipts shown under I above.

Fluxing Ore has come from Chilito Mine (8937 tons in 9 months), Empire-Arizona (674 tons) and miscellaneous small operations supplementing tonnage from Ray pit.

Southwest Production
Nine Months 1957

3

Deming Mill

	Tons Received		
	<u>Ground Hog-Waldo</u>	<u>Custom Ore</u>	<u>Total</u>
January	8468	222	8690
February	7297	433	7730
March	8480	100	8581
April	8163	136	8299
May	8421	69	8490
June	8186	16	8350
July	8800	105	8905
Shut down			
Total 7 months	57,815	1,230	59,045

ZINC CONCENTRATE

Summary Receipts Southwest Producers
Amarillo and Corpus Christi

	Tons Zinc Conct.		
	<u>Asarco</u>	<u>Custom Shippers</u>	<u>Total</u>
January	4173	3587	7760
February	2141	3155	5296
March	3247	2959	6206
April	2342	3524	5866
May	3080	4069	7149
June	2896	2931	5827
July	3447	2996	6443
August	2595	2995	5590
September	1131	3161	4292
Total 9 Months	25,052	29,377	54,429

COMMENTS ON SHIPPERS

Athletic Mining Company. Mining and milling operations were suspended in July 1957 as a result of low lead-zinc prices. Production of lead concentrate for the first seven months totals 620 tons averaging about 44.2% Pb with 9 oz Ag, 7.7% Cu.

Bagdad Copper Corporation. Smelter deliveries for the first three quarters 1957 total 24,926 tons assaying from 23.5% to 32.2% Cu, average grade around 28.7% Cu. Early in November Bagdad put the new ball mill circuit into operation which will effect about 25% increase in concentrate production. The Bagdad contract expires at the end of the year. It is proposed to allow the present agreement to run on notice until Hayden Plant is in a position to handle Bagdad tonnage, at which time a new contract will be negotiated for Hayden delivery.

Southwest Production
Nine Months 1957

4.

Banner Mining Company. At the Miser's Chest property, Lordsburg, Banner has suspended mining and milling because low copper price will not permit economic operation. Banner intends to do some development work, deepening the Bonney shaft in the hope of resuming production at a later date.

In the Pima District Banner has been forced to adjust the mining operation with decrease in copper price, suspending production in about 60% of the stope area in Mineral Hill Mine. Present mill feed comes from a few higher grade stopes of Mineral Hill and from the Daisy shaft where Banner is mining up to 9% Cu ore. This curtailment will result in about 25% reduction in concentrate shipments. The Banner contract with General Services Administration was terminated with shipments August 15, 1957. Thereafter all copper will be purchased on Asarco realized price.

Banner production for the first nine months of 1957 is as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>
Miser's Chest	5880	.075	4.5	29.1
Pima District	13143	-	6.0	25.4

Dr. Kent Conner of Phoenix is financing C.F. Moores' operation at Ray Silver-Lead Mine, shipping a good grade of lead ore from a new ore body. Deliveries to El Paso in the past four months total 303 tons, average grade about 26.6% Pb, .04 oz Au, 2.2 ozs Ag.

Giacoma Brothers continue shipment of one to two cars monthly from the Defiance property at Tombstone. Ninemonths' production totals 601 tons assaying 12% to 28% Pb, average grade about 18.8% with .03 Au, 2 oz. Ag.

Ted Granillo has opened up copper ore in the Deerwater claim of the Kansas-Venados Mine at Duquesne leased from Nash Mines. Deliveries to El Paso Plant for the first 9 months of 1957 - 1002 tons average grade around 6% Cu. Nash Mines operation in the Bonanza-Illinois property at Duquesne has produced 208 tons of copper ore averaging about 4%.

Pima Mining Company's shipments to El Paso for nine months of 1957 - 49,372 tons average approximately 24% Cu, 3.1 oz Ag. At present rate copper production for the year will approximate 32 million pounds. The first of November Pima stated experimental operation of the mill on 50% capacity to determine if better copper recovery may be realized by allowing the ore longer time in the flotation circuit. If this experimental run proves better recovery available, Pima probably will install additional flotation cells. November concentrate production will be reduced about 50% while this experiment is being conducted.

Shattuck Denn-Iron King Mine operation continues at capacity with production for nine months of 1957 -

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	18,050	.83	24.0	25.7	.85	8.3
Zinc Conct	25,498	.10	8.3	1.8	.30	52.0

Improved metallurgy has brought the zinc grade in recent months to 55% and better.

Southwest Production
Nine Months 1957

5.

Sunrise Mining Company continues regular shipments from the Glove Group near Amado; deliveries to El Paso for first three quarters - 4179 tons averaging about 21.5% Pb, 4.4 oz Ag.

U.S. Smelting Company leases at Bayard are on tentative basis at present metal prices but operations are continuing to date. Shipments to El Paso Plant for the first nine months 1957 are as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	1122	.15	12.5	58.5	2.9	10.0
Copper Conct	4951	.08	1.3	-	24.0	5.9

Sonora Production

West Coast-Fcc.del Pacifico

Tons Received
9 Months 1957

Lead Ore	3816
Copper Ore & Conct	<u>195</u>
	4,011

Nacozari District

Lead Ore	578
Copper Ore	<u>208</u>
	<u>786</u>

Total Receipts El Paso-Northern Sonora 4,797

REED F. WELCH

cc: JDMackenzie CPPollock
RLJourdan
CNWaterman WRLandwehr
WGRouillard TASnedden
FJDowney KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 26, 1957

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-FIRST QTR. 1957
RECEIPTS EL PASO, HAYDEN, DEMING
AMARILLO AND CORPUS CHRISTI

EL PASO PLANT

I. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received - 1st Qtr.</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	16,599	11,394	27,993
February	15,443	9,574	25,017
March	16,494	9,552	26,046
Total First Quarter	48,536	30,520	79,056
<u>Copper Department</u>			
January	23,825	2,459	26,284
February	25,009	1,641	26,650
March	24,152	1,947	26,099
Total First Quarter	72,986	6,047	79,033

II. Fluxing Situation and Stocks (from Semi-Monthly Reports)

<u>Lead Department</u>	<u>Total-1st Quarter</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>4-1-57</u>
Concentrate	37,250	41,280	19,524	15,707
Pyrite	-	-	7,569	7,569
Residue	16,795	20,085	4,391	2,830
Dust	2,609	3,007	375	264
Siliceous Lead	3,390	2,828	1,900	2,501
Total	60,044*	67,180	33,759	28,871

*This total does not include mined slag used for diluent, which is included in total Lead Department receipts shown under I above.

Copper Department

Concentrate	57,099	57,894	3,882	2,447
Residue	3,164	3,831	1,098	284
Matte	8,459	8,449	413	250
Sulphide	-	-	1,951	1,951
Scrap	355	399	-	96
Reverb Flux	1,560	2,140	129	95
Converter "	12,040	19,100	29,737	22,599
Total	82,677	91,813	37,210	27,722

El Paso Plant, Con't.

Siliceous flux intake has dropped sharply with cessation of operation at the Stauber Mine. The Conglomerate Mine near Cuba, N.M., has delivered some tonnage as weather conditions permit but it appears reorganization will be necessary before this operation can be relied upon for fluxing tonnage. A proposed sandstone copper operation about 10 miles north of Sanders on the Arizona-New Mexico border may furnish flux for El Paso. Inland Development Corp. also is exploring a sandstone copper deposit near Howard, Colorado, which may develop additional fluxing ore for El Paso.

HAYDEN PLANT

I. Summary of Monthly Receipts (From Metal Purchase Reports)

	<u>Tons Received</u> <u>1st Qtr.</u>
January	20,850
February	20,803
March	<u>17,752</u>
Total 1st Qtr.	59,405

II. Fluxing Situation and Stocks (From Semi-Monthly Reports)

	<u>Total - 1st Qtr.</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-57</u>	<u>4-1-57</u>
Concentrate	46,773	52,972	23,726	17,527
Reverb Flux	19,025	17,242	4,675	6,458
Converter "	<u>6,841</u>	<u>6,480</u>	<u>6,945</u>	<u>6,306</u>
Total 1st Qtr	72,639	76,694	35,346	30,291

Concentrate stocks are being reduced with curtailed Ray production.

Fluxing Ores are supplemented with tonnage from Narragansett and Chilito Mines.

DEMING MILL

	<u>Tons Received - 1st Qtr.</u>		
	<u>Ground Hog-Waldo</u>	<u>Custom Ore</u>	<u>Total</u>
January	8468	222	8690
February	7297	433	7730
March	<u>8480</u>	<u>100</u>	<u>8580</u>
Total	24245	755	25000

ZINC CONCENTRATE

Summary Receipts Southwest Producers
Amarillo and Corpus Christi

	<u>Asarco</u>	<u>Tons Zinc Concentrate</u> <u>Custom Tonnage</u>	<u>Total</u>
January	4173	3587	7760
February	2141	3155	5296
March	<u>3247</u>	<u>2959</u>	<u>6206</u>
Total 1st Qtr	9561	9701	19262

COMMENTS ON SHIPPERS

B.S. & K. Mining Co. has resumed mining the zinc-copper orebody, having exhausted the copper ore developed. First quarter shipments were as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	1718	.007	0.5	0.7	59
Copper "	111	.08	4.8	23.8	14

George Baker subleasing from R.D. Morton at the Conglomerate Group near Cuba, N.M. has been hampered by bad weather during the past few months. Deliveries January through March total 4130 tons averaging about 2.3% Cu with 81% SiO₂. Mining is done by Morton and Powell, trucking by Dumas Slade of Santa Fe. The operation is not profitable under the present setup and some adjustment may be required

Eagle Picher-San Xavier Mine and Sahuarita will have been taken over on a purchase agreement by McFarland & Hullinger who have operated the mine under lease since February 1955. Shipments will continue under the Eagle-Picher name until purchase is completed. Lead production for the first quarter totals 678 tons assaying about 27 oz. Ag, 48% Pb, 6.5% Cu, 12% Zn.

Pima Mining Company concentrate production reached 6000 tons monthly in March with total for the first quarter 14,367 tons averaging approximately 23.5% Cu, 3 oz Ag.

Shattuck Denn-Iron King - Receipts at El Paso and Amarillo January through March 1957 are as follows:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct.	7587	.10	10.0	1.8	0.4	50.9
Lead "	5493	.92	22.8	25.0	.8	7.5

Sunrise Mining Company has recently changed local management at the Glove Group near Amado, Arizona. They now plan to develop the mine to greater depth. Shipments will continue from upper levels until the ore now developed is exhausted. First quarter shipments - 1220 tons assaying about 20% Pb, 3.5 oz Ag.

C.D. Wilson has been shipping low grade siliceous ore to Hayden from the Narragansett property, Helvetia District -- 3467 tons delivered in the first three months of 1957 average around 2.4% Cu with 59% SiO₂, 8.9% Fe, 7% CaO, 5.7% Al₂O₃. Wilson could double his production from this surface operation and it is hoped he may develop tonnage that will be suitable for flux at El Paso Plant.

REED F. WELCH

cc: JDMacKenzie CPPollock
RLJourdan FVRichard
CNWaterman WRLandwehr
WGRouillard TASnedden
FJDowney KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 16, 1956

Mr. E. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH

1. Miami Copper Company has abandoned drilling at the Zonia and other properties near Kirkland and moved to another drilling project north-east of Prescott near Mingus Mountain. Interest in this ground was stimulated by Jack Still

2. Inspiration Consolidated Copper Co.

Christmas Mine: On a recent trip to Christmas I talked with Mr. Thompson, assistant manager of the Christmas Mine project for Inspiration. He confirmed the information given by Mr. MacKenzie in his letter of October 29th and advised the shaft site has been leveled and power line run in readiness for sinking. The new shaft is located due north of the Christmas Mine office on the apex of the ridge. The old camp will be abandoned and new installations, including the mill, will be on the north slope below the new shaft.

Deepening of the old shaft by Inspiration into the O'Carroll bed confirmed the occurrence of wide mineralization in that horizon. During a recent visit with Mr. R.B. Mulchay he told me that drilling by Inspiration has shown additional copper-bearing areas. The Christmas fault zone has two definite movement planes, resulting in one block having been displaced 400 to 600 feet. I understand mineralization has been found in this segment between the faults. Mulchay also suggested that some time in the future Inspiration may want to explore the hanging wall of the Christmas fault which is at considerable depth.

Inspiration may use the mill built by Allison for metallurgical test on a small tonnage. The ore does not suggest metallurgical problems but for safety the mill test is contemplated. Mining method to be used at Christmas has not been decided and the experimental work in the O'Carroll horizon will probably assist in this decision.

London-Arizona Mine: Inspiration holds an option on this mine adjacent to the Christmas property. Diamond drill holes completed to date have not been encouraging.

Seventy-Nine Nine. Two drill rigs are at the Seventy Nine in the vicinity of the old ore bodies. It is rumored that ore has been encountered in this drilling. Mulchay told me the holes show encouraging mineralization. Inspiration expected to encounter lead-zinc ore and also have found some copper.

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Nov. 15, 1956

3. Anaconda Copper Company for several months has been drilling the Belmont and Queen Creek properties near Superior. Four holes in excess of 600 feet were put down on the Belmont ground from underground locations and four holes from surface on the Queen Creek property exceeding 1300 feet. None of this drilling encountered mineralization and the company has abandoned the project.

Guadalupe Claims, Nacozari, Sonora: For about three years Anaconda has been drilling this property owned and operated by Ben F. Williams of Douglas. One or two drill rigs have been operating most of this time and so far Anaconda has completed 32 holes. The result is not very encouraging but enough mineralization has been encountered to extend the project and exploration will continue.

While Anaconda has been doing this drilling Ben Williams has mined and shipped ore to the Churunibabi mill. The mine operation will not be as profitable for Williams this year as in 1955, as the ore is lower grade. He is pulling pillars of high grade left from last year's operation. The ore now assays 2% to 3% Cu. Copper concentrate continues to move to Phelps Dodge Corporation at Douglas.

4. Copper Butte Mining Co., Ray: In a recent trip I verified Fred Mitchell's report that very little additional ore is available from open-cut operation at Copper Butte Mine. Hayden is still receiving 2.5% to 3% fluxing ore from this operation but remaining tonnage is very limited. Anticipating the end of the open-cut ore, Mitchell cleaned out the old shaft at the northwest extension of the ore zone. This shaft is 165 feet deep and inclines to the east with the dip of the conglomerate beds. The shaft was sunk many years ago but no lateral work was done and Mitchell's interest has been in drifting in the ore zone. The first car shipped from the underground operation assayed 6% Cu with 52% SiO₂, 10.9% Fe, 8.8% Al₂O₃. Mitchell is now mining some 3% Cu in the shaft that will be sent to Hayden Plant.

5. Siskon Corporation, Old Reliable Mine, Copper Creek. H.B. Chessher of Reno, President of Siskon Corporation, continues exploration and program for development at the Old Reliable property. Under Copper Creek Copper Corp. Lewis Douglas, the Old Reliable Mine obtained DMEA funds to install a mill and moved the old St. Anthony mill to Copper Creek. Thirty days of operation proved this to be unsuccessful and Chessher purchased the property from Douglas on terms including cash payment of \$90,000.

As a result of recent drilling by Siskon Corporation 1 to 1.5 million tons of 2.5% Cu is estimated above the 200 level. Approximately one-half of this is oxidized. Present plans call for abandoning the old mill and construction of a 600-ton per day mill near the San Pedro River. Chessher has acquired lease on adjoining Globe and Copper Prince claims owned by Phelps Dodge Corp.

6. W. C. Rigg, Childs-Auwinckle property, Copper Creek. About a year ago Bill Martin of Tucson succeeded in renewing W.C. Rigg's interest in the Copper Creek property. Rigg was President of Arizona Molybdenum Corporation operating this mine in the early 1930's.

The 500-foot shaft was in poor condition and Rigg financed reconditioning to permit examination in the lower levels. The bottom (500-foot) level was prepared for diamond drilling and ten holes have been completed totaling about 1600 feet. These holes pointed under stopes above the 500 level and all but one were in ore. Mineralization includes blobs of bornite with width of 30 to 50 feet and the zone cut by the drill is 70 to 100 feet long. Assays of cores and sludge indicate plus 3% Cu. Additional work may develop ore approximating 100,000 to 150,000 tons. Composite sample from drill cores assayed at Hayden Plant shows:

<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Fe</u>	<u>CaO</u>	<u>S</u>	<u>Al2O3</u>
.02	.34	3.9	64.5	3.4	3.2	2.3	10.2

I understand the ore also carries 0.3% to 0.5% MoS2.

It is estimated that about \$170,000 will be required to retimber the shaft to sustain operation and install hoist. Rigg is presently negotiating with H.B. Chesher of Siskon Corporation to build one mill to serve both properties. Rigg's operation could produce 100 tons of ore per day and it is possible an equal tonnage could be mined at the Old Reliable Mine.

7. Lewisohn Copper Corporation, Helvetia District. During the past year Lewisohn has been carrying work in the King-Exile Mine and exploring for disseminated copper in the west end of the Helvetia District on the Peach, South End, Boston and Elgin claims. Expenditures by Lewisohn since the operation started amount to \$400,000.

Forty diamond and churn drill holes have been completed to a depth of 385 feet. At this depth a low-angle thrust fault, separating sediments from granite, changes the mineralization. I understand the footwall of the fault is granite which carries about .3% Cu. Drilling to date indicates six million tons of about .9% Cu. Successful continued drilling may result in a total of 25 million tons. Test work on sludge samples indicates about 80% recovery, taking into account oxide copper.

Recent acquisition of the Blankenship property at Helvetia has expanded Lewisohn's holdings for prospecting. Exploration is now carried on under DMEA funds and a new application will be made to prospect the Blankenship property.

Present production from the King-Exile group is about three cars per week of 4% Cu carrying 20% to 25% CaO, shipped to International Smelting Company at Miami. In 1953 we performed metallurgical tests on King-Exile ore anticipating production might be available for delivery to Deming. Mr. R.E. Chilson, Manager for Lewisohn, is now seeking another outlet for the ore since the treatment rate at Miami has been increased to \$8.00 per ton with payment for 90% of the copper (minimum 10 pound deduction) and 4 cents off wirebar quotation. In the event Deming can handle three cars per week of 4% sulphide copper we could obtain this tonnage.

8. Southwest Metallurgical Industries (Ventures, Ltd.)

Amole Mine: Under the direction of Quentin Conklin three diamond drill holes have been completed to a depth of 300 feet at the Amole or Gold Hill Group in the Amole District, Pima County. The program includes drilling one more hole 1000 feet deep. Oxidation penetrates to about 100 feet in depth. Sulphide showing below that is pyrite and pyrrhotite, the latter occurring in massive clusters as much as four feet in thickness. Copper content in the three holes averages about .16%. Apparently the 1000 foot hole will be located near the estimated contact of the intrusive and sedimentaries looking for possible mineralized sedimentary rock adjacent to the stock.

Production of siliceous flux from this property by Strong and Harris has not been resumed since the 2000-ton trial shipment to Douglas.

Chilito Mine: Mr. Conklin advises me his firm has a current program of examination at the Chilito property in the Banner District. Hayden Plant is receiving about 600 tons per month from the Chilito operation by Guzman and Wainwright. This is a dependable source of siliceous flux as long as copper price does not decrease too much.

9. Amuran Mining Co., Copper Glance Mine. In March of this year M. H. Riggs, representing Shreveport, La., interests, began operations at the Copper Glance property located about 35 miles southwest of Tucson in the low hills on the west slope of the Sierrita Mountains. Riggs has built a steel headframe and bin, recollared and timbered several sets in the inclined shaft which is sunk on the rake of the vein. The Copper Glance vein strikes about N 5 E and the 45° incline shaft to the south leaves the vein at about 40 feet in depth. At 190 feet an old level to the west intersects the vein about 25 feet from the incline and Riggs has drifted 100 feet along this structure. The vein is a quartz filling in schist foot and hanging walls and is lenticular, averaging five feet in width. Copper values are low and erratic. Three carloads have been shipped by Amuran to Hayden with assays:

	<u>Dry Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Cu</u>	<u>SiO2</u>	<u>Al2O3</u>	<u>Fe</u>	<u>CaO</u>
Lot 331/1	55.6	.003	.96	1.11	90.7	2.7	0.9	1.0
Lot 711/2	102.4	-	.58	.64	91.5	2.1	.9	.6

Inasmuch as the mineralization includes some copper glance with chryso-colla and carbonate copper, Riggs expects higher values with exploration in depth. Production from this property is not likely to pay for ore extraction. Since beginning the operation Riggs tells me he has spent \$30,000 and apparently is prepared to spend additional capital.

10. McFarland & Mullinger, San Xavier Mine, Pima District. These operators continue their good record at Eagle-Picher's mine south of Tucson. For the month of October they produced 3200 tons of ore assaying 7-8% Pb, 12-15% Zn and expect annual production of similar grade to total about 30,000 tons. This is about twice as much tonnage as produced last year when much time was consumed with repair work. Lead concentrate shipped to El Paso carries as much as 10% Cu which comes from the 740 East stope mined sporadically. Present ore reserve indicates the operation will continue through 1957 but within a year

McFarland & Mullinger, con't.

production will be reduced considerably. In the hope of finding additional ore, Mr. William Arnt, geologist for Eagle-Picher Company, has been working at the mine for the past six months. As a result of this study Mr. Arnt has not been able to recommend any project that might lead to continuation of the operation in the San Xavier mine and Arnt has returned to Miami. ✓

11. Banner Mining Co. - Mineral Hill-Daisy: Banner is producing 600 tons of ore per day and the mill is handling 550 tons, leaving a small accumulation in stockpile. At Twin Buttes development work is producing 50 tons per day and this area will produce 250 tons of ore per day when prepared for stoping. This tonnage is stockpiled for milling in the new unit now almost ready for operation. Within the next 30 days Banner will be prepared to mill 850 to 900 tons per day. Operating on a two-shift basis 250 men are employed at Mineral Hill and Daisy and 27 men at Twin Buttes.

In anticipation of abandoning the Daisy shaft a new shaft location has been selected 800 feet west of the Daisy shaft where Banner will sink a four-compartment square shaft. Drilling to the north of the Daisy and north of Asarco claims indicates a total of 12 million tons in this area, which according to Bowman contains 217 million pounds of sulphide copper with assays from .7 to 1.2%. Inasmuch as some of the drill holes are spaced far apart, Bowman thinks there could be 30 to 35 million tons available with successful results in future drilling.

The proposed agreement between Pima Mining Company and Banner to permit Pima to mine in the cone area on Banner property west of Pima pit has come to a deadlock. Pima will not agree to mine the cone area until such time as it fits in with their plans over a 5-year period. Banner insists on mining of the cone currently with the Pima orebody. }

On several occasions Banner has suggested that our companies combine efforts in prospecting in the Pima District on some agreeable participation basis. Banner has low grade ore that can be mined by open pit and I believe a working agreement between the two companies will permit mining and milling the combined ore reserves by Asarco. ✓

At Lordsburg Banner Mining Company has concluded negotiations with the newly formed Silver City unit of Mine and Mill for the Miser's Chest operation. Exploration work is planned for this property. Preparatory to sinking the Bonney shaft a churn drill hole near the shaft has been sunk 250 feet below the 1440 level to lower water level ahead of shaft sinking. No change in output is expected at the Miser's Chest property.

12. Pima Mining Company's work is progressing as anticipated although behind schedule. Concentrate should be coming from the mill by the latter part of December.

13. Bagdad Copper Corporation: On November 20th Bagdad labor held an election for representation. The returns show 73% voted in favor of no union.

New Mexico Trip

14. Cimarron Mining Co. in October delivered to El Paso Plant a truck-load representing sorted ore from a sandstone copper deposit north of Clayton, Union County, New Mexico, with assays: 11.7% Cu, 2.6 oz Ag, 55.4 SiO₂, 6.5% Fe, 1.3% CaO, 4% Al₂O₃.

15. M.H. Farr Property: Mr. L. Dean Reeves, President of Farmers and Stockmens Bank in Clayton, has some interest in ground located in Dry Cimarron Canyon about 18 miles west of the Oklahoma line and 40 miles north of Clayton. This property is on a ranch owned by M.H. Farr of Amarillo, Texas, and I understand was drilled by Southern Lead Company and Consolidated Gas and Mining Co., exploring for uranium. No uranium was encountered in many holes drilled to depth of 75 to 80 feet, but the cores indicate about 1.5% Cu of unknown thickness in sandstone, which may be of interest. However, Southern Lead dropped its option about two years. Mr. Reeves will obtain from Mr. Farr all information available on this property and send it for our consideration.

16. George W. Baker-Conglomerate Group. Baker, formerly a small operator in the lead district of Missouri, in September entered into an agreement with R. D. Morton to purchase Morton's interest in Francisco Mining Company property near Cuba. Morton shipped 9044 tons of fluxing ore to El Paso from his operation at this property averaging about 2.5% Cu with silica in excess of 80%. Baker's agreement with Morton calls for \$20,000 cash with \$1.00 per ton royalty and total \$30,000 payment to Morton. Baker has been cleaning up in readiness for larger production and has corrected some of the mechanical difficulties for underground mining. His shipments to El Paso have been lower grade than Morton's production, some lots as low as 1.4% Cu. My calculations indicate that on 36¢ copper price a minimum of 2.2% Cu is necessary to break even and Baker's shipments to date have not paid expenses. Unless he can improve the grade he will be forced to abandon the operation. As of November 19th Morton and Powell have returned to the Conglomerate operation on a contract basis with Baker to augment the tonnage and within the next 30 days we will know if the value can be stepped up to commercial grade.

17. E. G. Cullum of Santa Fe, N.M., a retired colonel, brought sandstone copper samples to El Paso originating at a property owned by D. D. Shields, located about 5 miles north of the San Miguel Mine. These samples assayed by Custom Assay Office showed .05% Cu indicating no interest as possible flux for the smelter. On receiving the assay report Cullum dropped interest in the Shields' claims.

18. San Miguel Mine, reactivated about two years ago by Great Eastern Mines, was optioned to General Minerals Corporation in December 1955. The latter company drilled the ground and reportedly developed about 30,000 tons of copper-bearing sandstone of shipping grade. General Minerals dropped its option and the property was then turned over to Wright, Clark & Senkel, Inc. of Graham, Texas. This group did very little mining and subleased the drilled area to Dumas Slade of Santa Fe. Slade spent \$15,000 stripping this area and shipped about 1620 tons assaying .75% to 1.4% Cu with 80% or more silica. However, after examination of the stripped area it was determined the copper occurred as replacement in petrified logs in the sandstone, too scattered to

San Miguel Mine, con't.

be mined economically, and General Minerals' sampling apparently was not dependable. Slade gave up his lease at San Miguel and I understand the Texas group has entered into a lease agreement with another party. It is doubtful if El Paso will receive any more tonnage of copper-bearing sandstone from this source.

19. Mining Mountain Uranium Co., operating in the Mining Mountain District, Rio Arriba County, delivered 116 tons to El Paso assaying 3% to 5% Cu with 65% to 73% SiO₂, 1% Fe, 9.4% to 12.4% Al₂O₃. Although this ore is not particularly desirable for fluxing purposes at the smelter the property may produce some better ore in the future. I understand Mr. Everett Elrod, Superintendent, has returned to Bell, Missouri, and the operation will be down for the duration of the winter months.

20. Tom Scartaccini has a lease on the Wood Mining Co. property southwest of Las Lunas. In April 1956 Wood Mining Company shipped 58 tons to El Paso Plant assaying 3.13% Cu, 73% SiO₂, 1.5% Fe, 2.5% CaO, 5.6% Al₂O₃. Mr. Scartaccini has been evaluating this ground as a possible tonnage shipper and is optimistic about producing considerable tonnage if the fluxing quality is satisfactory. In anticipation of starting the operation Scartaccini shipped one trial car to El Paso representing the better piles of ore left from former operation. If this is interesting to the smelter he will move in his mining equipment to see what he can produce. It may be timely to encourage Scartaccini to open up this surface deposit, inasmuch as siliceous tonnage from the Cuba area very likely will be decreased or suspended over the winter months.

At the San Pedro Mine Scartaccini has given up operation in the Spanish workings and moved to the lower mine, working in the old stopes. Two truckloads recently shipped to El Paso from the old stope area assay over 11% Cu. Scartaccini now plans to stay with this type of operation at the San Pedro rather than try to produce more tonnage of lower grade.

Carl Anderson and associates (Mercury Uranium & Oil Co.) who hold an option on the San Pedro Mine set up a diamond drilling program and completed one hole 70 feet deep. At this depth Anderson encountered difficulty and drilling was abandoned for underground exploration, which to date has not been started. The option agreement calls for \$20,000 for one year and requires an additional payment of \$40,000 early in 1957 to hold the option.

21. Western Mines, Inc. has an office in Santa Fe under direction of W. E. Scorer, President. From December 1955 through June 1956 this company delivered 796 tons of zinc-lead ore to Deming averaging about 8.88% Pb, 13.03% Zn, 3.66 oz Ag. Western Mines has been interested in exploration work in Cerrillos District for the past year and a half and has under option or has located claims covering an area one mile wide by three miles long, including the Tom Payne, Bottom Dollar, Pennsylvania, Black Hornet, Arlington, and 40 locations. Work in the Bottom Dollar Mine has straightened an old crooked inclined shaft 127 feet in depth. At this level one blob of ore has been encountered about 20 feet south of the shaft. This was mined two feet wide and 20 feet long but pinched

Field Trip Report
November 1956

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Western Mines, Inc., con't.

out beyond these dimensions. Exploration work has been done with the assistance of DNEA loan which calls for 350 feet of diamond drilling at a cost of \$14,175. This drilling has been completed and additional holes financed by Western Mines, none of which has encountered ore of commercial grade and width. The veins in this area are 6 to 12 inches wide and lens out along the strike.

The grade delivered to Deming cannot be moved at a profit and Western Mines has had experimental work performed by Shattuck Denn at Iron King and by Denver Equipment Co. for an upgrading process to be installed at the mine. Recommendations so far indicate a simple table concentrator which would produce about 44% Pb with 14% Zn and a middling product assaying 33% Zn that could be further concentrated at Deming. However, the principal handicap of this operation is lack of ore.

22. Petaca Mining Corp. At Petaca the Catholic Foundation of New Mexico organized this company and sold stock in New York, raising some \$2 million, Mr. E. G. Cullum, Director and Vice President. Lyle Teutsch, attorney in the Bokum Building, Santa Fe, advised me the mill cost about \$1 million but was not successful metallurgically for treating mica ore. The operation is managed by Manuel Lejan with office at 3000 Cerrillos Road, Santa Fe. Teutsch and Cullum both advise me the mica deposit is of good grade with ample tonnage but Lejan is inexperienced in mining or metallurgy. I understand the mill was constructed on the advice of the promoter rather than an engineering firm.

REED F. WELCH

cc: JMacKenzie	CPPollock
CNWaterman	DJPope
RLJourdan	FVRichard
WGRouillard	WRLandwehr
RNMcGeorge	TASnedden
	KRichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 9, 1956

NOV 19 1956

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH

1. Western Pacific Mining Co., Inc., J. Paul Bursey, Manager, at Peach Springs is presently engaged in building a loading ramp on the Santa Fe. This mining operation on the Hualpai Indian reservation about 35 miles northeast of Peach Springs has shipped 172 tons of fluxing ore to El Paso Plant assaying about 4% copper and 303 tons to Hayden averaging about 4.95% Cu, 78.5% SiO₂.

2. Utco Uranium Corporation, Mason Rankin, Manager, Bank of Arizona Building, Flagstaff, is presently shipping about 2500 tons of uranium ore per month to the Tuba City mill north of Flagstaff. Additional tonnage is available for shipment but the mill cannot handle more ore at this time. This company has become interested in a copper deposit on the Laguna No. 2 claim north of Peach Springs adjacent to Western Pacific property. Hayden Plant in April of this year received a car-load of ore from the Laguna group shipped by Hualpai Mining Company, assaying 5.06% Cu, 68.9% SiO₂. The ore now available for shipment is too low grade to move to El Paso and I have guaranteed freight for delivery to Hayden starting early in November.

3. West Coast Minerals Co. was organized in 1955 to build and operate a dry concentrator to extract copper from sandstone in the White Mesa area northeast of Cameron. About \$150,000 was spent on this project which resulted in failure. Laboratory test work did not have sufficient control and gave erroneous results leading to construction of the mill. Vaughey & Vaughey of Denver put up the principal part of the money for this project. This firm is still interested and I understand offered to meet the \$35,000 indebtedness incurred during operation providing West Coast Minerals will assign its interest in the property. A. J. Zinkl, Manager of West Coast Minerals, is inclined to go along with Vaughey & Vaughey if a small equity is left with West Coast Minerals. The indebtedness was incurred in making modifications in the mill for production of sand-frac for use in oilwell drilling in the Farmington, New Mexico, area. Following change in the mill competitors cut the price of the sand-frac product, leaving West Coast Minerals without a profitable outlet.

4. G.P. Williams, of Boise, Idaho, has acquired an option on the Summit Mine in addition to the Fontaine Cupel property at Chloride which he has held for about a year. During Ralph Langley's operation at the Summit Mine in 1952 we received 315 tons of ore at Deming Mill averaging about 3.71 oz. Ag, 3.28% Pb, .51% Cu, 4.62% Zn. About the same tonnage was shipped to United States Smelting Company at Missvale. Mr. Williams has been arranging finances and preparing cost figures for construction of a mill near Kingman for production of lead and zinc concentrates. This is promotional but there is some tonnage of low grade ore in the mines and with a mill some lead and zinc concentrates may materialize.

5. Champion Mine, Kingman. C.G. Patterson is again operating the Champion property near Kingman where he has constructed a small jig mill for treating newly mined ore. Patterson formerly sorted his ore closely and shipped to Deming or Midvale. Present production will be 65% lead concentrate carrying 25 to 30 ozs silver per ton for shipment to El Paso, and a middling product of which he accumulates about 5 tons to one of lead concentrate. The middling will assay about 20% Zn, 7% Pb, .75% Cu with .15 oz Au, 6 ozs. Ag per ton. Patterson has been authorized to ship the middling product to Deming.

6. Old Jim Mine, north of the Champion Mine near Kingman, is being reactivated, financed by William Robertshaw. The program includes construction of a 100-ton flotation mill. According to C.G. Patterson the mill is of larger capacity than the old Jim Mine can support and apparently Robertshaw expects custom ore available for milling in the Kingman area.

7. Emerald Isle Mine. In August 1955 C.G. Patterson of Chloride acquired a lease on the Emerald Isle Mine and on the tailings dump of about 5000 tons resulting from Emerald Isle leaching plant operation. The high copper price permitted Patterson to ship the entire tailings dump, out of which Hayden Plant received 2241 tons with average assays about 3.2% Cu, 57% SiO₂, 2.5% Fe, 2.7% CaO, 14% Al₂O₃. Following receipt of this tonnage our alumina problem at Hayden became troublesome and Patterson diverted the remaining tailings to Phelps Dodge at Douglas.

While he was shipping the tailings Patterson did some underground work in the Emerald Isle mine and from this operation delivered 52 tons to Hayden assaying 6% Cu, 53.5% SiO₂, 2% Fe, 1.3% CaO, 11.8% Al₂O₃. Considerable tonnage of similar grade went to the Douglas smelter. Since September 1956 Patterson has shipped two cars of Emerald Isle ore to Hayden and discontinued shipment to Douglas. Tonnage has been limited while Patterson has been sinking 100 feet below the 100 level. During this operation he encountered quite a bit of water and the ore shoot narrowed with depth to about 2 feet width at the 200 level. Shipments will continue to go to Hayden from this operation.

8. Copper World Mine, Yucca: For the past few years this mine has been in financial difficulties. I understand New York interests have recently organized the Bobcat Mining Company to succeed Mountain States Metals Company's interest in the Copper World property. The new company is now engaged in cleanup operation and sinking a new internal shaft 165 feet from the 500 level. The program calls for several hundred feet of drifting on the 600 and 500 levels with diamond drilling from both levels. No attempt to operate the mill is contemplated until a reasonable tonnage of ore is blocked.

9. United States Consolidated Mines, Inc, Eugene Frederick, Manager, Bashford Building, Prescott. For the past six months this company has been working at the Minor Mine about 6 miles east of Mayer, formerly operated by Mountain Copper Corp. In 1942-44 Hayden received 375 tons of sorted ore from the Minor property assaying: Au .06 oz, Cu 6.3%, SiO₂ 55%, Fe 11%, Al₂O₃ 8%. I understand this production came from the 100 level and above. Additional tonnage was shipped to Clarkdale.

United States Consolidates Mines, Con't.

Work so far by United States Consolidated Mines had been concentrated in rehabilitating the old workings to the bottom or 450-foot level, where exploration is headed for a copper intercept reported in an old diamond drill hole. One carload of ore has been shipped to Hayden from cleanup assays 2.52% Cu, 62% SiO₂ 10% Al₂O₃. The mine foreman, Mr. Louis Dandera, says the mine does not contain any ore reserves.

Prior to its interest in the Minor Mine, United States Consolidated Mines took over exploration of the Poland Tunnel from Ducor Mining and Milling Corp., promoted by H. H. Records. Mr. Frederick was assisted in financing work in the Poland property by Mr. Fred Rich of Salt Lake City. Frederick advises me expenditures at the Poland and Minor properties so far exceed \$100,000. Exploration at the Poland tunnel proved discouraging and that project has been abandoned. Even though the Minor Mine exploration may also be unsuccessful, Mr. Frederick is looking for additional properties. Money is being raised in California by Edward Trugard.

10. Shattuck Denn Mining Corp., Iron King Mine. Early in October H.F. Mills, Manager at Iron King, had a heart attack. Shortly thereafter he went to Santa Barbara, California, for convalescence and while there suffered two more attacks which hospitalized him for about three weeks, and the date of his return to Prescott is indefinite. Mr. Dan Kentro is acting manager in Mr. Mills' absence. Mr. Kentro, who is Vice President of Shattuck Denn and experienced in mill work, recently moved to Prescott to work out improvement in metallurgy at Iron King mill. In line with this program Iron King has been testing the possibility of cyaniding mill heads before flotation. On a laboratory scale this work suggests an improvement of 20% in recovery of gold and silver. An alternative procedure of cyaniding the lead tails has been tested in the laboratory but very erratic recovery has been experienced. Iron King management feels metallurgical improvement is possible but before changing the mill flow sheet Mr. Kentro plans a continuous test on a larger scale to be performed in the pilot plant at the University of Arizona.

An effort is being made to produce lead concentrate assaying 30% to 35% which requires a drop in lead recovery, but because of increase in smelting charge and freight rate the higher grade product returns more to the mine. This improvement in metallurgy would result also in zinc concentrate assaying 50% to 54% with similar increase in tail loss on the zinc side.

I am advised the last labor increase at the smelters, passed back to the producer, cost Iron King \$65,000 per year, equivalent to 2,000 tons of ore per month. Inasmuch as the mine also had an increase in labor cost the program to increase efficiency in the mill is essential.

Present production on a 26-day per month basis is 20,000 to 21,000 tons. With some change in the secondary crusher plant now being constructed, production will be stepped up to 24,000 tons per month. With successful adaptation of improved metallurgy there will be very little change in concentrate tonnage produced, but there will be an increase in metal content. A new contract is being prepared to renew the one expiring at the end of this year with no change in tonnage obligation and based on present terms brought up to date under escalator clauses.

11. Bagdad Copper Corporation: The mine is producing about 100,000 to 110,000 tons of ore, maintaining stripping approximately one million tons per month. For the past nine months copper concentrates have assayed 24% to 30% Cu with future production expected to continue on the lower side of this range.

Some work has been done over the past summer to increase water supply which looks encouraging at present but until the new wells have been pumped for a while the results of the program will not be fully known.

The fluo-solids pilot plant is still operating, although on a smaller scale than previously. Recent failure of the rectifier reduces operation to about 50% of capacity until this repair is made. The pilot plant has produced sheet copper aggregating about 80 tons of metal. Mr. Colville offered this copper to us but inasmuch as the product requires remelting, I offered by telephone to purchase at wire bar quotation less 2 cents per pound, delivery f.o.b. Baltimore at a freight cost to Bagdad of about \$25 per ton. Mr. Colville recently advised me the copper had been sold to National Metals Company in Phoenix at a higher price than our offer.

Bagdad Copper concentrate contract expires at the end of this year and a two-year renewal is being prepared on the same terms as the present agreement with possible revision of the copper pricing provision.

Mr. Colville advises me labor organizers are busy in his camp. An election is scheduled on request of the Teamsters Union. As recently as the first week in November the Steel Workers requested the privilege of an election. Heretofore Bagdad employees have not joined a union.

12. Wah Chang Mining Corporation has been doing exploration work at Copper Queen Mine near Bagdad. The old inclined shaft has been re-timbered and some drilling and crosscutting done. According to our records the incline shaft penetrated decreasing metal values to the 600-foot level, where mineralization was predominately pyrite. Work done by Wah Chang has shown there is mineralization 25 feet above the hanging wall of the shaft carrying values in copper and zinc. Depending upon the success of further exploration, this mine may become a producer.

It is rumored that Wah Chang also is investigating Bagdad Copper property.

13. McFarland & Hullinger, Eureka (Pinafore) Mine. Exploration work at the Eureka Mine near Bagdad has resulted in some disappointment at the equivalent of the 350-foot level. McFarland and Hullinger ran a lower adit from which they sank an internal shaft 160 feet. A small ore shoot of sulphide ore, the objective of this work, appears to be even smaller on the 350 level than above. This sulphide ore assays about 4% Cu, 6% Zn. The orebody is cut by a fault and oxidation has penetrated deeper in the fault and hanging wall zones. Exploration work is now being concentrated along the fault zone looking for copper mineralization, with drilling in depth in the hope of encountering the sulphide zone.

14. Old Dick Mine, Cyprus Mines Corp. Construction of the Old Dick mill is progressing but is slightly behind schedule. It is anticipated the mill will begin operation late in January or early February 1957. Cyprus Mines has constructed several homes adjacent to the Bagdad townsite for its employees. No appreciable additional tonnage has been developed in the mine.

Our bid for the copper production seems not to be competitive because of \$3.25 per ton freight differential in favor of Miami as compared with El Paso delivery. I understand the zinc production, about 2300 tons per month, will go to National Zinc Company for Bartlesville delivery.

15. Silver Plate Mine, about five miles west of Cottonwood, formerly owned by Mingus Mountain Mining Co., is part of the property in northern Arizona examined by New Jersey Zinc Company. The Silver Plate is now under lease and option to Anton D. Becchetti of Cottonwood, an inexperienced miner, who has been trying to finance his operation through stock sale in Las Vegas, Nevada. Becchetti employs about six men and has rehabilitated the adit and built a surface ore chute 260 feet long from the adit to the road. With authorization from Silver Plate Mining Co., Becchetti shipped one carload of ore to Hayden Plant assaying 2.23% Cu, 65.5% SiO₂, 8.3% Fe and 10.8% Al₂O₃. After visiting the property I advised Becchetti it would be necessary to change his mining method to produce higher grade copper. The mine contains sporadic chalcocite and chalcopyrite mineralization and he may be able to produce a few carloads of shipping grade with careful sorting.

The adit crosscuts a gossan rock of igneous origin containing interesting showings of chalcopyrite and chalcocite. The outcrop has multiple fractures and iron-stained boxwork, covering an area of 300 by about 500 feet. This oxidized area is on a steep hillside, barren of alluvium and prospecting could be done by crosscut or a few diamond drill holes. Becchetti does not have adequate funds for this exploration work.

16. Mineral Hill Group, Bouse: R.A. Delano Company has shipped to Hayden 944 tons since June of this year, monthly averages varying from 2.79% to 4% Cu, 47% to 60% SiO₂, 4.3% to 18.2% Fe, 5.8% to 14.5% Al₂O₃. The variation in iron and alumina content is the result of ore coming from two different claims in this group, one being high in magnetite and low in alumina, the other low in iron and high in alumina. An attempt has been made to blend the two types of ore resulting in a product of about 59% SiO₂, 13% Fe, 6% Al₂O₃.

Mr. Delano has been considering installation of a leaching plant and Mr. Wilson of Lehman Brothers, New York, has examined the mine. The property has also been brought to the attention of Mr. Hart and Byron Hardie recently spent several days making an examination. Delano tells me his plans for a leaching plant are based on four laboratory tests indicating 96.8% recovery from a product crushed from 3/8" to

Field Trip Report
Reed F. Welch Nov. 9, 1956

6.

Mineral Hill Group, con't.

1/4", the plant designed to handle about 150 tons of 4% Cu per day and to produce 3 tons of 70% precipitate. Delano has not drilled the property but claims 500,000 tons of ore that can be mined and leached, this tonnage unsubstantiated. He has quotation for acid at a cost of \$22 per ton delivered at Bouse.

REED F. WELCH

cc: JMacKenzie CPPollock
 CWaterman DJPope
 RLJourdan FVRichard
 WGRouillard WRLandwehr
 TASnedden
 KRichard-2

Third Quarter 1956

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 14, 1956

K. R.

NOV 19 1956

Mr. B. D. Roberts, Manager

EL PASO PLANT

1956 SOUTHWEST PRODUCTION- NINE MONTHS
RECEIPTS EL PASO, HAYDEN, DEMING
AMARILLO AND CORPUS CHRISTIEL PASO PLANTI. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received-Total 9 Months</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	14,084	10,074	24,158
February	15,159	17,134	32,293
March	16,306	13,157	29,463
April	21,108	9,764	30,872
May	17,624	10,493	28,117
June	16,461	6,371	22,832
July	14,082	6,586	20,668
August	15,414	21,685	37,099
September	18,082	14,999	33,081
Total Nine Months	148,320	110,263	258,583
<u>Copper Department</u>			
January	14,152	3,813	17,965
February	17,793	6,774	24,567
March	16,836	5,281	22,117
April	19,323	6,500	25,823
May	19,974	4,716	24,690
June	21,623	1,924	23,547
July	19,754	3,253	23,007
August	22,672	2,414	25,086
September	21,040	2,830	23,870
Total Nine Months	173,167	37,505	210,672

II. Fluxing Situation and Stocks (from Semi-Monthly Reports)

<u>Lead Department</u>	<u>Total - Nine Mos.</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-56</u>	<u>10-1-56</u>
Lead Concentrate	133,169	124,789	8,558	19,038
Pyrite	-	-	7,609	7,569
Residue	59,889	61,262	7,981	1,945
Dust	13,324	13,010	280	737
Siliceous Lead	8,440	8,537	1,528	1,510
Total	214,822*	207,598	25,956	30,799

Note: This total does not include mined slag used for diluent.
The total Lead Department receipts compiled from Metal Purchase Reports under I above includes 52,448 tons from the slag dump.

Southwest Production
 Nine Months - 1956

Copper Department	Total - Nine Mos.		On Hand - Tons	
	Received	Smelted	1-1-56	10-1-56
Concentrate	128,126	126,422	2,187	2,227
Residue	11,724	14,218	2,182	832
Matte	22,016	22,103	-	126
Sulphide	4,263	4,646	2,156	1,951
Scrap	1,596	1,702	-	37
Reverb Flux	6,603	6,825	150	111
Converter "	49,611	42,137	29,292	35,769
Total	223,939	218,053	35,967	41,053

Converter Flux: Quentin Drunzer's screening operation at the Stauber and Pintada properties, together with tonnage from the Cuba, New Mexico, area, is supplying El Paso Plant's principal tonnage of siliceous fluxing ore. Drunzer is experimenting with screening additional tonnage of low grade material that will continue this source of fluxing ore for some time.

HAYDEN PLANT

I. Summary of Monthly Receipts (From Metal Purchase Reports)

January	16,729	July	20,092
February	19,802	August	20,320
March	17,126	September	23,032
April	16,254	Total Nine	
May	20,966	Months	171,413
June	17,092	Christmas	
Total First Half	107,969	tailings	23,790
		Total	195,203

II. Fluxing Situation and Stocks (From Semi-Monthly Reports)

	Total - Nine Mos.		On Hand - Tons	
	Received	Smelted	1-1-56	10-1-56
Concentrate	140,294	124,029	2,863	19,128
Reverb Flux	35,661	39,026	6,314	2,901
Converter "	19,060	17,392	6,572	8,285
Total	195,015	180,447	15,749	30,314

Concentrate stockpiled during the shutdown for repair in August has not been smelted and increased tonnage of low grade concentrate show built up in stocks at the end of third quarter.

Reverb Flux: Copper Butte Mine open cut tonnage is nearly exhausted and probably by the end of the year shipments from surface operation at Copper Butte will cease. It is possible this mine can continue production from adits and shaft.

Converter Flux supply is adequate at present and for the balance of the year. C.D. Wilson at the Narragansett property, Helvetia District, is opening up a copper-bearing siliceous deposit that may become a source of flux for Hayden. The Chilto Mine can deliver more tonnage if necessary.

Southwest Production
 Nine Months - 1956

DEMING MILL

	Tons Milled- Nine Months		Total
	Ground Hog-Waldo	Custom Ore	
January	8,109	101	8,210
February	7,256	144	7,400
March	8,078	242	8,320
April	8,154	476	8,630
May	8,141	289	8,430
June	6,968	502	7,470
July	7,216	644	7,860
August	8,949	431	9,380
September	7,210	190	7,400
Total	70,081	3,019	73,100

Ace Mining Co. (E.C. Snow) at the Royal John mine has been shipping regularly to Deming for the past five months, production totaling 1182 tons through September, average assays about 1.2 oz. Ag, 7.8% Pb, 12.5% Zn. Some tonnage of zinc-copper ore has been moving to Deming from Duquesne--Kansas-Venados and Indiana Mines.

ZINC CONCENTRATE

Summary Receipts Southwest Producers
Amarillo and Corpus Christi

	Asarco Trench-Deming	Custom Tonnage		Tons Zn Conc. Total
		Domestic	Sonora	
January	2,864	2,251	194	5,309
February	3,086	2,796	144	6,026
March	3,091	2,656	276	6,023
April	2,385	3,349	147	5,881
May	2,804	2,198	55	5,057
June	2,802	2,204	190	5,196
July	2,771	2,690	201	5,662
August	3,058	2,047	52	5,157
September	2,716	2,382	93	5,191
	25,577	22,573	1,352	49,502

COMMENTS ON SHIPPERS

Bagdad Copper Corp. production in 1956 through September totals 19,209 tons assaying 24.4% to 30% Cu. Production for the balance of the year will be the lower grade. The mine is producing up to 110,000 tons and stripping about one million tons monthly.

Banner Mining Company: Mineral Hill concentrate production for nine months of 1956 totals 11,711 tons averaging about 25.6% Cu, 6 oz Ag. The new section of the mill, which will double capacity, is about ready for operation. Production increase, however, will be gradual.

Banner's Miser's Chest Mine operation at Lordsburg produced 5861 tons through the third quarter of 1956 averaging approximately 27.7% Cu, .05 oz Ag, 7.2 oz Ag.

Southwest Production
Nine Months - 1956

4

Chilito Copper Company siliceous flux production for nine months of 1956 totals 5615 tons averaging about 1.35% Cu, 77% SiO₂, 4.8% Fe, 7.6% Al₂O₃. This operation is the principal source of converter flux for Hayden Plant and may also supply reverb flux to supplement Copper Butte tonnage.

Copper Butte Mine production from open cut for nine months of 1956 - 6896 tons averaging approximately 2.7% Cu, 62.6 SiO₂, 6.5 Fe, 11.2 Al₂O₃. Very limited tonnage of shipping grade remains for open-cut mining. Mr. Mitchell, owner and operator, has cleaned out the old shaft and is drifting in the ore zone. One carload of 6% Cu ore has been shipped from the underground operation but ore now being mined is lower grade.

Coronado Copper and Zinc Co. at the Republic Mine near Dragoon continues to ship oxidized crude ore to El Paso but I understand the oxide orebody is about mined out. Crude ore receipts at El Paso from this operation total 1058 tons January through September 1956, average grade around 7.5% Cu. Since early May of this year the copper concentrate has been smelted at Miami on a toll basis.

R.A. Delano in June 1956 started operation at the Mineral Hill Group near Bouse and has shipped to Hayden 944 tons averaging approximately 3.5% Cu, 54% SiO₂, 10% Fe, 10.4 % Al₂O₃. The iron content of monthly composite samples varies from 4% to 18%, the alumina 5.8% to 14.5%. Shipments have come from two areas with considerable variation in analysis. Delano contemplates installing a leaching plant at this property. For the present Hayden will continue to receive a blended product with approximate analysis: 50% SiO₂ , 10-12% Fe, 6% Al₂O₃.

Quentin Drunzer, now operating at the Stauber mine in partnership with Pecos Sand & Gravel Co. under the name Drusan Mining Company, has put in a screening plant to handle the low grade copper-bearing sandstone from open pit operation. Production for seven months of operation in 1956 totals 17,032 tons, including 639 tons from the Pintada Mine. Average analysis of the screened product together with direct-smelting ore is approximately 2.8% Cu, 74% SiO₂, 2.4% Fe, 4.0% Al₂O₃. This operation will continue to supply converter flux for El Paso Plant.

Eagle Picher Company, San Xavier Mine-McFarland & Hyllinger Lease:

Lead concentrate production at Sahuarita Mill for nine months of 1956 - 2603 tons averaging about 30.7% Ag, 50.8% Pb, 7.6% Cu, 9.0% Zn. The mine is producing 2500 to 3000 tons per month assaying 7% to 8% Pb, 12% to 15% Zn. The copper recovered in the lead product comes from sporadic mining in the 740 East stope. Current exploration in the mine and examination by Eagle Picher has failed in the attempt to extend the orebody. Present ore reserve will be exhausted in about one more year of operation.

R.D. Morton's operation at the Conglomerate Mine near Seniorita, N.M., in 1956 delivered to El Paso Plant 9044 tons of siliceous ore assaying about 2.5% Cu with silica in excess of 80%. Early in October Morton assigned his lease with Francisco Mining Co. on the Conglomerate group to George Baker who expects to ship the same grade of high-silica ore as produced by Morton.

Southwest Production
Nine Months - 1956

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Shattuck Denn-Iron King Mine - Production for nine months of 1956:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Concentrate	20,562	.11	5.1	2.1	0.2	50
Lead Concentrate	16,009	.87	32.0	26.0	1.2	9

To overcome increase in smelter and mine labor and freight rates Shattuck Denn is carrying on experimental work to improve metallurgy. Cyaniding tests on heads before flotation indicate possible 20% improvement in gold-silver recovery. Further testing will be done before changing the flow sheet. An effort is being made also to improve the grade of the concentrates which will result in higher return to the mine in spite of increased metal loss in tails.

REED F. WELCH

cc: JDMackenzie CPPollock
 CNWaterman FVRichard
 RLJourdan WRLandwehr
 WGRouillard TASNedden
 FJDowney KRichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 20, 1956

MR. BSH - JAC
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS

K. R.

BSH 6/22/56

JUN 22 1956

JAC 6/22/56

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
June 1956

1. San Miguel Mine, Sandoval County, N.M. General Minerals Corporation, S.V. Guthrie, President, acquired a six-month option from Ted Chase of Great Eastern Mines on the San Miguel mine about 11 miles east of Cuba. In 1955 Great Eastern Mines shipped 15⁴/₈ tons of copper-bearing siliceous ore from this property assaying from 1% to 4.7% Cu. During the past few months General Minerals has drilled 45 holes to a depth of about 50 feet in an attempt to prove up sufficient tonnage to warrant acquisition of the property. The option expired June 15, 1956, and Mr. Chase now proposes to resume shipment to El Paso from the area drilled by General Minerals. Chase reports in excess of 100,000 tons of 2% to 3% Cu and inasmuch as past shipments carried about 80% silica I have authorized him to ship at a rate of one car per day.
2. R.D. Morton of Santa Fe is operating the Conglomerate claims east of Cuba under lease from Francisco Mining Company. This property is also known as Copper Cities or Eureka group. Morton started shipment to El Paso in January but was obliged to suspend operation during the winter months, resuming late in March. He is now producing about two cars per day assaying 2.5% Cu with 84% SiO₂.

The mineralization occurs in flat-lying conglomerate sandstone horizons with outcrops along a rugged mesa. Morton is stripping the overburden for a distance of 500 to 600 feet along the outcrop of mineralized conglomerate 8 to 20 feet thick. The topography does not support stripping very far and the bank now requires about 30 feet of stripping. From this area Morton thinks he can produce about 3,000 tons of fluxing ore, after which he will be forced to go underground. Old workings indicate mineralization extends 500 to 600 feet into the hill and I believe there may be as much as 10,000 tons of siliceous copper ore available from the Conglomerate claims.

Freight, hauling, mining and royalty costs are approximately \$12 per ton. Morton can move to El Paso any ore with value in excess of that amount.
3. Midcontinent Exploration Company, headed by Louis B. Lothman, Albuquerque, has experienced a fair degree of success in drilling uranium in the Grants area. The uranium property is now under a participation operating arrangement and Midcontinent Exploration is interested in other ventures, the latest on the Bluebird claims about 5 miles east of Cuba. Although the sandstone beds at this location have a

Midcontinent Exploration Co., con't

dip of 45 to 50 degrees, Midcontinent moved in uranium wagon drills and approached the exploration program as they would a uranium deposit. Drilling in this area was unsatisfactory in obtaining results. From the sandstone copper-bearing outcrops Midcontinent Exploration shipped two cars to El Paso assaying about .95% Cu, 72% SiO₂, 8.4% Al₂O₃, 3.8% CaO. Because of the low copper assay in this shipment and Midcontinent's inexperience as a copper producer I requested Mr. Lothman not to ship any more tonnage to El Paso Plant.

MidContinent Exploration also has an operating contract on the Jarosa claims about 10 miles northeast of Cuba. Lothman advised me he has two railroad cars ready to ship and I asked him to supply us with a representative sample before shipping from this property.

3. Wood Mining Company, Ray C. Wood, recently shipped 68 tons to El Paso from the D.D. Romero ranch about 33 miles west of Belen, New Mexico. This ore assays 3% Cu with 73% SiO₂, 5.6% Al₂O₃. Mr. Wood is not familiar with preparation of ore for shipment to the smelter and he has not been encouraged with a fluxing rate to continue shipment inasmuch as the ore carries less silica than tonnage coming from the Cuba area. Wood is now discussing construction of a mill to treat the oxidized copper ore.
4. A & M Claims. George B. Allen of Santa Fe and associate are now doing assessment work on the A & M Claims on Glorieta Creek southeast of Santa Fe. Handsample from this property recently sent to El Paso assays 10.8% Cu with 48% SiO₂, 11.2% Al₂O₃.
5. Kindom Uranium Corporation, John J. Moya, engineer in charge, has a lease and option on claims in Glorieta Creek owned by Joe Castellano. Shipments to El Paso from the Castellano claims- 68 tons--assay about 2% Cu with 71.4% SiO₂, 9% Al₂O₃. Neither the copper assay nor silica content warrants a fluxing schedule to encourage production from this property. Kindom Uranium has uranium claims in Utah now leased to an operator.
6. San Pedro Mine, Santa Fe County, N.M., is under lease and option to Anderson Brothers of Houston, Texas. I understand the option agreement carries exploration commitments which Anderson Bros. expect to fulfill by diamond drilling. This work had not been started as of June 15th; the option expires August 8, 1956. Anderson Bros. applied for a government loan to assist in the drilling project.

Tom Scartaccini of Magdalena has a lease on the dumps at the San Pedro property and has been attempting to sort the ore for shipment to El Paso. So far he has not been able to upgrade the ore sufficiently to make the lease profitable. Scartaccini is not inclined to work underground at the San Pedro inasmuch as his lease is subject to cancellation at any time because of Anderson Bros. option.

Because of his disappointment in the sorting operation on the San Pedro dumps Scartaccini has requested a lease on the Waldo Mine independent of Chamberlin's operation at Magdalena. He is willing to take either the upper or lower portion of the mine if this can be arranged with Chamberlin.

7. Stauber Mine, Pastura, N.M. Quentin Drunzer resumed shipment to El Paso from the Stauber property in March 1956. He has organized the Drusan Corporation owned by Drunzer and Pecos Sand and Gravel Company. They have two large caterpillars, one shovel, two trucks in the ore pit and two hauling ore to the railroad, one churn drill, compressor and screening plant. Now that Pecos Sand and Gravel has a financial interest in the operation there is greater interest shown by the shovel and caterpillar operators in maintaining the best grade possible.

Work now consists in stripping the east area of the east orebody which involves moving 35 feet of overburden for mining of pillars left by the Stauber operation. The north face of this pit will be extended about 50 feet beyond the area mined by Stauber, although the orebody pinches in this direction and will average 3 to 8 feet thick. Stripping will exceed 40 feet over this ore. Drunzer estimates 8000 to 9000 tons of ore will be produced from the east mine. In the west orebody the same method of operation will produce 3000 to 6000 tons.

One half of the ore mined is going direct to railroad cars where it is mixed with the product passing over 3/4 inch screen. About 40% of the tonnage going to the screening plant is rejected.

Immediately east of the east orebody 13 churn drill holes have been drilled in an area 600 feet long by 500 feet wide. Practically all of these holes show copper 5 to 20 feet thick with overburden between 5 to 10 feet. Although the drilling results show the ore to be submarginal, Drunzer is encouraged because he thinks the sandstone will screen to shipping value and will produce large tonnage if this processing is successful. The drill is now busy on an ore showing one-half miles east of present known values.

8. Austin-Amazon Group, Burro Mountains, N.M. About two months ago Ira Moseley of Lordsburg began wagon drilling on the Austin Amazon claims in the Burro Mountains near Tyrone. Operation is conducted in the name of Tejano Mining Company, financed by Messrs. Willard Smith and J. Stenson Young, of New Jersey. Moseley completed a few drill holes to depth of 60 to 70 feet and encountered sporadic copper mineralization. Moseley tells me this would not represent 1% as an average over the length of the holes.

Tejano Mining Company has employed Strong and Harris trucks and I understand is now shipping to Peruhill for concentrating. J.N. Taylor of Peru Mining Company advises he has milled about two railroad cars of ore from Austin-Amazon property and produced one-half car of concentrate. I understand Mr. Young is now in the East and on his return to Lordsburg will meet with Taylor to discuss the possibility of steady shipments to Peruhill by Tejano Mining Company.

9. Continental Mine, United States Smelting Co. has leased the Continental mine to McFarland and Hullinger of Tooele, Utah. Lessees have employed about 30 men and an engineer to direct and interpret diamond drilling results. The success of this project is based on producing a minimum of 400 tons of crude ore per day, expected to assay 2% Cu. Some of the holes drilled by McFarland and Hullinger indicate higher grade copper but to date the operation has not been successful with production of only about 250 tons per day.

10. Empire Zinc Company, Manover. I was advised that lead production from the Manover mill will be about 125 to 150 tons concentrate per month. Carl Elayer is again leasing the Lynchburg property at Magdalena, shipping the production to Manover.

11. Gold Hill (Amole) ^{Saginaw Hill} Group, Amole District, Pima County. Strong & Harris Inc is operating this group of claims about 10 miles west of Tucson and 3 miles south of Ajo road. Strong has equipped the mine for production and obtained a purchase schedule for delivery of 20 carloads to Phelps Dodge Corporation at Douglas. Three cars have been settled with analysis as follows:

<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>SiO2</u>	<u>Fe</u>	<u>CaO</u>	<u>Al2O3</u>
Tr	.42	.20	1.0	91.6	2.5	.2	2.0

Shortly after Strong started operation at Gold Hill, Ventures, Ltd. became interested through Thayer Lindsley's knowledge of this property. In the name of Southwest Metallurgical Industries Ventures took an option expiring March 1, 1958. The agreement provides that Southwest Metallurgical Industries start diamond drilling within 90 days and complete 500 feet of hole per month. The option price of \$100,000 must be paid before the term expires, \$50,000 of which is to be paid to the original claim owner.

Mr. Bennett of Ventures, Ltd., who is in charge of drilling at Gold Hill advises me his exploration work will be to the north of the underground workings where alteration of the intrusive rock is exposed in the arroyos.

12. Copper Plate Mine, Sonoita, Arizona. El Paso Plant received 167 tons from the Copper Plate in December of 1954 and January 1955. This ore averaged about 1.3% Cu with 77% SiO2. Following this unsuccessful operation by Odell Still, the property was taken over by Lawrence Yacomo of Lordsburg who shipped a few cars to Douglas. About June 1, 1956, Strong & Harris with Ira Moseley moved equipment to the Copper Plate claims. Strong is not optimistic about production possibilities at this property but ore that is developed will be shipped to Douglas. It is very low grade and Douglas represents the cheapest freight delivery.

REED F. WELCH

cc: JDMackenzie CFPollock
CNWaterman DJPope
RLJourdan FVRichard
WGRouillard WRLandwehr
TASnedden
KRichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 31, 1956

Mr. E. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
APRIL-MAY 1956

1. West Coast Minerals Co. constructed an air-classifying concentrator, intended for 500 tons per day capacity, at Copper Indian trading post on Spencer Shattuck's claims northeast of The Gap in Coconino County. The concentrator capacity was not attained because the attrition mill could not handle the tonnage. Early test work performed by Andy Zinkl at Iron King could not be duplicated in the larger plant and it was learned that ore supplied for test purposes was higher grade than the deposit would support for mining. Concentrate produced assayed between 2% and 3% Cu whereas test work indicated the possibility of 10% product. Cost of the concentrating plant was estimated at \$50,000 but before completion expenditure totaled \$110,000.

Failure of this operation has taken away some expected fluxing tonnage. However, some shipments will be received at El Paso as by-product in production of sand-frac for oil well use in San Juan basin. Mr. Zinkl tells me the Sand-frac is not quite up to specification but they will continue producing 30 tons per day, for which they receive \$30 per ton.

2. Hualpai Mining Co., made up of people in Tucson and Phoenix, last winter obtained prospecting and mining leases on the Hualpai Indian reservation. Copper showings in this area led this organization to believe mechanical loading facilities with suitable smelter outlet would result in profitable operation. After expenditure of \$20,000 Hualpai Mining Co. decided the deposit does not warrant further exploration. One carload was shipped to Hayden from this operation, assaying 5.06% Cu, 69% SiO₂, 3.5% Al₂O₃.

3. Western Pacific Mining Co., J. Paul Bursey, Manager, holds leases in the Hualpai Indian reservation adjacent to ground prospected by Hualpai Mining Co. Mr. Bursey has been more deliberate in his approach to mining and obtained information from sampling and assaying. Two trial cars have been shipped to Hayden, the first assaying 4.89% Cu, 78% SiO₂ 1.9% Al₂O₃. It is hoped Bursey's operation may provide a source of copper-bearing siliceous flux. The ore occurs in cherty limestone, highly fractured, with sporadic copper value which makes it difficult to handle in large tonnages.

4. Eureka (Pinafore) Mine was taken over in February by McFarland and Hullinger. Since that time a 600-foot tunnel has been driven and station cut for an internal shaft. Sinking began on May 23rd. The ore showing is small but there is a good prospect for continuation of ore in depth and lateral extent along a fault fissure. McFarland and Hullinger plan to sink the shaft 100 feet before crosscutting to the ore projection.

5. Bagdad Copper Corporation. The Bagdad mine is currently stripping in excess of one million tons per month. The mill is treating 100,000 tons per month of ore coming from the lowest level in the pit assaying .4 to .6% Cu. For the past month the mill has produced a little less than 1 million pounds of copper and this production will continue for the next few months.

The fluo-solid electrolytic pilot plant is in operation after overcoming innumerable mechanical problems, managed by Dorr Oliver personnel paid for by Bagdad. Lack of trained personnel now appears to be one of the principal drawbacks. The pilot plant has capacity of approximately 4 tons of concentrate per day. A few copper sheets have been made and the tanks are charged with pregnant solution.

Mr. Lincoln has moved to Cleveland where he will reside for the remainder of the summer. His address is Wade Park Manor, Cleveland, Ohio, telephone Cedar 1-3300.

6. Old Dick Mine: Cyprus Mines is sinking the main shaft, presently just below the 525 level. Plans call for a sump to be deepened to about 580 feet, after which the lowest level will be extended. Drilling is in progress to the north of the main orebody and also to the south. It is reported that additional ore has been encountered to the north; drilling has just commenced to the south with no results available as yet.

Plans are now complete for mill construction and bids are out for this work. It is expected construction will start some time in July. Water for the mill will come from wells drilled by Cyprus Mines in Burro creek, pumped through Bagdad pipeline.

7. Copper King Mine, owned by Cazier and Scholz, has been taken over by Wah Chang Mining Corporation of Bishop, California. George F. Reed is manager of the operation at Copper King and is presently unwatering the incline shaft by bailing methods. The engineer in charge is Michael A. Price, Box 722, Bagdad. Water was at the 380 level, now lowered to the 415 level. Plans call for retimbering the shaft for exploration to be defined on examination after unwatering. This work is done under contract by Mines Contracting, Kusisto and Glazier, of Wickenburg.

8. Tungstona and Black Pearl Mines. For the past two or three years J.C. Lincoln and associates have been exploring the Tungstona property near Hillside. Reports indicate the Tungstona ore is too low in value to be commercial in spite of the fact that there is a mill already constructed at that location. Work on the Tungstona has now been curtailed to a minimum in anticipation of drop in price of tungsten. Mr. Lincoln and associates have acquired and are now operating the Black Pearl Mine which is a quartz pegmatite vein in granite containing wolframite. It is expected the Black Pearl will continue operating at lower tungsten price. About 60 men have been employed at the two properties; 14 men at the Tungstona were laid off on May 22nd.

9. Hillside Mine. Bill Gibson and Don Salter of Bagdad are leasing the Hillside property. In cleaning up the mill and millyard they have accumulated two carloads of ore--about 35 tons assaying .40 Au, 12 Ag, and 30 tons of zinc-copper ore from the Old Dick and Copper King mines assaying about 5% Cu, 14% Zn. Gibson provided a sample of the zinc-copper ore for metallurgical test at Deming, but inasmuch as this is a single-car lot I advised Gibson that Deming was not interested in handling and both lots should be consigned to El Paso Plant.

10. Fred Gibbs of Prescott advises me his property has been explored in recent months with 14 churn and rotary drill holes to a depth of 600 feet. Drilling has now been practically suspended to complete calculations and estimate drilling results. Gibbs is quite certain Ventures will purchase the property. Exploration work is done in the name of Ranwick, Ltd., a Ventures subsidiary. I understand Ranwick is negotiating with Phelps Dodge Corporation for part of that company's ground or an operating agreement whereby the Gibbs property can be mined by open pit. If Phelps Dodge does not join in unitizing the operation the ore on Gibbs' ground will necessarily be mined by underground block caving. Based on 30¢ copper price this deposit contains equal values in copper and molybdenum, according to Fred Gibbs.

11. Poland Mine near Humboldt is being explored by drifting on a vein parallel to the long tunnel on the Poland property by Edward Gregor of Pasadena and Fred Rich of Salt Lake City in the name of U.S. Consolidated Mines on stock subscription. So far work in the Poland has not encountered commercial ore.

U.S. Consolidated Mines is also financing exploration of Joe Starnick's Minor group of claims in the Big Bug District.

12. Blue Bell Mine. Mr. C. W. Walker of Mayer has a lease on a portion of one claim of the Blue Bell group located several miles southwest of Mayer. Walker has sunk a 40-foot shaft on an ore outcrop and is drifting from that position along the ore horizon. At this point the ore is at least five feet wide and reported to assay about 5% Cu. Walker's development work has been done by hand drill methods. He is accumulating a 30-ton minimum carload and has about 20 tons mined.

The ore occurs in altered chlorite schist striking about N. 20° E., dip 70° to 80° west. This showing is in the footwall south of the old Blue Bell shaft and main vein. Walker thinks he has a faulted segment of the Blue Bell vein. He has prospected the outcrop of the schist zone for about 200 feet south of his shaft and trenched across the vein at one point showing copper mineralization at least 20 feet wide.

13. Shattuck Denn Mining Corp. is producing 850 tons of ore per day at Iron King with 45 contract miners. Last period miners received \$11.00 per day bonus. Total employment in mine, mill and office is 180. Calculating cost of mining on the basis of zinc pounds per ton of ore, for the year 1945 labor cost was equivalent to 23 to 25 pounds of zinc. With skyrocketing mining costs since that time, in 1953 this figure was 74 pounds zinc per ton crude ore. Improvement in efficiency has now reduced this to 60 pounds.

Shattuck Denn, con't.

The new No. 7 shaft is being deepened and will soon be 1930 feet in depth and station has been cut on the 18th level. Ore from the 17th level for the first time shows improvement in lead and silver assay with depth, zinc and gold values remain about the same as in upper levels.

It is estimated that Shattuck Denn will show a profit of about \$1,250,000 on operations this year. Early in the year Shattuck Denn withdrew from the New Shattex Corporation composed of Shattuck Denn, New Jersey Zinc and Texas Oil Company for exploration and processing of uranium ore in the Plateau area. Since that time Shattuck Denn has decided to process uranium in its mill at Los Lunas, New Mexico. At a directors meeting the second week in May it was decided to double the capitalization of the corporation and with these funds convert the fluorspar mill to a uranium processing plant. The ore will come from the Grants area, starting with 100,000 tons now handled by Anaconda as agent for A.E.C. which that company does not want to continue treating. Ore is now coming in at such a rate that it is estimated there will be another 100,000 tons available by the time mill conversion is completed.

14. Kay Copper Mine. Several months ago Mr. J.P. Starbuck acquired an option on the Kay mine in Black Canyon, Yavapai County. He anticipated shipping crude ore to Hayden or El Paso. In past years production has been trucked to International Smelting Company at Miami inasmuch as the ore is not suitable for Hayden or El Paso because of the arsenic content--2% to 4%. Starbuck attempted to unwater the Kay shaft and ran into trouble, dropping two pumps to the bottom, and at the present time there is no activity at the mine.

I am advised Starbuck is now working at the Crosby group of claims seven miles north of Dewey. The Crosby ore assays about 3% Cu with high silica. I understand Starbuck has worked out a purchase arrangement with International whereby the Miami smelter will purchase Kay Mine ore if Starbuck can produce an equivalent tonnage of desirable siliceous ore at the Crosby property.

15. Miami Copper Co., early in April, acquired the Zonia property of Hammon Copper Co. near Kirkland, as well as several other groups including McMahon, Gellingham claims of Charles Brown, and 12 claims owned by H. F. Mills, totaling about 640 acres. Drilling is now in progress on this ground for disseminated copper exploration.

16. Gene Doyle, 24 E. McKinley, Phoenix, is shipping copper ore from two properties north of Morristown. The first car received at Hayden from his M & N Mining Company assays .095 Au, 2.57% Cu, 71.4% SiO₂, 6.4% Fe, 7.6% Al₂O₃. I agreed to take 500 ton trial shipment to determine if the open-cut mining procedure will produce satisfactory smelting ore. As yet I have no report on Doyle's trial shipment from the Mac-B claims. Mr. Updike, a semi-retired geologist of Phoenix, is in charge of mining. Judging by results of the first trial car Mr. Updike may be able to produce suitable ore for Hayden.

17. Gene Doyle, O'Brien (Gold Bar) Mine. Doyle's next objective is to put the O'Brien mine into production. No production record is available for this property located northwest of Morristown. Considerable exploration work in tunnels and crosscuts has been done and Doyle reports an ore shoot 500 feet long carrying commercial grade. I have asked him to supply us with a representative sample of the O'Brien ore.

18. Lake Shore Mine, Casa Grande District. On January 1, 1956, E. G. Frawley of Salt Lake City acting for Consolidated Uranium Co. acquired an operating contract on the Lake Shore property south of Casa Grande. Consolidated Uranium drilled 67 4½ inch holes in the Lake Shore orebody averaging 200 feet in depth. As a result of this drilling the Lake Shore orebody was calculated to contain 1.3 million tons averaging 1.81% Cu, stripping ratio 1 ore to 1 waste, and 400,000 tons available without stripping other than cleaning off the surface. A composite sample of 3900 pounds gave the following analysis: Ins. 49.4%, Fe 17.5%, CaO 3.1%, Al₂O₃ 5.2%, S -. Metallurgical test work performed at the University on this sample indicated acid consumption of 7 to 8 pounds per ton ore, and on 30¢ copper price with present price of acid would be a break-even operation. About 6 weeks ago Consolidated Uranium Co. gave up its option on the Lake Shore property.

19. Transcontinental Resources, Ltd., Vancouver, B.C. Shortly after Consolidated Uranium gave up the option on Lake Shore Mine, Mr. M.W. Cox, 55 New Montgomery Street, San Francisco, formerly with Asarco in the Northwest, was instrumental in interesting Transcontinental Resources in taking the Lake Shore and building a pilot plant at the mine. In conjunction with the U.S. Bureau of Mines, Transcontinental is performing experimental work on 200 tons of ore mined from Lake Shore. The ore will be heap-leached on cement aprons, precipitate copper made with acid solution regeneration. Freeman and Cox are in charge of this operation with office at Casa Grande, telephone 3987.

20. Pinal Copper and Uranium Co., promoted by Paul Hinshaw of Casa Grande, has a diamond drill prospecting the Greenback and adjoining claims about 42 miles south of Casa Grande. I understand previous drilling intercepted ore and five holes in the vicinity were all pointed to the ore intercept. Subsequently Joseph Beeson of Salt Lake City examined the mine and recommended specific drill hole locations and direction of holes. Current drilling is carried out under his proposal.

21. Turning Point Mine. George Wilson and Joe Menaugh are operating a make-shift table concentrator at the Turning Point property south of Casa Grande, treating dump ore from nearby mines. They have accumulated about 10 tons of 20% lead from operation to date. Because of poor equipment efforts will no doubt be expended in repair work rather than in treating ore.

22. Old Reliable Mine at Copper Creek has been taken over by Siskon Corporation, H.B. Chessher, President, of Reno, Nevada. This firm proposes to leach the ore in place and has contacted this office for purchase terms on cement copper. To date I understand the operation has not been successful in producing copper.

23. Tony Riggs of New York is exploring by drilling claims in Copper Creek district east of the Old Reliable property, including the Childs and American mines. To date this exploration has not encountered a commercial orebody.

24. Narragansett Mine, Helvetia-Rosemont District. C.D. Wilson of Tucson has acquired the Narragansett group of claims formerly owned by the late F.A. Bennett. Wilson spent about \$1500 on road improvement and construction and after doing a minor amount of work underground in old workings, moved to a quartzite outcrop showing copper on the divide between Rosemont and Helvetia. Several thousand tons of alluvium have been scraped away exposing low grade copper-bearing quartzite. Early in May Wilson shipped 6 cars to Hayden from this outcrop averaging about .693% Cu, 75% SiO₂, 6% Al₂O₃, 2% CaO. These cars were shipped for sample purposes. Wilson is now preparing the surface for shipment of higher grade copper. If his work is successful in exposing commercial ore this could develop a source of converter flux for future use. It is expected copper content can be raised to 1% or possibly 2%.

25. Banner Mining Company in the Pima district has been carrying on an intensive drilling program concentrated on North Daisy ground and claims immediately east of this group. Additional ground has been located east of Twin Buttes and in the valley northeast of Twin Buttes. All diamond and churn drills in the Daisy Mine location have been moved temporarily to the new claim locations for completion of assessment work before July 1st.

In the Twin Buttes area the Glance Mine has been equipped with hoist, hoisthouse, compressor, compressor house and changeroom, all new buildings. Exploration underground is being carried on by crosscut looking for ore intercepted from surface drilling.

Concurrently with this exploration work Banner is doubling mill capacity to handle 800 to 900 tons of ore per day. It is expected the new section will be ready for operation late in August, but additional tonnage for the mill will be picked up slowly. It is anticipated that by the end of this year the Mineral Hill mill will be producing about 1700 tons copper concentrate per month.

Production for the month of May from the Daisy 400 level averaged 8% Cu mined from one stope with area 3500 square feet. This ore is mixed with Mineral Hill ore resulting in mill feed assaying about 3% Cu.

Negotiations between Banner Mining Company and Pima Mining Company are progressing satisfactorily and will eventually develop a workable arrangement whereby the Pima pit will extend on Daisy claims with mining of some Daisy ore through the pit. Banner will probably sink a new shaft in the Daisy area. With new ore intercepts northeast of Daisy shaft, it is probable the new shaft will be in that area.

26. Pima Mining Company. Pima pit excavation is progressing rapidly with the bottom about 75 feet above sub-outcrop. Pima is working two shovels, one on a one-shift basis, and running seven trucks. Four more trucks are on order. To date excavation amounts to about four million yards.

Mill construction is ahead of schedule and if equipment is delivered when promised the mill will be ready for operation by November 1st. The pit also will be down to ore by that time.

In mining the higher grade portions of the Pima vein it is possible the oxidized ore contained in that zone will not be suitable for the mill and some tonnage may be available for direct smelting.

27. Eagle Picher Company. McFarland and Hullinger, Lessees at the San Xavier Mine, are mining at the rate of 150 tons per day, averaging in excess of three tons per man shaft. Grade for the month of May is 7.22% Pb, 10.45% Zn. The ore is treated in Eagle Picher's Sahuarita mill and lead production is shipped to El Paso.

28. Duval Sulphur & Potash Company's drilling program on the C.D. Wilson and New Year's Eve properties west of Twin Buttes is about completed. Duval has only two diamond drills operating at this time completing the 75th hole.

Metallurgical pilot mill work at the University of Arizona has been completed on copper extraction. Concentrate will assay 25% Cu with tonnage approaching 7500 tons per month treating 10,000 tons of ore per day. Another month will be consumed in testing molybdenum recovery, as the molybdenite is an economic factor to be considered in evaluating the orebody. Mr. Zoffman, President of Duval Sulphur & Potash Company, has advised me it will be at least two years before concentrate production can be expected.

Duval has been approached by Phelps Dodge Corporation and Miami Copper Company, as well as by Asarco, to assist in mining and financing this project. However, Duval has other means of obtaining finances and will retain the operational management.

I understand Duval paid C. D. Wilson \$50,000 for an option to lease this property. The lease is subject to 5% royalty based on net smelter returns. Upon completion of drilling and after placing a value on the orebody, Wilson indicates he will sell the property for capital gain tax advantage, in which case the purchase price could be met on less than 5% royalty basis. While drilling is in progress and until production begins, Duval is paying Wilson \$6500 per month advance minimum royalty, which may be credited to production royalty at 25% of the excess over \$6500 per month.

29. Nash Mines, Duquesne. About three months ago James P. Nash started a program of financing exploration work in the Duquesne area with Austin, Texas, interests supplying the money. The operation is still carried on in the name of Nash Mines but Nash has given up 50% of his interest in the Duquesne group of mines as well as in his claims in the Twin Buttes area. This commitment to the Austin associates calls for expenditure of \$130,000 at Duquesne and in assessment work at Twin Buttes.

Nash Mines, Con't

Bonanza Mine, Duquesne, under lease to the Knight brothers is practically out of ore. The ore reserve in this mine has always been small and they now have only about 100 tons of copper for direct smelting and 100 tons of zinc-lead-copper ore for delivery to Trench mill. A drilling program has been under way since the Knights obtained the lease, but present exploration work is in driving a raise to prospect the area immediately above the Elayer stope.

Estelle-Louise Mine is leased to Don Gilbert, Manager of Nash Mines. Gilbert is driving south from the incline on the equivalent of the 100 level prospecting under an old carbonate stope outcrop which shows on the surface for about 160 feet. He has about 120 feet more to go and expects to spend about \$4,000 in prospecting in this mine. Ore from this exploration drift recently shipped to Trench mill assays: Ag 5.88 oz., Pb 3.68%, Cu 1.66%, Zn 13.55%.

Kansas Mine. Nash Mines is doing exploration and expects to spend \$25,000 to \$30,000 in the Kansas Mine. Present work is on the upper tunnel level prospecting east of the shaft. This development is presently in oxidized mineralization and looks encouraging. Diamond drilling is also exploring in this area. The Kansas shaft will be repaired to the 220 level for better operating conditions.

Holland Mine. E. W. McFarland is being subsidized by Nash Mines to the extent of about \$20,000 in exploration work at the Holland. Work on the north drift has been extended about 120 feet with 150 feet to go to the objective, a mineralized zone exposed on the surface. The south drift is out 70 feet and in the face of the workings there is a 3-foot showing of good lead-zinc-copper ore.

Maine Mine development includes retimbering and sinking the shaft to the 100-foot level, from which lateral work will be extended along the porphyry-lime contact. This work is estimated at about \$10,000.

Indiana Mine shaft has been repaired to the 100-foot level. In the north drift there is a small shoot 3 by 5 feet of high grade lead-zinc-copper ore. On the south side of the shaft work has progressed about 50 feet exploring the downward projection of the carbonate stope mined at the surface. The Indiana will have \$3500 to \$4000 expenditure for development.

Twin Buttes claims. Assessment work is being done by diamond drilling on the Nash claims at Twin Buttes. Two holes have been completed. A third hole, and possibly a fourth, will be drilled to complete the assessment work.

REED F. WELCH

cc: JDMacKenzie CPPollock
CNWaterman DJPope
RLJourdan FVRichard
WGRouillard WRLandwehr
TASnedden
KRichard-2

First Quarter 1956

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 29, 1956

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION - FIRST QUARTER 1956
RECEIPTS EL PASO, HAYDEN, DEMING
AMARILLO & CORPUS CHRISTI

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From Metal Purchase Reports)

<u>Lead Department</u>	<u>Tons Received - Total First Quarter</u>		
	<u>Domestic</u>	<u>Foreign</u>	<u>Total</u>
January	14,084	10,074	24,158
February	15,159	17,134	32,293
March	16,306	13,157	29,463
Total	45,549	40,365	85,914

Copper Department

January	14,152	3,813	17,965
February	17,793	6,774	24,567
March	16,836	5,281	22,117
Total	48,781	15,868	64,649

Fluxing Situation and Stocks (From Semi-Monthly Reports)

<u>Lead Department</u>	<u>Total - First Quarter</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-56</u>	<u>4-1-56</u>
Lead Concentrate	48,146	47,146	8,558	9,988
Pyrite "	--	--	7,609	7,569
Residue	16,315	21,011	7,981	2,877
Dust	4,271	3,816	280	1,050
Siliceous lead	3,266	2,891	1,528	1,978
Total	71,998	74,864	25,956	23,462

Siliceous lead ore receipts increased slightly during the first quarter, tonnage coming from Northern Sonora and miscellaneous shippers in Arizona and New Mexico.

Copper Department

Concentrate	44,981	38,552	2,187	7,673
Residue	2,529	2,546	2,182	2,217
Matte	7,681	6,085	--	1,619
Sulphide	624	799	2,156	2,042
Scrap	707	576	--	160
Reverb Flux	2,634	1,562	150	1,179
Converter "	10,710	11,485	29,292	28,464
Total	69,866	61,605	35,967	43,354

El Paso Fluxing Situation, cont'd. - Copper Dept.

Converter Flux tonnage received during the first quarter was as follows:

Miscellaneous Shippers - Arizona & New Mexico	2,164
Asarco, Silver Bell	2,552
Mexico	<u>4,916</u>
Total	9,632

The balance of flux smelted came from stocks. In March Drunzer resumed operation at the Stauber property screening the low grade sandstone copper to produce 554 tons 3.35% with 71% silica. The adjoining Pintada property has recently been drilled indicating possible 5000 to 6000 tons of sandstone copper ore for El Paso.

HAYDEN PLANT

Summary of Monthly Receipts (From Metal Purchase Reports)

	<u>Tons Received</u>
January	16,729
February	19,802
March	<u>17,126</u>
Total	53,657

Fluxing Situation and Stocks (From Semi-Monthly Reports)

	<u>Total - First Quarter</u>		<u>On Hand - Tons</u>	
	<u>Received</u>	<u>Smelted</u>	<u>1-1-56</u>	<u>4-1-56</u>
Concentrate	41,899	42,605	2,863	2,157
Reverb Flux	11,723	11,903	6,314	6,094
Converter "	<u>7,483</u>	<u>4,902</u>	<u>6,572</u>	<u>9,193</u>
Total	61,105	59,410	15,749	17,444

Fluxing Ore: Reverb flux stocks at the close of the quarter consist of Christmas tailings with the exception of 382 tons miscellaneous. Chilito and Copper Butte Mines supplied principal siliceous flux tonnage. Miscellaneous siliceous ore shippers delivered approximately 1700 tons in the first quarter. Some of these may produce more tonnage of fluxing ore.

DEMING MILL

	<u>Tons Milled - First Quarter 1956</u>		
	<u>Ground Hog</u>	<u>Custom Ore</u>	<u>Total</u>
January	8,109	101	8,210
February	7,256	144	7,400
March	<u>8,078</u>	<u>242</u>	<u>8,320</u>
Total	23,443	487	23,930

Southwest Production
First Quarter 1956

ZINC CONCENTRATE

Summary Receipts Southwest Producers
 Amarillo and Corpus Christi

	<u>Tons Zinc Conct</u>
January	5,309
February	6,026
March	<u>6,023</u>
Total 1st Qtr.	17,358

COMMENTS ON SHIPPERS

Bagdad Copper Corp. Production for the first quarter - 6718 tons average grade about 27% Cu, 1.8 oz Ag. Mill feed, about 4,000 tons per day is coming from the bottom of the pit assaying 0.4% to 0.6% Cu. The fluo-solids electrolytic pilot plant, capacity 4 tons concentrate per day, is now operating and has produced a few copper sheets.

Banner Mining Co. Miser's Chest copper production has recently been covered by a new contract on current terms. During the first quarter El Paso received 1971 tons from the Lordsburg operation averaging about 27.8% Cu with .08 oz Au, 9 ozs Ag.

Pima District concentrate production for three months - 3623 tons of 25% Cu, 6.4 ozs. Ag. Daisy shaft oxide ore continues to move to Miami with the exception of 310 tons excess production received at El Paso in February assaying 4.8% Cu.

Coronado Copper and Zinc Co. First quarter copper production at Johnson camp -

	<u>Tons</u>	<u>Ag</u>	<u>Cu</u>	<u>Zn</u>
Conct.	1356	4.5	28.5	9.5
Crude-oxide	392	1.0	8.8	7.0

Beginning May 9th this production will go to Miami. Zinc output continues to move to Bartlesville.

Quentin Drunzer has moved back to the Stauber property near Pastura, New Mexico, and is screening the sandstone copper to produce profitable shipping ore. 554 tons shipped in March assay 3.35% Cu, 71% SiO2.

Eagle Picher Company's San Xavier Mine production for the first quarter of 1956:

	<u>Tons</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Lead Conct	866	35.0	55.0	6.0	9.2
Zinc "	1407	2.1	3.5	.38	57.0

Shannon Mining Company in March started shipping crude pyritic copper ore to El Paso -- 572 tons received in that month assay 6.85% Cu, .103 Au, 3.8 Ag, 21 SiO2, 29.3 Fe, 28 S. Previous production since Peru Mining Company took over the mine has been shipped to Miami.

Southwest Production
First Quarter 1956

4.

Shattuck Denn- Iron King production for the first quarter:

	<u>Tons</u>	<u>Au</u>	<u>Ag</u>	<u>Pb</u>	<u>Cu</u>	<u>Zn</u>
Zinc Conct	6225	.11	5.8	1.9	.30	50.0
Lead "	5552	.77	27.6	23.3	.95	9.6

Expansion program in the mine and mill has recently been completed, increased production starting in April with treatment of 850 to 900 tons daily.

Sunrise Mining Co. In the first three months of 1956 the Glove group shipped 1014 tons assaying 22% Pb with 3.2 oz Ag. Recent development work has opened up more ore and it is expected this mine may produce about one car per day for the next few months.

REED F. WELCH

cc: JMacKenzie CPPollock
 CNWaterman FVRichard
 RLJourdan WRLandwehr
 WGRouillard TAsnedden
 FJDowney KRichard