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James Doyle Sell Mining Collection

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TAB

1960 thru 1962

Form SL-1035

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File No.

Subject: R. F. WELCH FIELD TRIP REPORTS

1960 thru 1962

Mr. K.E.Richard-1

L P. E.

MR. JHC RKK-AP-SIB
READ AND RE
PREPARE
FILE

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

NOV 14 1962

JHC 11-6-62

October 31,1962

K. R.
NOV 14 1962

RKK 11-14-62

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

S. I. B.
NOV 14 1962

SOUTHWEST AND COLORADO PRODUCTION
RECEIPTS EL PASO,HAYDEN,AMARILLO-9 MONTHS

EL PASO PLANT

1.Summary Domestic & Foreign Receipts
(From 203 Report-Excluding Intraplant)

Lead Department	Tons Received-9 Months 1962		
	Domestic	Foreign	Total
January	11,668	1,462	13,130
February	12,427	11,518	23,945
March	15,308	5,093	20,401
April	15,820	403	16,223
May	15,386	18,863	34,249
June	13,714	5,852	19,566
July	11,798	1,755	13,553
August	12,722	1,112	13,834
September	11,601	19,522	31,123
Total 9 months	120,444	65,580	186,024
Copper Department			
January	21,503	475	21,978
February	23,653	387	24,040
March	21,677	887	22,564
April	24,171	848	25,019
May	29,293	778	30,071
June	22,405	650	23,055
July	26,061	323	26,384
August	27,890	757	28,647
September	17,345	1,028	18,373
Total 9 Months	213,998	6,133	220,131

2. Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	Total 9 Months		On Hand - Tons	
	Received	Smelted	1-1-62	10-1-62
Concentrates	111,438	95,865	12,696	26,138
Residue	65,131	61,865	1,283	6,148
Dust	8,241	7,903	558	737
Siliceous lead	1,306	1,432	77	2
Pyrite	-	-	826	826
Total 9 Months	186,116	167,065	15,440	33,851

Copper Department

	Total 9 Months Received	Total 9 Months Smelted	On Hand-Tons 1-1-62	On Hand-Tons 10-1-62
Concentrates	146,626	146,693	4,073	4,838
Residue	12,932	12,445	728	1,518
Scrap	972	1,285	121	133
Sulphides	-	1,649	3,525	1,778
Reverb Flux	674	733	72	5
Converter "	55,982	37,922	17,406	35,736
Total 9 Months	217,186	201,198	25,925	44,008

Siliceous Flux: Henry Clay Mines, Inc. (subsidiary of Werner Lake Nickel Mines) has taken over operation of the Henry Clay property at Lordsburg. Shipments will be resumed early in November in the name of Henry Clay Mines and from underground 85 Mine in the name of Brannan & Fuller. Current production will come from the South Atwood vein.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From 203 Report)

	Tons Received		Tons Received
January	31,140	July	29,241
February	27,028	August	31,442
March	31,683	September	26,891
April	30,324		
May	30,477	9 Months	264,233
June	26,007		
Total 1st Half	176,659		

Siliceous Flux: Little Hill Mines and Del Oro (McFarland & Hullinger) have been supplying Hayden with converter flux --22350 tons delivered in the first three quarters of 1962. Mammoth tailings are used for reverberatory flux - 21,240 tons trucked to the smelter January-September 1962.

2. Receipts & Stocks from 15-day reports
(Estimated Tonnages)

	Total 9 Mos. Received	Total 9 Mos. Smelted	On Hand - Tons 1-1-62	On Hand - Tons 10-1-62
Concentrates	213,273	213,045	2,143	3,305
Reverb Flux	21,885	22,416	10,752	10,274
Converter "	30,753	35,307	13,954	9,538
Total 9 months	265,911	270,768	26,849	23,117

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
(Southwest & Colorado)

	Tons Concentrates Received		Tons Concentrates Received
January	5,483	July	6,151
February	6,025	August	6,153
March	6,106	September	5,765
April	6,313		
May	5,983	Total 9 Months	53,662
June	5,683		
Total first half	35,593		

COMMENTS ON SHIPPERS

Bagdad Copper Corporation - Production for 9 months of 1962:

	Dry Tons	Approx. Assays Ag	Cu
Concentrates-Hayden Plant	34,590	1.6	24.8
Precipitates-El Paso Plant	2,277		70.1

Banner Mining Company - shipments for the first 9 months of 1962:

Mine	Dry Tons	Approx. Assays Au	Ag	Cu	Zn
Palo Verde	15,148	-	7.2	25.4	7.0
Bonney	6,184	.15	6.8	27.5	1.0

Recov: 40 lb cu per ton at 800 tpd.

Brannan & Fuller have given up the Henry Clay-Atwood lease and discontinued shipments to El Paso the end of August. Since taking the lease late in 1957 this operation has delivered the following tonnages of siliceous flux to El Paso.

Year	Dry Tons	Approx. Assay & Analysis Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
1957-58	18,663	.07	3.5	1.6	65	6.5	3.2	5.0
1959	19,444	.05	3.1	1.7	65	7.0	4.0	5.0
1960	17,811	.04	2.8	1.3	70	6.0	3.0	8.0
1961	39,975	.026	1.5	1.2	66	6.4	4.0	7.0
1962 (8 mos.)	18,853	.03	1.5	1.2	65	5.8	5.9	7.2
Total	114,746							

Beginning in 1959 Brannan & Fuller also shipped flux from the Phelps Dodge 85 Mine and dumps. Shipments from 85 Mine dumps have been discontinued.

85 Mine								
1959	6,395	.05	2.8	1.5	62	7.7	2.6	6.3
1960	34,530	.038	2.4	1.5	66	7.2	2.0	8.1
1961	8,537	.023	1.4	1.35	66	6.4	3.5	6.5
"Anita Dump	1,460	.02	1.2	1.3	60	8.0	4.5	8.0
1962-Nevada dump	23,742	.029	1.3	.98	65	6.5	6.0	7.2
Total	74,664							

Camp Bird Colorado production January through September 1962 -

	Dry Tons	Approximate Assays Au	Ag	Pb	Cu	Zn
Lead Conc	2,117	1.62	28.0	40.4	8.3	9.0
Zinc Conc	1,958	.08	5.0	2.0	1.7	54.1

Because of financial difficulties Camp Bird operation has been substantially curtailed with present work on upper levels where ore carries higher gold-silver. The mill is operating day shift only with estimated output for the rest of this year 65-130 tons lead concentrates and 140-180 tons zinc. Mill heads from upper levels are reported to assay:

Au	Ag	Pb	Cu	Zn
.32	4.2	1.25	.44	1.96

Recent conversation with the management indicates Camp Bird plans to reopen the old Virginius mine, treating this ore in the Camp Bird mill.

Cyprus Mines,Inc. Old Dick-Copper Queen production of copper concentrates for nine months 1962 - 12,523 tons averaging about 23% Cu, 1.65 oz Ag, 11.4% Zn. The Old Dick mill is handling about 300 tons per day, 30-40% of the mill feed coming from the Copper Queen mine.

Duval Sulphur & Potash - Esperanza pit production January-September 1962:

	Dry Tons	Ag	Cu
Concentrates to El Paso	41,042	2.6	28.7 ← Rec: 10 lbs cu/ton ore
Hayden	19,396	2.6	28.1
Precipitates to El Paso (3 months prod.)	345		73.1 at 12,000 tpd rate

The Duval precipitating plant is just getting started and should contribute more copper production in the next period.

Emperius Mining Co. - production for three quarters of 1962

Creede, Colo.

	Dry Tons	Approx. Assays Au	Ag	Pb	Cu	Zn
Lead Conc	3,622	.113	56.4	39.8	5.3	8.2
Zinc Conc	3,102	.02	6.4	1.6	.3	55.0

This operation is reported to have lost about $45,000 last year. The management is looking for a new mill man for metallurgical improvement.

Idarado Mining Co. - Production for 9 months of 1962:
Pandora, Colo.

	Dry Tons	Approximate Assays Au	Ag	Pb	Cu	Zn
El Paso Lead Conc	8,494	.90	37.0	72.5	2.2	2.5
Copper " "	6,268	.76	21.8	3.0	27.7	5.0
Tacoma " "	1,018	.85	21.8	3.0	27.3	6.2
Amarillo Zinc "	17,524	.055	3.2	0.5	.9	56.3

During the summer and fall season Idarado has been shipping zinc concentrates to Amarillo in open solid-bottom gondolas in an attempt to reduce dry weight loss in transit.

Little Hill Mines-Del Oro: Converter flux deliveries to Hayden for nine months of 1962 -

	Dry Tons	Approx. Assay & Analysis Cu	SiO2	Fe	CaO	Al2O3
Little Hill-Underground	10,143	1.81	75	2.0	.7	9.6
Del Oro - Surface	12,213	.50	83	1.9	.3	5.8

The underground ore of Little Hill Mines is fast being depleted. In about two to four months McGee will sink the shaft another 50 feet, which could develop 6000 to 8000 tons of above grade. There is a large tonnage of Del Oro flux available to open cut mining methods.

McFarland & Hullinger - Coronado Mine, Dragoon. Since early in July copper concentrates from Johnson Camp have been moving to El Paso -- 917 tons received averaging about 28% Cu, 4.4 oz Ag, 11.8% Zn. This operation will be concluded before the end of the year.

Nash-McFarland - Trench mill production for 9 months 1962:

	Dry Tons	Approx. Assays Au	Ag	Pb	Cu	Zn
Lead Conc	887	.021	33.9	72.4	0.3	4.5
Zinc Conc	1,611	. -	2.7	2.5	1.2	55.3

This producer has not been able to qualify for Small Mine Subsidy because of over-quota production in one 12-month (non-calendar) period and is considering shutting down the operation and disposing of the mill. Recent advice indicates the operation will continue for another trial period mining the higher grade ore available. Mr. Nash advises he has lost $40,000 this year at this property.

New Jersey Zinc Co. - Lead-copper production for 9 months of 1962:

Belden, Colo.	Dry Tons	Approximate Assays Au	Ag	Pb	Cu	Zn	
El Paso Pb Conc	5,616	.093	35.1	49.5	3.3	8.4	
Tacoma Cu Ore	18,230	.13	22.5		3.3		(Receipts through Sept.18,1962)
Hanover, N.M.							
Pb Conc	556	.01	62.4	52.8	.6	11.7	

Pima Mining Co. production for 9 months 1962 -

	Dry Tons	Approx. Assays Ag	Cu	Zn
El Paso delivery	53,101	4.1	25.9	5.7
Hayden "	1,955	4.7	26.7	7.1

— 28 lb per ton @ 3500 tpd

Rico Argentine Mining Co. production for first three quarters 1962 -

	Dry Tons	Approx. Assays Au	Ag	Pb	Cu	Zn
Zinc Conc.	1,123	.015	3.1	3.4	.3	54.7
Lead Conc	959	.02	26.6	71.0	-	4.9

This producer is trying to qualify the the Small Mines Subsidy payment.

Shattuck Denn Mining Corp-Iron King - Production for 9 months 1962

		Dry Tons	Approximate Assays Au	Ag	Pb	Cu	Zn
El Paso	Lead Conc	13,806	.857	37.0	32.0	1.8	10.1
	Jig Conc	20	10.05	12.2	7.4	.2	9.6
	Copper Conc	198	.44	8.7	3.0	23.1	10.8
Amarillo	Zinc Conc	26,230	.09	2.6	1.4	.3	55.0
Selby	Au-Ag Precip.	1	65-70	579	1.0	4.0	30.

The copper circuit and gold precipitate section of the Iron King mill were shut down early in the year.

United States Smelting Co at Hanover - Copper production from the Continental Mine for 9 months 1962 - 5,447 tons averaging about:

Au	Ag	Cu	Zn
.109	1.8	27.8	4.6

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
EEGroff
CPPollock
TASnedden
KERichard-2

L.P.E.
OCT 16 1962

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

October 15,1962

J.H.C.
OCT 16 1962

K.R.
OCT 16 1962

R.K.K.
10/22/62

S.I.B.
OCT 16 1962

MR. ~~J.H.C.~~ ~~L.P.E.~~ RKK ~~S.I.B.~~
READ AND RETURN
PREPARE AN HANDLE

Mr. B. D. Roberts, Manager

EL PASO PLANT

COLORADO TRIP-OCTOBER 1962

1. Camp Bird Colorado. On Tuesday, October 9th, I made a trip to Denver and spent most of Tuesday afternoon with Mr. Tremlett of Camp Bird Colorado, who advised me he obtained considerable relaxation during recent negotiations for renewal of labor contract. Because of poor preparation of the mine for production Tremlett laid off the entire crew. To resume operation on a curtailed basis he eliminated some objectionable seniority clauses in the labor contract with the right to move men around as he sees fit. Mr. Tremlett has rehired 50 men, as many as he expects to use at the present time. These men are engaged in mining from upper levels of the mine where gold-silver values predominate over lead-zinc. Because of the location of this ore the broken material must be handled several times and dropped through ore passes to the mill adit level. The main ore pass has been causing trouble by caving and it becomes necessary to go up under the cave and blast the obstruction loose which is a very dangerous operation.

The mill is operating on day shift only with two men. For the next several months Mr. Tremlett estimates he will ship from 65 to 130 tons of lead concentrates and 140 to 180 tons of zinc per month. In spite of cramped financial situation, Camp Bird,Ltd. is not advancing any more money and the success of the operation seems to rest on Mr. Tremlett's shoulders.

Mr. R.M. Wigglesworth of Silverton, who was attempting last June to operate the Pride mill on a custom basis, has been hired by Camp Bird as assayer.

2. Consolidated Parnett Corporation is still attempting to put the Wellington Mine at Breckenridge in operation. During the past summer Consolidated Parnett suffered a fire which burned the compressor and surface equipment and shut down the operation. Although the equipment was fully covered by insurance, there have been no replacements as yet to start up underground mining and attention has been directed to adjusting the fire loss and obtaining a mill to be placed on the Wellington property. Milling equipment was purchased from Standard Metals mill at Crested Butte and Mr. Harper advises this has been moved to Breckenridge and foundation is being poured with expectation that the mill building will be completed by early November. Optimistically, Harper thinks he will be producing concentrates by December but with winter conditions about to set in it seems improbable they can erect a 150-ton per day mill in such limited time. Mr. Harper expects to sell his concentrates to us, trucking to the rail siding at Salida. I will keep in touch with him during the winter months with reference to outlet for the concentrates.

3. Golden Cycle Corporation. While in Denver I called Max Bowen of Golden Cycle in Colorado Springs. He reports the mill cleanup delivered to El Paso in July is all the material he expects to ship at the present time. This tonnage--approximately 220 dry tons--assays 44.17 ozs Au per ton, 2.8 ozs Ag, .43% Pb, .18% Cu.

Because of high tax valuation on the Carlton Mill at Cripple Creek Mr. Bowen advises the corporation may be forced to abandon the property. For the time being they are holding the mill hoping for a change in price of gold. Bowen is not optimistic, however, for price increase and if Golden Cycle sells the property there will be additional cleanup for El Paso delivery.

4. Humphreys Engineering Co., Cascade Mine. On Wednesday, October 10th, Mr. R.M. Allender of Humphreys Engineering drove me to the Cascade mine located about 2 miles up Ute creek from Highway 6 and several miles southeast of Idaho Springs. Mr.Frank McKinley, heading the mining interests of Humphreys Engineering, was out of town at the time of my visit.

This firm has accumulated 20-25 tons of silver concentrates they want to dispose of. Because the mill is not adequately protected for winter usage and does not have a filter, this phase of the operation has been stopped for the season. The accumulated concentrate tonnage is insufficient for minimum carload shipment to El Paso. I authorized Mr. McKinley to deliver the concentrates to the Globe Plant where the product will be sampled and trans-shipped with other material to El Paso.

In 1961 some tonnage was shipped to El Paso from this mine in the name of Cascade Mining Company, Al Peek operating on a split check basis with three lessees. Humphreys Engineering has taken over where Peek and lessees left off, continuing to drift on the vein about 2,000 feet from the portal of the adit. Work done by Humphreys Engineering has been through drifting southwest about 285 feet and running three raises from 100 to 130 feet on the vein. The tunnel portal is at an elevation of approximately 10,200 feet. The property is equipped for electricity with compressor and ventilating fans.

The vein, reported to be approximately 800 feet below the surface projected outcrop, is a rather weak structure containing high grade sulphide minerals from 3 inches to 4 feet in width, averaging about 12 inches. The minerals are lead, silver and zinc with silver value predominating.

In June El Paso received several cars of crude ore from this operation assaying 54.7 ozs Ag per ton. Of four carloads of crude recently shipped one lot assays 55.9 ozs Ag. I understand handling costs require a minimum of 50 ounces to justify shipping direct to the smelter. Although the mine is located where considerable snow accumulates the management believes the property can be kept open and crude ore may be shipped through the winter. Exploration of the vein to the southwest will continue with raising on the vein.

5. Mackey Mines. In the same canyon less than 2,000 feet from the Hall tunnel of Cascade Mine, R. E. Mackey is operating the Humboldt Mine, reported to produce free gold ore which is milled, with gold delivered to the Mint. Mackey formerly worked for us at Kokomo. H.J. Behrbaum is associated with him operating in the name Mackey Mines.

Mackey reports gold values .75 to .80 oz per ton in a vein 6 inches to 3 feet wide, intercepted at 750 feet in the adit, striking northeast-southwest and paralleling the Cascade vein. If it is similar in structure to the Cascade Mine the vein would be narrow. At this time Mackey is installing ventilation tubing to give better air at the stoping faces.

Mackey also operates the Crazy Girl mine and mill over the ridge from the Humboldt property.

6. Dixie Mine. Below the Humboldt Mine in the same canyon, reported to be the same structure, the Dixie Mine is being reactivated by Alva Garrett, P.O.Box 667, Idaho Springs. Lee Downey of Carlsbad, New Mexico, is associated in financing this venture. L.L. Beeson, a mechanic, is associated in the operation.

The Dixie Mine adit is 1050 feet from a shaft where it is reported workings have been mined 240 feet below adit level. Garrett and Downey are unwatering the shaft and carrying on exploration. At the time of my visit it was apparent the property had just recently been reopened and some cleanup work is necessary before they can start pumping water.

7. Superior Acceptance Corp., 5365 West 3rd Place, Denver 26. At Dumont, immediately west of Idaho Springs, Walt Plankington and associates, dba Superior Acceptance Corp., are producing concentrates at the Eagle mill. The ore treated comes from the Johnny Bull Mine located about one mile above Silver Plume on Highway 6. It is apparent from examining the small pile of ore at the crusher, without visiting the mine, that the vein is very narrow.

Plankington has installed an impact mill from which the ground material goes to two tables for concentrating. He expressed great confidence in the success of the operation. However, the mill is anything but a conventional layout and as such metallurgical control is lacking.

A small quantity of concentrates has been accumulated--1500 to 2,000 pounds--which Plankington reports will assay 1,000 ozs Ag per ton but I doubt if sampling will verify this metal value. I authorized delivery of this product to the Globe Plant in small quantities for trans-shipment to El Paso. Plankington understands that small lots will require additional sampling charges which will be assessed by the Globe Plant in purchasing this product.

8. Glory Hole, Inc. At Chain o' Mines in Central City Mr. Robert Coulter is overseeing construction of a crushing plant. Doctor Muchow had recently been at the property but returned to Detroit prior to my visit. During the summer Chain o' Mines mill accumulated 8-10 tons of bulk concentrates stored in oil drums but no request was made for disposal of this product. The ore body surrounding the glory hole contains considerable zinc and I obtained a sample of the concentrates for assaying at Globe Plant.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
WLMiles Jr.
DJPope
CPPollock
TASnedden
KERichard

Mr. K.E. Richard -1

J. H. C.

AUG 7 1962

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 27, 1962

AUG 14 1962 K. R.

AUG 6 - 1962 W.E.S.

AUG 10 1962

S. I. B.

AUG 14 1962

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

SOUTHWEST AND COLORADO PRODUCTION
RECEIPTS EL PASO-HAYDEN-AMARILLO--FIRST HALF 1962

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From 203 Report-Excluding Intraplant)

	Tons Received-First Half 1962		
Lead Department	Domestic	Foreign	Total
January	11,668	1,462	13,130
February	12,427	11,518	23,945
March	15,308	5,093	20,401
April	15,820	403	16,223
May	15,386	18,863	34,249
June	13,714	5,852	19,566
Total first half	84,323	43,191	127,514
Copper Department			
January	21,503	475	21,978
February	23,653	387	24,040
March	21,677	887	22,564
April	24,171	848	25,019
May	29,293	778	30,071
June	22,405	650	23,055
Total first half	142,702	4,025	146,727

2. Receipts & Stocks from 15-day Reports
Estimated Tonnage-Excluding Intraplant

Lead Department	First Half		On Hand - Tons	
	Received	Smelted	1-1-62	7-1-62
Concentrates	75,075	68,712	12,696	17,405
Residue	46,137	41,148	1,283	7,269
Dust	5,968	5,676	558	1,035
Siliceous lead	1,007	954	77	152
Pyrite	-	-	826	826
Total	128,187	116,490	15,440	26,687
Copper Department				
Concentrates	95,609	93,950	4,073	6,715
Residue	10,609	7,473	728	4,205
Scrap	663	872	121	36
Sulphide	-	1,154	3,525	2,293
Reverb Flux	499	557	72	-
Converter "	37,495	26,549	17,406	28,260
Total	144,875	130,555	25,925	41,509

El Paso Plant, Con't.

Siliceous Flux: Brannan & Fuller at Lordsburg supplied approximately 25,700 tons of flux during the first half year but this operation will probably cease in the near future. This tonnage could be replaced by flux from Johnson Camp. About 3580 tons of siliceous ore were delivered during this period from Chihuahua.

HAYDEN PLANT

1. Summary of Monthly Receipts (From Metal Purchase Reports)

	Tons Received		Tons Received
January	31,140	April	30,324
February	27,028	May	30,477
March	31,683	June	26,007
Total 1st Qtr.	89,851	Total Half	176,659

2. Receipts & Stocks from 15-day Reports (Estimated Tonnages)

	Received	Smelted	On Hand - Tons 1-1-62	On Hand - Tons 7-1-62
Concentrates	143,736	142,128	2,143	3,751
Reverb Flux	13,939	15,437	10,752	9,254
Converter "	21,085	23,450	13,954	11,589
Total	178,760	181,015	26,849	24,594

Siliceous Flux is hauled to Hayden from Little Hill property--12,710 tons received in the first half. These two operations at present are meeting converter flux requirements. Mammoth tailings are used for reverberatory flux--13,455 tons trucked to the plant in the past six months.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi

	Tons Conc. Rec'd		Tons Conc. Rec'd
January	5,483	April	6,313
February	6,025	May	5,983
March	6,106	June	5,683
Total 1st Qtr.	17,614	Total Half	35,593

COMMENTS ON SHIPPERS

Bagdad Copper Corporation production for 6 months of 1962:

		Dry Tons	Ag-oz	Cu-%
Hayden	Conc	22,862	1.6	23.7
El Paso	Precip	1,499	-	59 - 73

Banner Mining Company shipments for the first half 1962 -

Mine	Dry Tons	Au-oz	Ag-oz	Cu-%	Zn-%
Palo Verde	10,170	-	7.4	25.5	6.8
Bonney	4,003	.16	6.6	27.3	-

Brannan & Fuller: Fluxing ore shipments during the first half 1962 -

Mine	Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Henry Clay	15,517	.032	1.2	1.02	63.5	6.1	7.0	7.2
85 Mine	10,197	.032	1.3	1.00	63.5	6.1	6.9	7.3

It is not expected this operation will continue beyond the present lease on the Henry Clay Mine with Werner Lake Nickel Mines, which expires at the end of July. Ore reserves above the 800 foot level are exhausted. Werner Lake contemplates drilling below the 800 level in the hope of developing additional ore. El Paso must now seek a source of fluxing ore elsewhere.

Camp Bird Colorado production for first half 1962:

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conct	1,293	1.68	25.5	39.4	8.9	8.7
Zinc Conct	1,237	.09	5.3	2.5	1.5	54.2

The Camp Bird mill was shut down for about two months of this period. The operation has not developed adequate ore reserves and is in serious difficulties.

Cyprus Mines Corporation, Old Dick-Copper Queen Mines, Bagdad: First half 1962 copper production delivered to Hayden Plant - 7761 dry tons averaging about 1.6 oz Ag, 23% Cu, 10% Zn. Ore is being pulled from the 950 level of the Old Dick Mine. A high percentage of mill ore is now coming from the Copper Queen property.

Duval Sulphur & Potash Co. - Shipments for first half 1962:

	Dry Tons	Ag	Cu
Hayden Plant	13,531	2.5 oz	27.25%
El Paso Plant	27,805	2.5 "	28.25%

} .54 recov.

Precipitates from Esperanza property started moving to El Paso the latter part of June. The concentrate terms have been extended to apply on precipitates with the provision that this product shall be for El Paso delivery with freight to El Paso for shipper's account. This production will amount to about 200 tons monthly 75-80% Cu.

Emperius Mining Co., Creede, Colorado - 1962 first half production:

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conct	2,573	.12	55.9	40.0	5.9	8.2
Zinc conct	2,006	.02	6.6	1.5	.3	54.5

Idarado Mining Co., Pandora, Colo. - Production January-June 1962:

	Dry Tons	Au	Ag	Pb	Cu	Zn
El Paso Lead Conct	5,627	.96	38.5	72.2	2.4	2.5
Copper "	3,955	.75	21.5	2.8	27.8	5.4
Tacoma " "	1,018	.85	21.8	3.0	27.3	6.2
Amarillo Zinc Conct	11,441	.06	3.3	.8	.9	56.0

Walter Jacobson has been shipping cleanup from the Leadville Plant to El Paso with some tonnage going to Tooele. Receipts at El Paso October 1961 through June 1962 -

Dry Tons	Au	Ag	Pb	Cu
1,618	.11 - 1.04	11 - 29	7.5 - 27	.2 - 6.4

The Tooele smelter received about 750 tons with approximately the same assays.

Little Hill Mines--Del Oro: Converter flux trucked to Hayden during the first half 1962:

	Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
Underground operation	5,759	1.95	74	1.9	0.7	10
Surface - Del Oro	6,951	.54	82	1.9	.3	6.3

Both these producers, Little Hill Mines and McFarland & Hullinger-Del Oro, have been encouraged to continue shipments.

Nash-McFarland, Trench Mill: Concentrates delivered January-June 1962 -

	Dry Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct	1,073	-	2.5	2.2	1.3	55.5
Lead Conct	585	.02	31.6	70.6	.3	5.1

New Jersey Zinc Co., Belden, Colorado - Lead-Copper production for the first half 1962:

		Dry Tons	Au	Ag	Pb	Cu	Zn
El Paso	Lead Conct	3,951	.095	37.2	49.7	3.2	8.4
Tacoma	Copper Ore	13,869	.145	24.4	.5	3.5	

At the Belden property New Jersey Zinc is mining ore in sight with very limited development work being carried on. The silver-copper ore shipped to Tacoma Plant is rapidly being depleted.

At the Hanover Mill lead production for the past six months totals 279 tons averaging approximately 53% Pb with 65 ozs Ag.

Pima Mining Company shipments to El Paso January-June 1962 -

Dry Tons	Ag	Cu	Zn
33,770	4.1	25.7	2.8 - 8.3

} 1,24 recov

Pima Mine production this year is expected to approach 40 million pounds of copper resulting from milling higher grade ore. Concentrate tonnage for the last half year will be about the same as r reported above. Mill expansion will not be completed until the fourth quarter of 1963.

Rico Argentine Mining Co., Rico, Colorado - Production 6 months 1962:

	Dry Tons	Au	Ag	Pb	Zn
Lead Conct	614	.02	27.5	71.3	5.0
Zinc Conct	792	.01	3.0	3.2	55.1

Shattuck Denn-Iron King Mine - Production for the first 6 months 1962:

	Dry Tons	Au	Ag	Pb	Cu	Zn
El Paso Lead Conc	9,592	.81	35.0	31	1.7	10.5
Jig conc	20	10.05	12.2	7.4	-	9.6
Copper conc	198	.44	8.7	3.0	23.1	10.7
Amarillo Zinc conc	17,947	.08	2.5	1.2	.3	55.3
Selby Au-Ag Precip	1	67.8	579.	1.2	3.9	30.

At present the gold precipitate section of the mill is shut down. There will not be any copper concentrates produced in the future as was once contemplated. Preparations are being planned for higher mining efficiency and employment has been reduced by 40 men. With the drop in lead and zinc prices this operation has been losing money and to overcome this situation a new purchase contract has been offered effective July 1st with credits for zinc under 13.5¢ and lead under 11.5¢ per pound.

United States Smelting Co.-Hanover Mill. Copper production from the Continental Mine for the first half 1962 - 3,954 tons assaying about 28% Cu with .11 oz Au, 2 ozs Ag.

Sonora Shipments - First Half 1962

Lead Department	Dry Tons	
J.M.Borevitz - Conc. Nacozari	330	
M.A. Castillo, Esqueda	51	
Raul F. Lemas, Hermosillo	275	
Minas de Guatamo - Conc., Hermosillo	532	
Minerales, S.A., Santa Ana	164	
Minerales de Hermosillo, Hermosillo	105	
Juan Robinson	160	
Total Lead Ore & Conc.		1,617
Copper Department		
Jimmie Meeden - Conc. Baja Calif.	48	
Raul Ochoa C., Nacozari	230	
Total Copper Ore & Conc.		278
First Half Receipts from Sonora -El Paso		1,895
Zinc Concentrates-Minas de Guatamo,Hermosillo		1,097
Total		2,982

REED F. WELCH

cc:EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
EEGroff
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard-1

J. H. C.

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K. R.

JUL 2 1962

JUN 29 1962

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

S. I. B.

JUN 29 1962

June 27, 1962
L. P. E.

MR. ~~RKK-JHC-LPE~~
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS

Mr. B. D. Roberts
Manager
EL PASO PLANT

JUN 29 1962

R.K.K
6/29/62

COLORADO TRIP JUNE 1962

Dear Sir:

On June 18th I met Jim Buck in Denver for a previously arranged trip through Colorado mining districts. While in Denver we had an opportunity to visit with Mr. Miles of the Globe Plant. He has been receiving numerous inquiries from small shippers in the Front Range District pertaining to purchase of small lots of concentrates at Globe for trans-shipment to El Paso. Because the Globe plant is the only operating entity in Colorado it is important that we maintain contact with these interests through that office. Although the tonnage of concentrates purchased may be inconsequential, the mining industry must be served with the Globe plant contact. I have provided Mr. Miles with schedules for purchase of ores and concentrates, including zinc concentrates, and I believe the Globe plant should be authorized to act on the smelters' behalf as required.

My field report is attached with comments on properties and shippers contacted. In spite of shutdown of the Leadville plant, shippers are satisfied with our services and with delivery to El Paso. Some inexperienced operators are enthusiastic, even contemplating mill construction. However, experienced producers express a very realistic point of view toward the future of mining in Colorado, which is similar to that in other western states.

New Jersey Zinc Company is not doing any exploration work and is maintaining minimum development. Idarado Mining Company management sees very little reason to expect higher metal prices and under the circumstances is doing its best to keep costs in line with returns. The drop in metal prices forecasts an end to this operation because under present circumstances exploration below the Telluride mill level is not contemplated. The Camp Bird milling operation was started before the mine was ready for production. Insufficient financing provided for this undertaking and inadequate experience in mine and mill personnel result in failure to balance mill production with smelter returns. Rico Argentine Mining Company apparently is in a precarious position and management is awaiting decision to qualify for the small mines subsidy. I understand Rico will lose its outlet for acid inasmuch as Vanadium Corporation is building a sulphur-burning acid plant at Naturita.

Mr. McCormick of Standard Metals was en route to New York City at the time of our visit. However, Bob Hurst was at Silverton and we talked with him and Dave Hutchinson. They both spoke as if they intended to ship concentrates to our plants and it seems procrastination is the responsibility of their representative Mr. Gloyd Wiles.

In general I was very disappointed in the potential from Colorado.

Yours very truly,

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
JCBuck
KHSchultz
RMMcGeorge
WLMiles, Jr.
DJPope
CPPollock
TASnedden
KERichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 27, 1962

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

COLORADO FIELD TRIP-JUNE 1962

Denver, Colorado

On June 18th I met Mr. Buck in Denver and we called on the following shippers.

1. Camp Bird Colorado: Mr. Tremlett has been very much concerned over the operation at Camp Bird. For some months he has been unable to obtain satisfactory samples for proper metallurgical balancing. Various methods of sampling have been tried but without exception the smelter reports more metal paid for than can be accounted for in the mill. In spite of modifications in sampling and assaying procedure Mr. Tremlett cannot overcome the imbalance and the London office is somewhat disturbed about this situation.

Camp Bird has not had sufficient time and operating capital to get the mine into production. Much of the tonnage milled has come from a pillar originally estimated to contain about 2,000 tons. This pillar has already produced 4,000 tons. If the mine finds it necessary to resort to pulling pillars without developing ore reserves the prospect for this operation is not good. Apparently the London office is leaving Mr. Tremlett to struggle along with a minimum of financing, not even allowing him operating funds, and the smelters have been advancing payments before final liquidation on Camp Bird shipments.

Mr. Tremlett's experience in the past has been as a geologist working in various parts of Africa and Canada. As a result of inexperienced personnel, restrictions of financing, and depressed metal prices this operation is in a precarious position. Mr. Tremlett has been in touch with General Services Administration with reference to the small mine subsidy plan and he feels the Camp Bird property will qualify for government assistance.

2. Emperius Mining Company. Mr. B.T. Poxson met with Messrs. Buck, Miles and me in the Denver office, at which time he acquainted us with his plans for operation at Creede and because of this conference it was not necessary to make the time-consuming trip to the mine.

The initial shipments to El Paso were imbalanced because of moisture content. However, Mr. Poxson now feels that El Paso delivery is satisfactory and on a comparable basis with returns at Leadville, although it is necessary to adjust dry weights at the mill by 1.5% to 1.75% to balance dry smelter weights. The Emperius operation includes properties of various ownership and it is necessary to keep close control of weights and moistures of products from the various mines.

Emperius Mining Co., Con't.

The loading station at Creede is at the end of one of the Denver and Rio Grande's spur lines. During winter months train service to this station is once a month or at most twice a month.

The long haulage tunnel level in the Emperius Mine creates a ventilation problem and it is necessary to have ventilation doors and operate fans and at the same time maintain 2-3 oz atmospheric pressure to keep down rock-gas pollution. Outside compressors deliver air through two 4-inch lines a distance of about 3 miles. Because of loss of air pressure in the airlines Poxson is considering installation of compressors underground. I attempted to advise him of the hazards he may experience by placing the compressors underground and suggested that he contact a compressor engineer for further advice.

The Emperius mine is operating with contract labor and according to Mr. Poxson miners receive from $600 to $2000 per month. This arrangement makes it impossible for organized labor to move into the camp and Poxson feels the higher paid employees produce sufficient tonnage to justify the high wage.

3. Humphreys Engineering Co., 910 American National Bank Bldg., Denver, is operating the Cascade Mine at Idaho Springs. The miner in charge at the property is Gene Wimer, formerly in the Coeur d'Alene, Idaho, area. Merrill Welker, with Humphreys fabricating plant at 2214 Market Street, is temporarily in charge of the mining operation. While we were in Denver Mr. Welker was engaged in loading out two cars of crude silver ore for El Paso. We made a special trip to Golden where the cars were being loaded to observe the ore. It did not appear to be very high grade even though Mr. Welker thought it might assay 50-60 ozs Ag per ton. Humphreys Engineering prepaid freight on these two cars and is anxiously awaiting results from the smelter.

Operation at the Cascade Mine is through crosscut adit to the vein which is 3-8 inches wide. In new work Humphreys Engineering has drifted 280 feet west along the vein where they have approximately 800 feet of backs.

At Creede Humphreys Engineering has been doing some exploration work on the Bullfrog claims located on the westward extension and south of the Emperius Mine. I understand some of the property under lease to Humphreys Engineering is owned by Ben Poxson. Phil Shenon of Salt Lake City reported on this property for Humphreys Engineering and Bill Cox of San Francisco has been observing surface excavation and drilling work. At the present time there is little to be learned on the outcome of this exploration but it is rumored that some ore intercept has been made through core drilling.

4. Consolidated Parnett Corp. is a partnership consisting of Charles O. Parker, Jr., and Jack Harper, both inexperienced engineers, operating the old Wellington Mine located two miles east of Breckenridge. I understand present work is 250 feet below the tunnel level It is reported this mine was worked from surface down to the tunnel level.

Cons. Parnett Corp., Con't.

At the time Mr. Buck and I visited these gentlemen they were arranging for purchase of a 150-ton mill to be placed at the Wellington property. Seven men are working at the mine under supervision of Charles W. Hoffman, Superintendent. Consolidated Parnett expects to produce lead and zinc concentrates, hauling to Golden if shipped to our plants, or to Minturn for delivery to Utah smelter. Cost of trucking to Minturn is $2.75 per ton and to Golden about $4.50 per ton.

Consolidated Parnett has produced approximately 800 tons of crude ore assaying: Au .12, Ag 6.0, Pb 14, Zn 17. This product was shipped to Tooele because of the zinc content, inasmuch as that plant pays a nominal amount for zinc. Parker and Harper expect their mill heads will assay: Au .045, Ag 4.5, Pb 9, Zn 12.5. The difference between the grade shipped to Tooele and that anticipated for milling indicates the necessity for sorting for direct shipment and calculation for dilution in mining for the milling operation. I understand the vein width in the Wellington Mine is 8-12 in., sometimes swelling to 30 inches. In general it is a very narrow structure.

5. Small Lot Purchases at Globe Plant: Small lots purchased at Globe Plant for trans-shipment to El Paso during 1961-62 came from various small mines (Blue Bird, Caledonia, Golden Age, Glory Hole, Evening Star, Fairmount, Fannie, Forest Queen, Franklin, Ruby Trust and Washington). The aggregate is about 82 tons, the Franklin Silver Age Mining Co. being the largest producer and some operations delivering less than 100 pounds.

Golden, Colorado

6. Colorado School of Mines. At Golden I called Mr. E. H. Crabtree, Director of the Research Foundation, who advised me he has received no recent requests for test work on lead-zinc ores originating in Colorado. He reports lack of interest in base metal mining.

Leadville, Colorado

7. Leadville Plant. The Arkansas Valley plant at Leadville is gradually being dismantled. Workmen are engaged in tearing up tracks and dismantling buildings. Plant cleanup shipments to El Paso from within the smelter by W.W. Jacobson for the period October 1961 through April 1962 total approximately 1256 tons. About 12 cars too low in metal content to move to El Paso have been disposed of in Utah. Mr. Jacobson reports there will be about 40 more railroad cars of cleanup for shipment from Leadville.

Grand Junction

8. New Jersey Zinc Co., 1129 Colorado Avenue, Grand Junction. Mr. Hayes advises that New Jersey Zinc is not doing any exploration work at the Gilman property. Very limited amount of development work consists of drifting along the strike of beds and some diamond drilling. Otherwise New Jersey Zinc is mining the ore in sight and the forecast for future potential of this area is discouraging.

New Jersey Zinc Co.,Con't.

The silver-copper ore shipped to Tacoma is cleanup mined in conjunction with the zinc ore for the mill. Without stating a definite termination date, Mr. Hayes emphasized that the direct smelting ore is rapidly being depleted.

9. Texas Zinc Minerals Corp. has an office in the same building as New Jersey Zinc. All personnel were out at the time of our visit. Mr. Frank Maloit, in charge of the uranium operation at Mexican Hat, was not available. I understand the engineering force of Texas Zinc Minerals is in Alaska evaluating a property that has been shipping 1% U_3O_8 ore to the Mexican Hat mill. This ore comes down the west coast to Seattle by barge, then freighted to Thompson, Utah, where it is loaded in trucks for delivery to the mill.

Ouray, Colorado

10. Idarado Mining Company. For the past two weeks Mr. Wise has been carrying on negotiations for a new labor contract. The mine management is determined not to yield to wage increase through union demands and has offered the negotiating committee the right to work with no labor escalation. With the bind on the profit side during low metal prices, Wise is of the opinion he has nothing to lose if labor choses to take a different stand. Apparently the mine is ready for a shutdown if labor demands call for a strike. Decision will not be available until the end of July and in the event of an ensuing strike I will keep in touch with Mr. Wise for advance notice to the smelters.

In spite of low metal prices Idarado management has done an excellent job in maintaining operation of the mine. The mill at Telluride has improved the metallurgy and shipped higher grade concentrates in the first quarter of this year compared with last year's production. Further metallurgical improvement is being considered and some changes in the mill may result.

Low metal prices have reduced ore reserves of the Idarado Mine considerably and under present conditions exploration in depth below the Telluride mill adit level is not justified. We were advised that work below this level must be prepared to handle 10,000 gpm water flow which would make any ore encountered unprofitable on present prices. Mr. Wise is very pessimistic about the future of base metal mining and has made his mine evaluation on the basis of present market.

Copper concentrate diversion to Tacoma plant was unsatisfactory for Idarado Mining Company. Shipments arrived at that plant with high moisture and suffered loss of dry weight, not experienced with El Paso delivery. Mr. Wise is hopeful that rerouting of copper concentrates to Tacoma will not again be necessary. Tonnages of lead and copper concentrates delivered to El Paso check closely with dry weights at the Telluride mill. The zinc product, however, shipped in boxcars suffers about 1.5% loss in dry weight. In spite of vigilance of mine management in checking condition of rail equipment supplied for loading, the Motorway is not very alert in rejecting unsatisfactory cars (Motorways is part of the Rio Grande railway).

Idarado Mining Co., Con't.

To keep boxcars in condition the railroad employs a carpenter who patches obvious holes but the work is done without supervision. Practically all the boxcar equipment is foreign to the Rio Grande Railway and inasmuch as very few if any cars are returned to Montrose for reloading the mine management does not have an opportunity to evaluate cars for reuse.

It is possible the boxcar situation is to blame for the loss of zinc concentrates and as a result of our discussion on rail equipment we asked Mr. Wise to instruct Idarado representative at Amarillo to observe and report on the condition of each car arriving at the plant and how well it is cleaned while unloading for determination of tare weight. Because of the loss in zinc product the Amarillo Plant is being requested to pay special attention to Idarado shipments and to give this office the same information on condition of cars that the representative will report to the shipper. Inasmuch as weights of lead and copper products shipped in solid-bottom open gondolas balance out satisfactorily, it is quite likely that the rail equipment is responsible for the zinc loss at Amarillo.

The Idarado Mine is producing 1650 wet tons ore per day. The mill is partially automated, using minimum number of employees. Increasing of storage bin capacity is now under way at the mill and preliminary evaluation of a regrind circuit is being considered.

Silverton

11. Standard Metals Corporation. At the Standard Metals office we met Bob Hurst, General Superintendent, and Dave Hutchinson, Mine Superintendent. Mr. Hurst is very positive about putting the mine into operation this coming month and expects to be producing concentrates in July ready for shipment by August. Both Hurst and Hutchinson discussed disposing of the concentrates as if the decision had already been made to ship to Asarco. It was admitted, however, that International Smelting Company had asked for specifications of the products, but that no other company has offered terms.

The vein in the American tunnel of the Sunnyside Mine is about 25 feet wide and one place approximately 60 feet. Much of the gangue is quartz, rhodonite and rhodochrosite. The ore is reported to assay about twice the metal content as the Silver Lake product. Because of the width of the Sunnyside vein and continuity in strike, Hutchinson is optimistic about mining the ore cheaply by long hole method working from raises. He is using a raise climber which has proved to be a successful investment and does the work cheaply.

Standard Metals expects to produce about 600 tons of lead and 1,000 tons of zinc concentrates per month, treating 600 tons of crude ore per day on 20-day monthly working period. The mill is nearly ready for operation but the management is still looking for a mill superintendent.

Rico Argentine has been successful in trucking concentrates to the railroad at Gallup, New Mexico, and Standard Metals considered this routing. However, with railroad sidings now available at Ridgway and Montrose it appears that trucking to these stations will be more economical.

12. Rico Argentine Mining Co. In talking by telephone with the office manager at Rico I learned that Sherman Hinckley was not in the district; therefore a trip to Rico was postponed. The office manager advised the only problem arising from shipment via Gallup has been shortage of rail equipment and apparently this has now been overcome. The mine is operating on two shifts per day, the mill on three shifts. The mine management has not yet been advised regarding the possibility of qualifying for the proposed small mine subsidy.

For a number of years Rico Argentine has been making sulphuric acid from the pyrite roasting plant. Apparently this operation will soon go out of business inasmuch as Vanadium Corporation is building a sulphur-burning plant for generating acid at Naturita.

13. G.W. C. Milling Co. At the Pride Mill, located up the canyon from the Standard Metals Shenandoah mill, Messrs. Wigglesworth, Graves and Carmac (dba G.W. C. Milling Co.) are attempting to concentrate custom ore. This little plant, about 50 tons per day capacity, can produce a bulk concentrate or, with some care and change in the milling operation, separate zinc and lead. G.W. C. Milling Co., however, has no particular interest in the product and it is easier to make the bulk concentrate for shipment to Tooele, where a small payment for zinc is available, than to make the separation. The milling company charges $7.00 per ton for milling regardless of value of the ore.

Mr. Wigglesworth advised he is hopeful the Copper Queen Mine could produce some copper ore for concentration in the Pride mill. Messrs. Blarsdale and Morales are prepared to operate the Copper Queen property for production of concentrates similar to the 18 tons delivered to El Paso last year by Western Nucleonics, assaying: Au .183, Ag 14.7, Pb 3.2, Cu 21.86, Zn 4.3.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRpuillard
KHSchultz
RMMcGeorge
DJPope
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard-1
L.P.E.

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

K. R.
MAY 7 1962

MAY 11 1962

May 1, 1962

MR. ~~GHC~~ - ~~LPE~~ - ~~SIB~~ - ~~RKK~~ - ~~JHC~~ 5/9/62 - ~~WFS~~ 4/25/62
READ AND RETURN K
PREPARE ANSWER HANDLE
FILE INITIALS

S. I. B.
MAY 9 1962

J. H. C.
MAY 8 1962

Mr. B. D. Roberts
Manager
EL PASO PLANT

FIELD TRIP REPORT-MAY 1962
REED F. WELCH

1. Brannan & Fuller: On April 26 I visited Brannan & Fuller at Lordsburg, our principal shipper of converter flux at the present time. The Lease from Werner Lake Nickel Mines,Ltd. on the Henry Clay mine is due for renewal August 1, 1962, but ore reserve in this mine will not sustain the operation through July.

Mr. Brannan is working on the 200 level east on the South Atwood vein. In this position he has about 2,000 tons to draw from a stope which is already mined. Work on the 700 level west will be completed with only 500 tons remaining at this time. Otherwise the Henry Clay property is pretty well worked out except for mining and pulling some pillars above the 800 level.

On the 700 level of the 85 Mine stoping is progressing with approximately 1,000 tons to be produced in that area. This work is on the Emerald vein. On the 800 level, ore pockets are being installed which will allow mining from the 800 to the 700 level along an ore shoot approximately 100 feet in length and 6 feet wide. When this is mined there will be no more ore available above the 800 level.

Brannan & Fuller recently built a washing plant at the end of the Henry Clay shaft dump. Dump ore from the Nevada Mine (85 Mine ownership) is being hauled to this plant where it is sorted, screened and washed, eliminating 30% of the bulk. This plant is handling about 90 tons per day on a two-shift per day basis. Inasmuch as the slimes are washed away, the product coming from the washing plant looks satisfactory as far as fluxing requirements are concerned. There are approximately 3,000 tons available in the Nevada dump.

Werner Lake personnel are scheduled to arrive in Lordsburg the first week in May to determine exploration policy to be followed. According to Mr. Jack Quay, Werner Lake is hopeful that a diamond drill program can be instituted with the idea of developing additional ore reserve below the 800 level. Even though results of the previous diamond drilling above the 800 level were not substantiated by shipments, Werner Lake believes that in depth the ore grade will improve.

Our assistance to Brannan & Fuller through payments to the bank came at a time when their obligation to the bank amounted to approximately $30,000. This indebtedness has been reduced; however, because of the low grade nature of the product it is obvious the operation has been losing money even with continued payment to the bank for special exploration account. Although the bank loan is being taken care of, supply houses furnishing powder, mine equipment, etc. have extended credit to Brannan & Fuller which at the present time amounts to about $30,000.

2. Gamco, Inc. El Paso Plant received a few truckloads of lead concentrates from this operation at Lordsburg conducted by L.A.Goret and V. Aguilar. These men were successful manganese miners at Socorro during the government manganese purchase program. In September 1959 they acquired a lease on the Rose group of claims located several miles south of the Bonney Mine. They built a flotation concentrator on the Lordsburg-Deming highway where water is available and hauled about 2000 tons of mine dump ore from the shaft location for milling, from which they produced 49 tons of concentrates assaying about .35 oz Au, 4 ozs. Ag, 50% Pb, 1.3% Cu, 17% Zn.

At present the mill is shut down. Goret and Aguilar are doing some diamond drilling from the bottom or 300 level of the mine. Ore specimens of the vein material shown to me indicate mere traces of galena and sphalerite. The operators are hopeful the mineralization with depth will contain more copper inasmuch as samples pulverized and panned indicate small copper content.

3. Burro Claim, Johnson Camp. In anticipation of decreased tonnage of converter flux from Brannan & Fuller, Ira Moseley has been authorized to ship up to 5,000 tons of broken ore available at the Burro claim owned by Cyprus Mines. This product assays about 0.9% Cu with 60-65% SiO_2. Moseley is no longer shipping to Phelps Dodge at Douglas. The Southern Pacific moved in special dump-bottom equipment from California to handle this movement in 100-ton capacity cars and Moseley is shipping about four cars per day to El Paso.

4. Coronado Mine, McFarland & Hullinger Lease. McFarland & Hullinger are still mining under their agreement with Cyprus Mines. For the month of April they handled an average of 205 tons ore per day assaying 2.16% Cu, 6.02% Zn. After mill recovery, freight and smelting and before royalty this ore has value $11.96 per dry ton. Copper concentrates go to Inspiration Consolidated at Miami and the zinc is purchased by National Zinc for smelting at Bartlesville. Present employment at Johnson Camp is 37 men. For several months the operation has been mining beyond ore reserve forecast. It is expected present mining of pillars with the owner's permission will be concluded within the next two or three months.

5. Transarizona Resources. South of Casa Grande at the Lake Shore Mine Transarizona has installed two new furnaces in which open pit mined ore will be reduced to native copper before flotation. A larger ball mill has been put in and a roof placed over the building to protect the electrical devices. The furnaces are now being started up and should produce copper within the next two weeks which will be contracted for Hayden or El Paso delivery. Plans call for modification of the original furnace and installation of a fourth furnace which will yield approximately 1,000 tons per month of concentrates containing 50-55% Cu.

6. Minas de Guatamo, Hermosillo, Son. On April 30 I met Mr. Grattan Lynch in Nogales following a directors meeting of Minas de Guatamo, S.A. This was the annual meeting of the corporation in which the directors were trying to resolve some of the problems of Mexicanization of the company. So far Mr. Lynch has not been able to qualify for a Mexican corporation in line with the latest regulations of Mexico, and he doubts if he will succeed in making this effective.

The Guatamo Mine at Batuc, Sonora, has a parallel vein system approximately 30 feet apart and ore shoots more or less continuous for 1,000 feet along the strike. With the exception of one part of the mine, most of the ore above adit level has been mined. In the remaining section there are about 180 feet that can be stoped to the surface. Ore is being extracted from the 100-foot level below the adit. This lower level shows similar continuity of the ore and there is a noticeable increase of copper content which shows up in the lead product carrying as much as 14% Cu. According to Mr. Lynch there is also an improvement in silver value with depth.

In the Batuc area Lynch is milling an old mine dump high in silver and a few lots of lead concentrates may contain as much as 800-900 ozs. Ag per ton.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
EEGroff
DJPope
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard-1

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 25, 1962

K. R.

S. I. B. MAY 7 1962

MAY 9 1962

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST AND COLORADO PRODUCTION
1st QTR 1962-El Paso-Hayden-Amarillo Receipts

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant Tonnage)

	Tons Received-1st Qtr. 1962		
	Domestic	Foreign	Total
Lead Department			
January	11,668	1,462	13,130
February	12,427	11,518	23,945
March	15,308	5,093	20,401
Total First Quarter	39,403	18,073	57,476
Copper Department			
January	21,503	475	21,978
February	23,653	387	24,040
March	21,677	887	22,564
Total First Quarter	66,833	1,749	68,582

2. Receipts & Stocks from 15-day Reports
Estimated tonnages-Excluding Intraplant

Lead Department	1st Qtr. 1962		On Hand-Tons	
	Received	Smelted	1-1-62	4-1-62
Concentrates	33,920	36,132	12,696	9,951
Residue	20,775	18,386	1,283	4,068
Dust	2,903	2,889	558	383
Siliceous Lead	328	326	77	59
Pyrite	-	-	826	826
Total	57,926	57,733	15,440	15,387
Copper Department				
Concentrates	45,063	42,914	4,073	6,239
Residue	4,437	2,678	728	2,551
Scrap	150	306	121	-
Sulphide	-	834	3,525	2,688
Reverb Flux	237	335	72	-
Siliceous "	17,271	13,356	17,406	21,345
Total	67,258	59,589	25,925	32 823

Siliceous Flux: No additional source of flux has been developed for El Paso. Brannan & Fuller still supply the principal tonnage but that operation is not expected to continue much beyond July. Ira Moseley is currently supplying 5,000 tons of siliceous material from Johnson Camp near Dragoon.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Rec'd. Tons
January	31,140
February	27,028
March	31,683
Total 1st Qtr.	89,851

2. Receipts & Stocks from 15-day Reports

	1st Qtr. 1962		On Hand-Tons	
	Received	Smelted	1-1-62	4-1-62
Concentrates	74,888	72,970	2,143	4,061
Reverb Flux	7,311	7,508	10,752	10,555
Converter "	9,518	12,367	13,954	11,105
Total	91,717	92,845	26,849	25,721

Siliceous Flux: Converter flux is hauled to Hayden at a rate of 150 tons per day from property in Canyon del Oro, operated by Little Hill Mine and McFarland & Hullinger-Del Oro. The Chilito Mine lease expired April 23 and equipment has been removed from the property. It is hoped operations in Canyon del Oro will meet Hayden converter flux requirements. Reverberatory flux is delivered by truck from the tailings dump at Mammoth.

COMMENTS ON SHIPPERS

Bagdad Copper Corporation: Receipts at Hayden and El Paso for the first three months of 1962:

	Tons	Ag	Cu
Hayden - Concentrates	11,376	1.6	22.5
El Paso - Precipitates	532	-	64.5

Concentrate shipments have increased somewhat in recent months as a result of expanded mill capacity from 5,000 to 6,000 tons per day. Because of lower grade mill feed concentrate production is not increased in the same proportion.

Banner Mining Co., Palo Verde - Concentrate shipments first quarter 1962 - 5857 tons averaging about 25.5% Cu, 6.7 ozs Ag. April production is about half of March tonnage because of pump failure.

Bonney Mine shipped 2196 tons averaging approximately 27% Cu, .15 oz Au, 6.3 ozs Ag. Contract renewal for this production has been signed by Mr. Bowman covering three year period.

Brannan & Fuller: Production for the first quarter 1962 -

	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Henry Clay Mine	10,652	.031	1.2	1.01	60	6.5	8.3	5.8
85 Mine	1,768	.036	1.4	1.07	60	6.5	8.3	5.8

In spite of assistance from the smelter through payments to an exploration and development fund at the bank, this operation has been losing money because of the low grade nature of the product and Brannan & Fuller are in debt for mine equipment. The Henry Clay property is about worked out above the 800 level and it is doubtful if ore reserve will maintain operation through the remainder of the present lease, up for renewal August 1, 1962. Limited tonnage is available for mining above the 800 level in the 85 Mine.

Camp Bird Colorado: Shipments for the first quarter 1962 -

	Tons	Au	Ag	Pb	Cu	Zn
El Paso	871	1.545	26.7	39.4	9.8	8.1
Amarillo	778	.10	5.6	2.5	1.8	54.5

In March Camp Bird temporarily suspended milling for development work in the mine. The management advises concentrate shipments will be resumed early in May.

Chillito Copper Co. deliveries of siliceous flux January-March 1962 total 3919 tons averaging about 1.44% Cu, 54% SiO2, 7% Fe, 9.5% CaO, 7% Al2O3. Wainwright's lease expired April 23, 1962, and shipments have been suspended and equipment moved from the property.

Cyprus Mines Corporation-Old Dick Mine copper production for the first three months of 1962 3601 tons averaging about 22.7% Cu, 1.6 ozs Ag, 10% Zn. Production for the balance of the year is estaimated at 1200-1500 tons per month.

Duval Sulphur & Potash, Esperanza Pit shipments for first quarter 1962 -

	Tons	Ag	Cu
Hayden	7,372	2.3	26.2
El Paso	14,947	2.4	27.3
	22,319		

@ 12,000 tpd
recovered .56 % Cu
or 11 lb/ton ore

Emperius Mining Co., Creede, Colo. - First quarter production

	Tons	Au	Ag	Pb	Cu	Zn
El Paso	1,369	.126	49.2	39.5	6.5	7.7
Amarillo	1,057	.02	5.8	1.6	.3	55.8

Idarado Mining Co., Ouray, Colo. Production first three months 1962:

	Tons	Au	Ag	Pb	Cu	Zn
El Paso Pb Conc	2,643	1.12	38.8	71.7	2.6	2.6
Cu Conc	1,345	.75	21.2	2.8	27.4	6.4
Tacoma " "	1,018	.85	21.8	3.0	27.3	6.2
Amarillo Zn Conc	5,373	.08	3.4	.9	.9	55.5

Little Hill Mines converter flux shipments for first quarter 1962 - 2,128 tons averaging about 1.9% Cu, 75% SiO2, 1.9% Fe, 9.9% Al2O3. This production came from underground work above the 190-foot level. Plans are being made to sink the shaft below this level without interrupting production.

McFarland & Hullinger-Del Oro, leasing the Gold Hill and Copper Hill claims from Dave McGee of Little Hill Mines, are hauling converter flux to Hayden on trial shipment of 7500-10,000 tons with delivery of about 500 tons per week. Average copper content in receipts to date is about 0.5%. It is hoped the grade will improve as the surface cuts are deepened.

New Jersey Zinc Co., Belden, Colo. - 1st quarter shipments:

	Tons	Au	Ag	Pb	Cu	Zn
El Paso-Pb Conc	1,954	.09	39.2	47.9	-	8.4
Tacoma Cu Ore	6,977	.13	22.6	.5	3.5	-

Pima Mining Co. production for first three months of 1962 - 16,091 tons averaging about 24.8% Cu, 3.9 ozs. Ag. ± 1.3% Cu heads

Rico Argentine Mining Co., Rico, Colo. first quarter production -

	Tons	Au	Ag	Pb	Cu	Zn
El Paso	268	.02	30.1	72.0	-	4.3
Amarillo	340	.02	3.0	3.0	.3	55.4

Shattuck Denn Mining Corp. Iron King Mine production January-March 1962 -

	Tons	Au	Ag	Pb	Cu	Zn
El Paso Pb Conc	5,106	.83	35.6	30.5	1.5	10.8
Jig "	20	10.05	12.2	7.4	.2	9.6
Cu "	95	.43	7.8	2.3	24.3	9.6
Amarillo Zn "	9,055	.08	2.7	1.1	.4	55.3
Selby Au-Ag Ppts	1	67.86	579.0	1.2	3.9	30.

The last drop in zinc and lead prices hurt this operation financially and it is about breaking even on production cost.

REED F. WELCH

cc: EMcLTittmann CPPollock
RLJourdan TASnedden
CNWaterman KERichard-2
WGRouillard
EEGroff

Mr. K.E.Richard-1

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 10,1961

K. R.
NOV 15 1961

MR. JHC-JEK
READ AND NOTE
PREPARE ANSWER
HANDLE

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION (Including Colorado)
RECEIPTS EL PASO, HAYDEN, AMARILLO
NINE MONTHS 1961

J. H. C.
NOV 27 1961

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant Tonnage)

	Tons Received-Nine Months 1961		
Lead Department	Domestic	Foreign	Total
January	10,906	12,686	23,592
February	10,610	11,390	22,000
March	12,677	1,305	14,071
April	13,625	2,184	15,809
May	13,469	6,783	20,252
June	10,307	1,127	11,434
July	12,478	10,061	22,539
August	13,282	9,151	22,433
September	13,212	1,165	14,377
Total Nine Months	110,655	55,852	166,507
Copper Department			
January	17,136	(129)	17,007
February	17,607	439	18,046
March	17,990	109	18,099
April	23,668	263	23,931
May	24,247	142	24,389
June	20,410	-	20,410
July	15,909	-	15,909
August	24,596	466	25,062
September	24,941	423	25,364
Total Nine Months	185,504	1,713	187,398

2. Receipts & Stocks from 15-day Reports-Estimated tonnages Excluding Intraplant

Lead Department	Nine Months 1961		On Hand- Tons	
	Received	Smelted	1-1-61	10-1-61
Concentrates	103,273	66,855	7,462	8,162
Residue	57,884	55,639	2,192	4,251
Dust	6,076	6,831	534	205
Silic. Lead Ore	2,325	2,471	44	-
Pyrite			826	826
Total	169,558	131,796	11,058	13,444

Copper Department	Nine Months 1961 Received	Nine Months 1961 Smelted	On Hand-Tons 1-1-61	On Hand-Tons 10-1-61
Concentrates	137,893	137,648	3,686	4,527
Matte(Interplant)	330	301	-	-
Residue	12,208	11,242	370	949
Scrap	1,223	1,222	9	15
Sulphide	-	407	4,642	4,322
Reverb Flux	1,534	1,514	9	143
Converter "	35,456	29,382	3,866	9,839
Total	188,644	181,716	12,582	19,795

Siliceous Flux: Brannan & Fuller at Lordsburg have shipped about 5,000 tons monthly during the third quarter, coming principally from the Henry Clay Mine. These operators hope to continue shipments for the next six months at least. Quentin Drunzer and others have been searching for a satisfactory source of flux for El Paso but so far with little encouragement. A.P.Williams has been doing some work underground in the Black Shaft mine near Allamore, Texas, and may develop limited tonnage that will justify shipment. If no other source develops we can draw on the Burro claim at Johnson Camp and the Traffic Department has been processing a fluxing rate for movement of this material to El Paso.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received		Tons Received
January	15,715	July	22,088
February	13,671	August	28,586
March	17,242	September	23,267
April	7,220		
May	13,406	Total 9 Months	156,609
June	15,414		
Total First Half	82,668		

2. Receipts & Stocks from 15-day Reports
(Estimated tonnages)

	Nine Months 1961 Received	Nine Months 1961 Smelted	On Hand -Tons 1-1-61	On Hand -Tons 10-1-61
Concentrates	114,453	113,219	1,910	2,441
Reverb Flux	20,888	18,344	12,200	13,412
Converter "	22,552	17,155	10,027	16,256
Total	157,893	149,918	24,137	32,109

Fluxing Ore: Chilito and Little Hill operations have been meeting Hayden converter flux requirements. Mining has been stopped in the high silica quarry at Chilito and this operation recently started shipping flux carrying higher copper--up to 1.9%--and lower silica that appears to meet present requirements. Little Hill Mines also is now working on higher copper content. Tailings from Mammoth dump are supplying reverberatory flux and another 5,000 ton shipment has been ordered trucked to Hayden by McFarland & Hullinger.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
From Southwest & Colorado Producers

	Tons Conct Rec'd.		Tons Conct Rec'd
January	7,156	July	5,963
February	6,179	August	7,028
March	5,630	September	5,693
April	6,776		
May	6,340	Total 9 Months	57,410
June	6,645		
Total First Half	38,726		

COMMENTS ON SHIPPERS

Bagdad Copper Corp. Concentrate receipts at Hayden for 9 months of 1961 - 31,043 tons assaying 22.3 - 30.1% Cu. Current production is 3500-4000 tons monthly averaging about 24% Cu. Since June the precipitating plant has shipped only 249 tons of 63-77% Cu to El Paso. Bagdad Copper is successfully developing water for the leaching plant. Changes made in the precipitating plant have improved the efficiency in obtaining copper from the oxide dumps and it is expected the operation will be producing approximately 200 tons of precipitates per month.

Banner Mining Co. Palo Verde shaft is now producing on the 700 and 800 levels, mining about 600 tons per day with concentrate shipments now approximately 1500 tons monthly. Concentrate tonnage will increase steadily to the anticipated 3300 tons monthly. The Palo Verde shaft is about 1030 feet deep with station cut on the 900 level. Water pumped amounts to 500-600 g.p.m. at present. Receipts at El Paso Plant from the Mineral Hill mill January-September 1961 total 7182 tons assaying 23 to 30% Cu.

Bonney Mine production for nine months of 1961 - 5660 tons assaying about 27% Cu. Much of this production has come from the new vein en echelon with and to the north of the Bonney vein.

Cyprus Mines Inc. at Bagdad has installed heavy media separation plant, increasing daily tonnage handled in the Old Dick mill, and copper concentrate shipments have increased in recent months. The management estimates copper production 1200-1500 tons per month. Receipts at Hayden for 9 months total 9239 tons assaying 23.5% to 26.0% Cu.

Duval Sulphur & Potash Esperanza pit production for the first nine months 1961 has averaged about 7860 tons per month, receipts at El Paso and Hayden shown below:

	Tons	Ag	Cu
El Paso	55,370	2.0	22.7 - 28.5
Hayden	15,379	2.3	22.0 - 28.5
Total	70,749		

Duval Sulphur & Potash, Con't.

Duval concentrate production for the immediate future will be 20-25% Cu as a result of low mill heads. Drilling to the west of the Esperanza pit indicates approximately 15 million tons in addition to the Esperanza tonnage.

Pima Mining Co. in recent months has been shipping about 6,000 tons monthly--total through September 45,562 tons assaying 24.5% to 28.9% Cu. Firm bids are now being prepared on Pima mill expansion for construction early in 1963 when the new pit is expected to be ready for mining. Five new Dart trucks have been delivered and one 7 cu. yd. Marion electric shovel is being assembled for operation later this month. Ore produced so far in the Banner cone area has been oxidized and is stockpiled on Banner property for treatment in the proposed Banner oxide plant. It is expected sulphide ore will be mined in the cone area beginning some time in January.

Shattuck Denn Mining Corporation-Iron King production 9 months 1961:

	Tons	Au	Ag	Pb	Cu	Zn
El Paso Pb Conc	13,179	.67 - .84	30 - 40	31-39	1.5-2	9.0
Au jig	139	8.8 - 19	10 - 17	5 - 10	.8	9.3
Amarillo Zn Conc	21,308	.05	3.0	1.5	.3	55 - 56
Corpus C.	8,167	.05	3.3	2.1	.4	54.3
Selby Au-Ag Ppts	8.4	45-187	450-1537	2 - 8	7 - 16	26 - 53

The Iron King Mine was shut down by a strike called on October 6 and as of November 13 there is no change in the status of negotiations.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard-1

MR. JHC-JFR-AGB
READ AND RETURN
PREPARE ANSWER HANDLE
FILE

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 31,1961

K. R. J. H. C.
SEP 6 1961 SEP 6 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION-1st HALF 1961*
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant Tonnage)

Lead Department	Tons Received-1st Half 1961 Domestic	Foreign	Total
January	10,906	12,686	23,592
February	10,610	11,390	22,000
March	12,677	1,305	14,071
April	13,625	2,184	15,809
May	13,469	6,783	20,252
June	10,307	1,127	11,434
Total First Half	71,683	35,475	107,158
Copper Department			
January	17,136	(129)	17,007
February	17,607	439	18,046
March	17,990	109	18,099
April	23,668	263	23,931
May	24,247	142	24,389
June	20,410	-	20,410
Total First Half	121,058	824	121,882

2. Receipts & Stocks from 15-day Reports-Estimated tonnages Excluding Intraplant

Lead Department	First Half 1961 Received	Smelted	On Hand-Tons 1-1-61	7-1-61
Concentrates	64,901	66,855	7,462	4,751
Residue	38,079	37,179	2,192	2,958
Dust	3,300	2,703	534	1,759
Siliceous Lead Ore	1,902	1,937	44	70
Pyrite	-	-	826	826
Total First Half	108,182	108,672	11,058	10,364

*Includes production from Colorado area received at El Paso and Amarillo plants.

El Paso Plant, Con't.

Copper Department	First Half 1961 Received	First Half 1961 Smelted	On Hand-Tons 1-1-61	On Hand-Tons 7-1-61
Concentrates	89,160	86,179	3,686	7,067
Matte(Interplant)	304	275	-	-
Residue	9,457	7,166	370	2,719
Scrap	731	729	9	54
Sulphide	-	237	4,642	4,642
Reverb Flux	899	966	9	-
Converter "	20,024	19,239	3,866	4,578
Total First Half	120,575	114,791	12,582	18,924

Siliceous Flux: Brannan & Fuller, leasing the Henry Clay-Atwood and the Phelps Dodge 85 Mine at Lordsburg, are now being assisted by the smelting company on loan repayment in order to keep this operation going. During the first half of 1961 the Henry Clay produced 11,500 tons and the 85 Mine 7,093 tons. The operators hope to produce 4,000 tons monthly for the balance of the year. It is doubtful that this operation will continue beyond the middle of 1962.

Quentin Drunzer is still searching for a suitable source of flux for El Paso, as it appears the Sancho Panza tonnage may not meet present requirements. If favorable freight adjustment can be obtained copper-bearing siliceous flux at Johnson Camp (Ira Moseley operation) may be moved to El Paso and/or Hayden.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received		Tons Received
January	15,715	April	7,220
February	13,671	May	13,406
March	17,242	June	15,414
Total First Qtr.	46,628	Total 1st Half	82,668

2. Receipts & Stocks from 15-day Reports
Estimated Tonnages)

	First Half 1961 Received	First Half 1961 Smelted	on Hand-Tons 1-1-61	on Hand-Tons 7-1-61
Concentrates	58,838	57,517	1,910	3,228
Reverb Flux	10,263	12,477	12,200	9,154
Converter "	14,363	7,695	10,027	17,527
Total First Half	83,464	77,689	24,137	29,909

Siliceous Flux: Chilito and Little Hill operations continue to supply converter flux for Hayden. Chillito Copper Co. shipments for the first half 10,392 tons, Little Hill Mines 3,283 tons. The latter has been working for more efficient mining and when this development is completed it is expected production can be stepped up to 3000 tons per month. Other possibilities are being explored for source of converter flux.

Hayden Plant, Con't.

McFarland & Hullinger are presently hauling 5,000 tons of Mammoth tailings for use as reverberatory flux at Hayden. Christmas tailings constitute our principal source of lime flux.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
From Southwest & Colorado Producers

	Tons Conct. Rec'd.		Tons Conct Rec'd.
January	7,156	April	6,776
February	6,179	May	6,340
March	5,630	June	6,645
Total First Qtr.	18,965	Total Half	38,726

COMMENTS ON SHIPPERS

American Peru Mining Co. at Peruhill resumed production early in 1961 with lead product under contract for El Paso delivery. Lead concentrates shipped in the first half total 448 tons assaying 49-65% Pb, 23-40 ozs. Ag and about 3% Cu, 10% Zn.

Bagdad Copper Corp. Concentrate production for the first six months of 1961 delivered to Hayden plant - 19,003 tons assaying 22-28% Cu with about 1.7 oz Ag. The first copper precipitates produced in the new plant were delivered to El Paso in June - 109 tons assaying 77.2%. Some modification is required in the precipitating plant and when the difficulty is corrected Bagdad expects to be producing 600-800 tons of precipitates monthly.

Banner Mining Co. Concentrate production in Mineral Hill mill for the first half of 1961 - 3801 tons with mill feed coming from the new Palo Verde shaft. The concentrates assay 23-30% Cu with 7-15 ozs. Ag, .02-.05 Au. Regular stoping will not begin at the Palo Verde shaft until connection is made with an air shaft east of the main workings. This should be accomplished by the end of August.

It is reported that effective July 31, 1961, Banner Mining Company has purchased all of Lewisohn Copper Corporation interests in the Helvetia-Rosemont District.

The Bonney Mine at Lordsburg produced 3803 tons of concentrates January through June 1961, averaging about 27.2% Cu, .20 oz Au, 4.7 ozs. Ag. I am advised that Banner has encountered another substantial ore shoot in the Bonney Mine which will prolong the life of this operation.

Camp Bird Colorado Inc., shipping to El Paso since Leadville plant shut down, with lead and zinc production for the first 6 months 1961 as follows:

	Tons	Au	Ag	Pb	Cu	Zn
El Paso	1962	.52 - 1.3	30-42	44-49	7.5	9.1
Amarillo	1975	.04	5.3	2.5	1.6	55.0

Cyprus Mines, Inc. Old Dick-Copper Queen Mines, Bagdad. This operation is producing about 1,000 tons per month zinc moving to Bartlesville and approximately the same tonnage of copper concentrate delivered to Hayden. Copper production for the first half 1961 - 5685 tons averaging about 24% Cu, 2 oz. Ag

Duval Sulphur & Potash, Esperanza Pit production for the first 6 months of 1961 -

	Tons	Ag	Cu
El Paso	37,695	2.1	24-28
Hayden	8,258	1.9	22-28

This company is developing another ore body west of the Esperanza which I am told will add substantial tonnage to original ore estimates for this project. Duval is preparing to build a percipitating plant for recovery of copper from mine dumps.

Emperius Mining Co. at Creede, Colorado, is now shipping lead concentrates to El Paso, zinc to Amarillo. Receipts in the first half of 1961 are as follows:

	Tons	Au	Ag	Pb	Cu	Zn
El Paso	2150	.12 - .14	54-75	38-51	5.8	7.5
Amarillo	2109	.02	6.1	2.1	.3	55.8

Idarado Mining Company at Pandora, Colorado, in the first half 1961 produced:

		Tons	Au	Ag	Pb	Cu	Zn
El Paso	Pb Conc	6,194	.80	35.0	65.0	3.8	3.3
	Cu Conc	3,823	.44	18.0	3.5	24.4	9.9
Amarillo	Zn Conc	11,446	.04	2.8	.9	.8	54.8

Nash-McFarland operation continues at the Trench Mill. Concentrate shipments for the first half 1961 -

	Tons	Au	Ag	Pb	Cu	Zn
El Paso	653	.02	30-40	63-73	.5-3.5	4-6
Amarillo	1353	-	2.5	1.5	1.3	54.4

Early in July the zinc product from this operation was diverted to Corpus Christi plant.

Pima Mining Company. Deliveries to El Paso January-June 1961 total 28,308 tons assaying 24.5 - 27.5% Cu with about 3.7 oz Ag. For this period shipments have been moving at the rate of 4500-5000 tons per month. The expansion program now being started with new equipment to accelerate stripping in the present pit will increase production to about 5860 tons per month by the end of 1961.

Shattuck Denn Mining Corporation: Production for 6 months 1961 -

	Tons	Au	Ag	Pb	Cu	Zn
El Paso Pb Conc	8,884	.74	34.0	33.6	1.6	8.9
Au-Jig	90	8.8-11.1	12.0	7.7	.8	9.3
Amarillo Zinc Conc	12,106	.055	3.7	1.0	.3	55.4
Corpus Christi	8,167	.048	3.3	2.1	.4	54.3
Selby Au-Ag PPt	6.1	45-187	450-1337	2-8	7-16	26-53

A new three-year contract covering all Iron King output has just been concluded and it is expected production will continue at about the same rate. I understand the gold content in the ore has been lower than expected for the past six months. The grade of the gold-silver precipitates shipped to Selby also has dropped since the first of the year.

United States Smelting Company. Operation continues at the Continental Mine, the ore milled at Hanover. First half copper production delivered to El Paso - 3614 tons assaying 25.6 to 29.5% Cu with about .08 oz. Au, 1.7 ozs. Ag.

Sonora, Mexico

Receipts from Sonora in the first half of 1961 are about the same as last year in spite of additional taxes and other restrictions imposed by the Mexican government. The 15% tax on gold and silver in effect since the first of the year has been overcome by our arrangement with the Bank of Mexico for sale of precious metals recovered from Mexican products.

Lead Department Receipts	Tons Rec'd.
J.M. Borevitz, Nacozari (Pb Conct)	199
M.A.Castillo, Esqueda	57
Servando & Raul Lemas, Hermosillo	1,013
Minas de Guatamo, Hermosillo (Pb Conct)	254
Minerales, S.A., Santa Ana	233
Minerales de Hermosillo	59
Jorge F.Robinson, Hermosillo	52
Total Lead Ore & Conct	1,867
Zinc Conct. to Amarillo-Minas de Guatamo	1,385
Total tonnage from Sonora first half 1961	3,252

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
CPPollock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

June 12,1961

EW Newman
JUL 13 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

MR. ~~JHC~~ ~~ACB~~ ~~JER~~ K. R.
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PREPARE ANSWER ... HANDLE ...
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SEP 6 1961
J. H. C.

SEP 8 1961

FIELD TRIP REPORT-REED F. WELCH
NEW MEXICO - JUNE 7-9

1. San Pedro Mine, Albuquerque: About the first of May W.L. Allison of Phoenix became interested in the San Pedro Mine east of Albuquerque. He employed Harrison Schmitt as geologist and has an exploration program now in operation with the expectation of developing sufficient ore to justify a 300-500 ton per day mill. Allison has a purchase agreement with Col. Williams, one of the San Pedro mine owners, with purchase price $350,000 and guaranteed payment of $10,000 annually. Although Williams has never given a lease or option to anyone previously on less than 10% royalty, Allison's agreement calls for royalty of 5% of net smelter returns to apply on the purchase.

Tom Scartaccini, formerly lessee at the San Pedro Mine, is employed by Allison to supervise the exploration work. In compensation for his lease, Scartaccini is to receive 30% stock in the corporation to be organized for this operation known as Allison Mines, Inc.

Allison has moved in a new Ingersoll-Rand 600 cu ft compressor and diesel electric generating set. He has wired and equipped the mine with electric lights. Allison expects to carry on exploration work for at least a year with horizontal holes as well as deep vertical holes to penetrate unexplored sediments.

Tom Scartaccini reports ore in the lower level of the mine over 200 feet in length that could be mined 4 to 5 feet wide to produce 7-11% Cu for shipment to El Paso. Allison is projecting his operation on the basis of 4% Cu heads and Scartaccini believes this grade will be possible over widths of 20 feet projecting the lower level ore showing in depth.

2. La Bajada property near Santo Domingo was the subject of recent inquiry from Mr. Jourdan's office with respect to activity of Susquehanna-Western Corp. near Santa Fe. During my recent trip to New Mexico I learned that Robert F. Hartman, 777 Grant Street, Denver 3, Colorado, is geologist in charge of exploration at La Bajada property for Susquehanna-Western. This project has just recently started diamond drilling. I did not have an opportunity to talk to Mr. Hartman but it is reported the drilling has encountered some copper mineralization. This property also contains rare metals.

3. Surprise Claim, Carrizozo. In my field report for April 1961 I mentioned Quentin Drunzer reporting to me a copper showing on the Surprise claim in Walker Canyon District owned by New Mexico Copper Corp. A sample taken by Drunzer assayed 15.8 oz Ag, 2.3% Cu, 71.4% SiO_2, 6.5% Fe, 4.2% Al_2O_3. On this last trip I visited the Surprise claim and observed where the sample was taken, at which point the vein appears to be 6 to 8 feet wide showing considerable quartz and iron oxide. Early exploration work at this point sank a discovery shaft about 60 feet. The vein was reported to be about 5000 feet along the strike carrying copper. I observed the mineral outcrop at various places for about half this distance and determined the vein to contain predominantly barite. This location is inaccessible and inasmuch as barite appears to be the predominant outcropping mineral it is understandable why exploration was not continued. I discouraged Mr. Drunzer from further interest in this property for shipment of siliceous ore to El Paso.

4. New Frontier Mining & Milling Co. El Paso Plant recently received about 5 tons of lead concentrates from this company with address at Capitan. The concentrate was produced in the Carrizozo mill from ore originating at the Martha Washington property in Bonita Mining District. Ira M. Young of Capitan heads New Frontier Mining & Milling and has just completed a new 20-ton per day mill located at Angus, N.M. This selective flotation plant was designed and equipped by Denver Equipment Co. The only equipment not supplied by Denver Equipment is the crusher and ore elevator. Mr. Young proudly reports that all mill machinery has been paid for financed by Air Force personnel at Walker Airbase near Roswell. The mill is about 6 miles from the Martha Washington Mine which will supply the ore. Mill feed is reported to average about 8% Pb, 9% Zn with 4-5 oz Ag. Early prospecting by Young indicates 500 feet of vein continuity 18-40 inches wide with average width about 24 inches.

In response to inquiry about trucking zinc concentrates to Amarillo, I advised Mr. Young it would be necessary to ship minimum railroad car lots since the zinc plant is not set up to handle truck deliveries. The zinc mineral is light in color and should produce fairly good grade concentrates. Mr. Young reports preliminary laboratory tests indicate 50% Zn.

5. Mitchell property, Eagle Nest. This property located on Bald Mountain about 10 miles north of Eagle Nest has been reported to contain copper and molybdenum. On visiting the mining claims with Mr. Mitchell I observed the dump material taken from the 11,000 foot tunnel that goes through the mountain. This dump contains occasional specimens of quartz carrying some chalcopyrite and molybdenite but it was apparent these mineral occurrences are confined to the quartz veins. The country rock--diorite and/or monzonite--lacks any evidence of these minerals to suggest the

Mitchell property, con't.

possibility of large tonnage occurrence. The monzonitic type rock is somewhat altered but the diorite is fresh. My advice to Mr. Mitchell was not to expect large tonnage of copper or molybdenum ore in this property.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
JUN 6 1961

June 5,1961

K. R.
JUN 6 - 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F.WELCH
PARKER AREA JUNE 2-4

In reviewing Hayden Plant silica requirements for the immediate future I made a trip last weekend to Parker to investigate the possibility of obtaining additional tonnage from the Empire-Arizona Mine and vicinity. Recent activity leads me to conclude there is very little likelihood with present metal prices of stimulating production of copper-bearing siliceous ore in the Parker-Salome area.

1. Empire-Arizona Mine: Mr. Arthur Moses of Empire-Arizona Mining Co. is hopeful that mining can be stimulated at this property. However, the lessee L.A. Cornejo cannot see his way clear financially at this time to resume production. Since his last shipments to Hayden, Cornejo has done some exploration work financed by Mr. Butler from Texas. This work did not open up ore of commercial grade on present metal prices and Butler dropped out of the operation. Some time in 1959 Cornejo contacted Phelps Dodge Corporation at Ajo and a purchase schedule was issued for delivery to that plant with $3.00 per ton premium for silica content. After moving a small tonnage to Ajo the smelter management refused to take additional ore from the Empire-Arizona property with the excuse they had a nearby source of flux.

2. Golden Ray prospect is located about one mile west of Empire-Arizona Mine and is under lease to Herbert Enoch, 830 Leonard Road, Los Angeles 49. Mr. Enoch called me about shipping fluxing ore to Hayden, but on visiting the property I discovered the ore showings are limited to two or three small copper veinlets, all too narrow to mine economically. The mineral showing occurs along a rather wide breccia zone which shows little evidence of original copper.

Mr. Enoch's interest in this property was enlisted through representations by Ely Weisberg, a Los Angeles promoter, who is an impractical miner. Enoch and his associate William Schorin were prepared to spend $250,000 to bring the property into production if the claims made by Weisberg proved out. I discouraged Mr. Enoch in thinking he could ship large tonnages of fluxing ore to Hayden from this property, which was his expectation.

3. Mineral Hill Group, Bill Williams District. D.E. Harrison and John Wallace, both of Salt Lake City, for the past year or more have been exploring the Mineral Hill claims and immediate vicinity by wagon drill and report encouraging results. Drilling so far, carried along the strike of a fault zone, has penetrated 50 to 150 feet in depth encountering ore showings that lead Mr. Harrison to believe he can maintain a 500-ton per day leaching operation with 3% Cu heads, the ore minerals all oxidized.

Mineral Hill Mine is directly east of the Planet Ranch in Bill Williams river valley, in favorable location for potential gas and power lines and water supply. According to Harrison very little stripping will be required to mine the ore by open cut method. The gangue contains considerable specular hematite.

Harrison and Wallace were at the mine June 3 to meet several unnamed parties for the purpose of raising money to carry on development work and construct a pilot plant. Preliminary studies are being conducted by Western Knapp and Stearns-Roger but as yet no decision has been made on plant design.

I advised Mr. Harrison if he is interested in selling copper precipitates from this property to our company he should advise us of his potential production for our evaluation. Harrison has been in touch with International Smelting and that company advised him the precipitates could be handled by Inspiration Consolidated Copper Company at Miami.

4. Blue Streak Mine, Wenden. The owner of this property, B.L. Gary of Salome, has prepared another carload of copper ore assaying about 6% and I have authorized shipment to Hayden. Because of the summer heat this will be the last shipment for the season from this operation.

5. Swansea Mine: Glen B. Watson of Phoenix, a disabled veteran and inexperienced miner, has made what he considers a big discovery. His location for lode claim covers one of the old shafts and dumps at the Swansea mine. Watson has been picking up specimens of ore on the dump and reports unreasonable gold-copper assays. Although his assay reports indicate sufficient value to justify shipping, I advised Watson we could not handle the material because the gangue is principally specularite.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
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J. H. C.

MAY 2 2 1961

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 12, 1961

K. R.

MAY 2 0 1961

Mr. B. D. Roberts, Manager

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

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
MAY 10-12 -NORTHERN ARIZONA

1. Bagdad Copper Corporation. On Wednesday May 10 Mr. Russell Salter and I visited Bagdad Copper Corp. to investigate the new 200-ton acid plant and find out when copper precipitates would start moving to El Paso from this operation. About two years ago Bagdad Copper appropriated $2 million for the acid and leaching plants designed and built by Fisher Construction Co. The sulphur-burning acid-generating plant was completed by Fisher on March 1 of this year.

On completion of this work Bagdad Copper was to develop a source of water and S.F. Turner, Water Engineer of Phoenix, was employed. Turner supervised drilling of six holes, all on the basalt mesa north of the Bagdad pit where they penetrated a fault zone. According to Mr. Colville three of these holes were dry and two developed about 100 g.p.m. After drilling to 650 feet the sixth hole yielded 840 g.p.m. in a 24-hour test. Water was encountered at 300 feet and after the 24-hour test period the water level was depressed 27 feet. Before laying a pipeline Mr. Colville wants to test this hole over a longer period after installing heavier pumping equipment. If this area develops adequate supply, the water will flow by gravity from the collar of the well to the acid and leaching plants. Present water supply comes from Tungstona Mine area and Burro Creek.

The precipitating plant went into operation some time in April and was maintained with circulating water for about three weeks. Water running across the 30 million ton dump showed a return within 8 hours which is insufficient time for satisfactory leaching. However, some copper was picked up and the plant has accumulated about 60 tons of precipitates. Mr. Colville reports preliminary samples show 90% Cu. Re-circulating time can be increased by expanding the area of dump for saturation.

The pregnant solution coming from the oxide dump is pumped into a large earthen storage tank lined with prefabricated polyethylene plastic. This tank holds in excess of 3 million gallons. The thin plastic lining laid down on a sand base so far shows no evidence of leakage.

The leaching plant consists of two rows of 10 cells each 10 x 10 feet and 12½ feet deep with stainless steel 5/8" mesh screen bottom. Capacity of the plant is 3350 g.p.m. of solution. The present installation has not been satisfactory, as small fragments of iron and copper precipitate collect on the screen making it impossible to permeate the mass with pregnant solution. At the time of our visit the leaching plant was down for modification. For the next trial run Mr. Colville plans to put in false bottoms of coarse screen in two of the cells about six feet above the bottom screen.

Bagdad Copper Corp-Con't

It appears that with some slight modification of the centrifuge installation the moisture content of the precipitates can be reduced to 15-20%, allowing immediate handling for shipment without air drying.

Liquid sulphur is delivered to Hillside in special tank cars leased by Bagdad Copper Corporation. Heat is applied to the tank cars at Hillside for unloading into a special tank truck. At the acid plant the truck is warmed for unloading. For the short period of acid plant operation, Colville reports cost of generated acid about $16.53 per ton acid. With some acid on hand and potential of generating more acid than required, Bagdad Copper has sold a few hundred tons to Southwestern Chemical Co. at Chandler, which firm delivered the acid to Rare Metals uranium mill north of Flagstaff. The leaching plant was estimated to require 6.7 pounds of acid per pound of copper, but Mr. Colville now estimates approximately 10 pounds of acid and 1.6 pounds of cans per pound copper.

2. Cyprus Mines Inc. The Old Dick operation is now under management of A.A.Friedman, formerly Assistant Manager at Pima Mine and moved to Bagdad March 1st to replace C.R. Sundeen. Cyprus Mines is installing a sink-float section in the mill and it is estimated this will increase output about 10% over present 240 ton per day capacity.

Concentrate production from Old Dick Mine in April was 852 dry tons of copper assaying about 24% and 958 tons of 52.3% zinc shipped to Bartlesville. Mill recovery during April was 90% for the copper section and 80-82% in the zinc section. The old Dick Mine is being worked between the 600 and 925 levels with mill heads assaying 11-18% Zn, 3.5% Cu.

Cyprus Mines is preparing the Copper Queen Mine for production with six men on this work. They have erected a new steel headframe and ore bin. At present only development ore is coming from this property. The Copper Queen production will not increase mill output.

3. Shattuck Denn Mining Corp. The annual stockholders meeting is scheduled to be held at Prescott on May 17, at which time there will be a proxy fight between Mr. Bardon and Boris Gresov who is seeking election as Chairman of the Board with the privilege of naming five of nine directors. The number of directors will be increased from 7 to 9 at this meeting.

At Iron King mill Mr. Salter and I observed the mechanism used to spray concentrates after loading in railroad cars. The product, Aero-spray Binder #52 is put out by American Cyanamid. Iron King has found this very satisfactory in a solution of one gallon Aero-spray to 25 gals. water. After concentrates are levelled in the car a thin film of this mixture is sprayed over the load. This prevents wind loss and seems to be more satisfactory than lime spray. This same mixture was used to coat surface water lines in 1959 and has preventing any rusting of the pipe and seems to be more durable than paint. Aero-spray costs $145.76 per 55-gallon

drum. One drum of this product in above-mentioned solution covers 80 to 85 carloads of concentrates or approximately 5600 tons.

Iron King has had very good luck with concentrate filtering and Mr. Salter obtained the formula for the additive placed in the tanks which reduced moisture in concentrates 1 to 1.5%.

4. Golden Gate Mining Co., Wickenburg. Elmer C. von Glahn of Wickenburg has acquired the old Hackberry mine north of Mayer owned by Fred Gibbs. Mr. von Glahn reports 100,000 tons of dump at this property containing sufficient mineral to justify construction of a mill, which he is now in the process of doing. He advised Arizona Bureau of Mines has done some metallurgical test work on the dump material, reports ratio of concentration 7 to 1 with concentrates assaying:

Au	Ag	Pb	Cu	Zn
.44	9.0	6.0	6.8	18.0

Mr. von Glahn did not have the head assays but indicated the entire dump is potential milling product.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
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FILE ____ INITIALS ____

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.

MAY 6 1961

K. R.

MAY 6 1961

May 4, 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
NEW MEXICO - MAY

Supplementing my report dated April 26, 1961, I have the following comments on the Lordsburg-Silver City area which was not visited in trip to New Mexico in April.

1. Brannan & Fuller-Henry Clay & 85 Mines: Werner Lake Nickel Mines of Toronto, Canada --Charles Hershman, retired mining man; Murray Watts, mining engineer; and Ralph Henson, broker, all of Toronto--acquired interest in the Atwood-Henry Clay property some time in 1955. Werner Lake has a promissory note with Earl Strong and Ira Moseley to pay their interest as Lessees of John Augustine.

The original lease between Werner Lake and Brannan & Fuller called for 10% royalty and a hoisting charge of $1.00 per ton for ore mined in the Henry Clay and 85 mines. When the lease was renewed in August 1960 Brannan & Fuller negotiated a reduction in the hoisting charge representing Werner Lake's assistance in sinking the shaft from the 700 to the 800 level. Present charge is a minimum of 15¢ per ton when net smelter return is in excess of $7.50 per ton with escalation on increasing return to a maximum of $1.00 per ton. The present lease expires August 1, 1962.

About January 10 the main Henry Clay shaft was prepared for sinking from the 700 to 800 level. This work was completed March 10, carrying the shaft to 840 feet to allow 40-foot skip and sump room. The 1½ compartment shaft gave the operators considerable difficulty and cost more than anticipated--in excess of $20,000. The principal difficulties were the result of inexperience and absenteeism of the miners.

As of May 2 the 800 level has explored 100 feet easterly and westerly along the Henry Clay (Emerald) vein. The vein on the east side of the shaft is approximately 10 feet wide and narrows to about 5 feet on the west side. The face on the west side shows evidence of about 50% ore and 50% waste. The east side is approaching the breccia that is so evident on the 600 and 700 levels. The ore terminated at this breccia above and it is expected it will have some influence on the continuity of the ore easterly beyond this zone on the 800 level. However, the breccia on this level is freer of oxidation than on upper levels and oxidized vugs above with calcite, quartz and pyrite gangue are reflected on the 800 level with calcite, chalcopyrite and pyrite.

Ore shipped to El Paso during the past month has come from development along the 800 level vein and from an ore shoot on the South Atwood vein on the 600 level. Mining has stopped in

the South Atwood 600 level stopes where there remains to be pulled about 1,000 tons. After this has been accomplished ore will come entirely from the 800 level. Prospecting the South Atwood vein on the 700 level has been without success and it is evident some geological knowledge should be employed. Inasmuch as this vein structure and ore occur in the Phelps Dodge 85 Mine, I suggested to Brannan & Fuller that they obtain geological advice from that firm.

With extension of the 800 level westerly, stoping can be established. This work is continuing on three shifts per day and Mr. Brannan estimates that within 30 days he can increase shipments from the present 12 cars weekly up to 24 cars per week. Mr. Fuller conservatively estimates approximately 70,000 tons of ore between the 700 and 800 levels which he believes will carry them through the remaining period of the lease.

Brannan & Fuller's operation of the Atwood-Henry Clay and 85 mines has not been without serious mistakes. A costly mistake is evident in their approach for prospecting on the 600 and 700 levels of the South Atwood vein in not knowing which direction to explore. Raising to the bottom of the Henry Clay shaft was costly development inasmuch as the raise under the shaft was out of position about 10 feet and this work had to be done over again. Perserverence is the principal factor that has kept these operators in business.

Ore samples taken April 30 on the east side of the 800 level assay:

	Au	Ag	Cu
	.03	1.6	1.8
West side samples	.03	1.2	1.2

In spite of these assays Brannan & Fuller feel they can continue with a profitable operation.

Shipments from this operation January through March are shown below:

		Approx. Average Assay & Analysis						
	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Henry Clay	4949	.015	1.5	1.07	73.5	4.8	1.5	9.9
85 Mine	2712	.02	1.5	1.77	70.0	4.1	1.4	7.0

This tonnage was produced with employment of 30 men. Miners on the 800 level are paid $16 per day, miners on other levels $14, trammers $12 per day.

Werner Lake also is optimistic about the future of this property. Mr. Murray of that organization advised Brannan & Fuller that on expiration of their lease Werner Lake plans to acquire the 85 mine and possibly recondition the old shaft in order to drive under the Henry Clay vein at a lower level. I am advised that Elstone of Sunshine Mining Co. also is interested and has asked permission for examination of the property by Sunshine Mining Co. That company's interest would be for construction of a mill and concentrate production.

Brannan & Fuller have paid Phelps Dodge Corporation in excess of $30,000 royalty on ore produced in the 85 Mine.

2. United States Smelting Co.-Continental Mine. Earl Strong and Galassini are working at the Continental mine on a break-even basis. In December the operation lost $5600 and in January $1200. This loss was incurred from shipping ore from a new area between two stopes where they were encouraged to explore by United States Smelting Co. management. They have gone back to older stoping where ore is better grade. This operation employs 42 men.

For the month of April 7903 wet tons delivered to the mill assayed 2.2% Cu, March shipments averaged 2.3% Cu and Strong estimates tonnage for may will be 2%. One lot from the Continental lease, 992.6 wet tons, 965.03 dry, assayed for settlement 2.14% Cu. Net smelter return on concentrates derived from this tonnage was $4985.21. Royalty paid by the lessees, $597.51, represents 11.986% of smelter return on concentrates. Mill settlement shows milling charge $3.50 per ton with net to lessees $5.17 per ton out of which they must pay mining and hauling to the mill. According to Strong this results in a profit of about 50¢ per ton.

3. American Peru Mining Co. At the time of my visit Mr. Faust was reported in El Paso and Mr. Taylor at Deming. This operation has been stockpiling zinc at the mill. Since April 1st current zinc production has been shipped to the Dumas smelter.

4. Empire Zinc Co. Mr. Winslow was out of town. Mr. Dowding reported operation at the Lynchburg Mine, from which the lead-bearing ore originates, is doing nicely. He had no further comments.

5. McFarland& Hullinger at Johnson Camp continue at the Cyprus Mines property. Mr. Nelson is pessimistic about continuing this operation beyond July of this year. Copper concentrates are shipped to Inspiration Consolidated at Miami and the zinc is purchased by National Zinc at Bartlesville.

6. Ira Moseley and Earl Strong, leasing the quartzite area at Johnson Camp, are supplying siliceous flux to the Douglas smelter. Earl Strong advises me that since the beginning of this operation in March 1959 through March 1961 they have shipped 89,190 tons. This fluxing material averages 0.7% Cu and about 78% SiO_2. Phelps Dodge settlement on 862.41 dry tons assaying .68% Cu net the lessees $2.17 per ton f.o.b. Dragoon. This lot was settled on 28.6¢ copper price less 3.75¢. Copper payment is on 100% of assay. Mr. Strong reports this operation has net about 30¢ per ton profit and it has paid Cyprus Mines about $2000 royalty per month. Moseley estimates he moves about one ton of waste to one ton of ore.

In mining this quartzite for shipment to Douglas Moseley has been confined to horizon 30 to 50 feet across the quartzite beds. As he progresses he finds the continuity of mineralization is extending along the bedding strike and this has drawn the attention of Cyprus Mines. About two months ago Cyprus Mines moved a diamond drill into the area for drilling the quartzite horizon in depth and are now starting the fifth hole. In each hole so far the drill has been set up to cross the beds at right angles, dipping about 60° westerly. In each instance the drill has gone deep enough to

penetrate the underlying shale (schist). Although the depth is not confirmed, Moseley thought these holes were approximately 300 feet deep. No. 5 hole now drilling is almost directly west of the Republic shaft. Since Moseley learned the ore is extending up the strike of the beds he has made a preliminary cut into the bedrock some 200 feet north of the present pit limits. Preliminary observations indicate better ore here than in the original cut.

REED F. WELCH

cc: EMcLTittmann DJPope
RLJourdan CPPollock
CNWaterman TASnedden
WGRouillard KERichard-2
EEGroff

Mr. K.E.Richard-1

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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
MAY 6 1961

May 1, 1961

K. R.
MAY 6 1961

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

SOUTHWEST PRODUCTION*1st QUARTER 1961
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant Tonnage)

Lead Department	Tons Received-1st Qtr.1961 Domestic	Foreign	Total
January	10,906	12,686	23,592
February	10,610	11,390	22,000
March	12,677	1,305	14,071
Total 1st Quarter	34,282	25,381	59,663
Copper Department			
January	17,136	(129)	17,007
February	17,607	439	18,046
March	17,990	109	18,099
Total 1st Quarter	52,733	419	53,152

2. Receipts & Stocks From 15-Day Reports-Estimated Tonnages Excluding Intraplant

Lead Department	1st Qtr.1961 Received	Smelted	On Hand-Tons 1-1-61	4-1-61
Concentrates	39,201	32,572	7,462	13,759
Residue	19,103	18,220	2,192	3,389
Dust	780	621	534	599
Siliceous Lead Ore	824	707	44	155
Pyrite	-	-	826	826
Total 1st Quarter	59,908	52,120	11,058	18,728
Copper Department				
Concentrates	39,005	31,961	3,686	11,011
Matte	304	275	-	-
Residue	3,822	1,991	370	2,238
Scrap	240	187	9	47
Sulphide	-	237	4,642	4,549
Reverb Flux	304	241	9	94
Converter "	9,094	8,958	3,866	4,018
Total 1st Quarter	52,769	43,850	12,582	21,957

*Includes production from Colorado area received at El Paso and Amarillo Plants.

Siliceous Flux: Present source of Copper Department flux contains about 90% SiO2 which requires cutting to around 75%. Brannan & Fuller operating the Henry Clay and 85 Mines at Lordsburg have decreased production in recent months and we have therefore asked Quentin Drunzer to obtain a lease on the Sancho Panza Mine at Allamore, Texas, to supply up to 2,000 tons per month of copper-bearing lower silica material. Drunzer estimates 10,000 to 12,000 tons assaying about 1.75% Cu available for open pit mining at the Sancho Panza property.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received
January	15,715
February	13,671
March	17,242
Total First Quarter	46,628

2. Receipts & Stocks from 15-Day Reports
(Estimated tonnages)

	1st Qtr.1961		On Hand-Tons	
	Received	Smelted	1-1-61	4-1-61
Concentrates	35,881	36,968	1,910	820
Reverb Flux	4,357	8,306	12,200	7,419
Converter "	7,143	4,996	10,027	13,006
Total 1st Quarter	47,381	50,270	24,137	21,245

Siliceous Flux: The Chilito Mine lease expires early in 1962 and renewal negotiations by present operator have not been successful. With anticipated loss of this source of flux I have encouraged development of Little Hill Mines near Oracle to replace the Chilito tonnage.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
from Southwest & Colorado Producers

	Tons Conct. Received
January	7,156
February	6,179
March	5,630
Total First Quarter	18,965

COMMENTS ON SHIPPERS

Bagdad Copper Concentrate production for the first three months of 1961 - 8851 tons assaying about 26.6% Cu, 2 oz Ag. Precipitates will probably start moving to El Paso in May.

Banner Mining Co-Pima District. First quarter production coming from development ore in the Palo Verde shaft - 1611 tons assaying about 29% Cu with .04 oz Au, 13 ozs Ag. Banner management expects soon to start stoping on the 7th and 8th levels of the Palo Verde shaft, gradually increasing concentrate production. For the next few months this probably will not exceed 1000 tons monthly.

Bonney Mine at Lordsburg shipped 1944 tons of concentrates in the first three months of 1961 averaging about 27% Cu, .15 oz Au, 4.5 ozs Ag. This production will continue at about this rate.

Brannan & Fuller shipments for the first quarter 1961 -

	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Henry Clay	4949	.015	1.5	1.07	73.5	4.8	1.5	9.9
85 Mine	2712	.02	1.5	1.77	70.0	5.1	1.4	7.0

Production has dropped considerably in recent months but they hope to increase shipments by June on completion of development work on the Henry Clay 800 level.

Chillito Copper Co. shipments to Hayden for the past three months total 5705 tons assaying about 1.3% Cu with 75-80% SiO2, 6.7% Al2O3. The present operator Gordon Wainwright in unable to reach satisfactory agreement with the mine owners for renewal of his lease expiring in April 1962. As a result we will probably lose this source of siliceous flux. Satisfactory tonnage is now being developed at Little Hill Mines to replace Chillito Mine.

Cyprus Mines-Old Dick & Copper Queen Mines. First quarter production of copper concentrates delivered to Hayden - 2388 tons with average assays about 24% Cu, 1.9 oz Ag.

Duval Sulphur & Potash Co. shipments to El Paso and Hayden for the first three months of 1961 are as follows:

	Tons	Ag	Cu
El Paso	18,257	2.0	24.7
Hayden	7,381	1.9	24.7

Little Hill Mines in Canyon del Oro near Oracle is being developed in the hope this may become a dependable flux source for Hayden plant. With more adequate installation for underground mining, Dave McGee, Lessee, hopes to increase production to 150 tons per day assaying 2% Cu or better. During the first three months of 1961 this operation delivered 1138 tons to Hayden by truck assaying about 1.9% Cu, 73% SiO2, 10% Al2O3.

Pima Mining Company production for first quarter 1961 - 13,003 tons averaging approximately 26% Cu, 3.8 oz Ag. Pima is now mining and milling ore from the Banner "cone" area. Beginning second quarter 1961 this will increase tonnage of concentrates. By the last quarter of this year the mill is expected to be handling 4,000 tons ore daily producing 3.6 million pounds of copper per month or about 6400 tons concentrates. Mill heads for 1961 estimated to be 1.75% Cu.

Shattuck Denn-Iron King production for three months 1961 -

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct	10,249	.05	3.8	2.0	0.4	54.6
Lead Conct	4,398	.68	32.1	31.8	1.6	8.2
Au-Ag Precip.	2.2	56-188	579-1337	4-8.4	7-16.5	26-42

Jig concentrates started moving to El Paso in February. This production is expected to reach 50 tons monthly assaying 15-20 ozs Au, about 10 oz Ag, 10% Pb, Negotiations for the proposed new contract have been held up pending urgent business of Shattuck Denn. It is expected contract terms will be discussed following the annual meeting to be held in Prescott about the middle of May.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
CPPollock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 26, 1961

MR. ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS

K. R.
APR 27 1961
J. H. C.
APR 27 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F.WELCH
NEW MEXICO - APRIL

On a trip to New Mexico last week I confirmed there is now very little activity in base metal mining in that area.

1. Chapman, Wood & Griswold: In conversation with John Wood at Albuquerque I learned there is less interest at present for examining engineers in the Southwest than during the past 20 years this firm has been in business. As a result Messrs. Chapman and Wood are moving to Vancouver, B.C. They have been active for several years in British Columbia and were consulting engineers on the Craigmont Mine. Mr. Griswold will remain in Albuquerque to maintain the laboratory.

2. Alaskan Mining & Milling Co., using an Albuquerque address, could not be contacted. A truckload of material delivered to El Paso in March was of interest for silica content, assaying .10 oz Au, 11 ozs. Ag, 0.1% Cu, 91% SiO_2, 1% Al_2O_3. I could not find anyone in Albuquerque with knowledge of the operation, but while visiting Sierra Minerals & Milling near Winston I learned Alaskan Mining shipped from one of Sierra Minerals claims located about one mile north of the main workings. I was advised there is little activity on the part of Alaskan Mining & Milling and that firm's venture in mining apparently is a feeble attempt.

3. Alaskans International Corp., a subsidiary of Joplin Machinery & Electric Co. in Albuquerque, has been active in promoting mines since the peak interest in uranium promotion. Alaskans International, headed by James H. Reynolds, holds leases on properties in Canada and Mexico with no record of production to my knowledge. This firm also is reported to have interest in oil leases in Bolivia and Panama and in beryllium and gold properties in Colorado.

4. Hidden Splendor Mining Co. I have had correspondence with William D. Collins, Chief Engineer and Geologist stationed at Grants, who indicated interest by his company in base metal mining. As a result Hidden Splendor has been active in examining properties in the Southwest. Collins did not divulge the location of their present mining interest but from description of the mineral occurrence my identification was verified that it is Clarence Barrett's property at Magdalena.

I talked with Dave Turberville, Mine Foreman for Hidden Splendor Mining Co. (formerly at Pima Mine) who advised the No. 1 uranium mine in the Grants area was permanently closed about the middle of April. The present operating uranium property has sufficient ore reserves to carry beyond the contract period with A.E.C. and Hidden Splendor is not producing maximum tonnage at this mine. Turberville confirmed mining conditions in the Grants area are improving with minimum turnover in manpower and greater interest in their work by mine employees.

5. Robert F. Gray, engineer for Phillips Petroleum at Grants, has acquired an interest in claims near Alto located in Philadelphia Canyon at about 8,000 feet elevation. Gray is seeking finances to construct a precipitating plant to treat copper carbonate ore reported to contain 2 million pounds of metal in a vein deposit in monzonite. His associates in this project are LeMay, Deward Kincaid, and McCrory living at Alto. There is no activity at the property at present and until Gray is successful in obtaining sufficient finances, no further work will be undertaken.

It is reported that drilling on this property indicates an ore shoot about 100 feet long, 18 feet wide, continuing in depth 200 to 300 feet, with drill core assaying 6.5% Cu. Gray promised to send me an engineer's report with details on this drilling program. Quentin Drunzer advised me he visited this mine at Alto and picked up cuttings at one drill hole site which assayed 6% Cu. On my next trip to New Mexico I will make it a point to visit this property.

6. Sunshine Mining Co. In my field report for October-November 1960 I described Sunshine Mining Company interest in the Hansonburg District, including the Portales Mine and Clarence Barrett's claims. This firm still holds these properties, although the exploration project was terminated April 15, 1960. Since that time Earl Elstone, local representative for Sunshine, has been living at Socorro keeping the property intact doing some surveying work only. Recently Sunshine Mining decided to reactivate exploration with another drilling program. Mr. S.K. Garrett in the Spokane office advised me unless Sunshine Mining develops an outlet for barite the property will require 16-cent lead price for economic operation. No doubt it is on this basis the claims are being held with an attempt to evaluate markets for the two products. It is rumored that Sunshine Mining spent $125,000 on the first drilling program and if drilling is resumed a similar expenditure will be required.

7. New Mexico Thorium Corp. Lee Downey of Carlsbad has been active in promoting various properties in New Mexico. In my report for October-November 1959 I discussed some of his activities, including construction of a mill at Capitan for treatment of thorium without assurance of ore reserves or market for the concentrates. This mill subsequently was burned to the ground. Still without adequate information on ore tonnage or market, Downey raised additional finances and rebuilt the mill which has just been completed. Both mills have been equipped with new machinery. According to Downey the the thorium property is not operating because of no market for the product and no personnel to manage and operate the mill.

8. Galbar Corp., Mex-Tex Mine. Under promotional management of Lee Downey this firm has entered into a purchase agreement on the Mex-Tex Mine in the Hansonburg District and the mill at San Antonio. Mex-Tex Mining Co., former operators, produced lead jig concentrates and barium concentrates sold for oil-well drilling mud in New Mexico and the Four Corners area. The lead product was shipped to St. Joseph Lead Co. at Herculaneum with some tonnage delivered to El Paso Plant. Records of the Mex-Tex Mining Co. operation for the period 1953-57 are as follows:

Mex-Tex Mining Co. production

	Tons Milled	Concentrates Sold Lead Tons	Concentrates Sold Barite Tons
1953	30,159	657	7,202
1954	24,430	723	4,652
1955	25,343	794	5,461
1956	26,839	535	4,073
1957	27,749	441	4,441

This operation ceased about the end of 1957 and the property has had very little production since that time. Mr. Scott of Socorro, local manager for Mex-Tex Mining Co., had numerous opportunities to dispose of the property on an equitable basis but was asking unreasonable purchase terms. Finally the mine owner, Mr. Bishop of Dallas, made an agreement with Lee Downey for purchase of the mine and mill.

Mr. Downey attempted to operate the Mex-Tex property but soon learned the mine needed exploration work and the mill renovating. He recently employed Quentin Drunzer to evaluate the mine. Tom Futch, metallurgist formerly with Potash Corporation of America at Carlsbad, has been engaged to do some metallurgical test work on the slime dump at the mill to determine if lead and barite can be separated by flotation. This dump contains about 27,000 tons and test work indicates sufficient interest to justify construction of a mill. The slimes assay 4.78% Pb, 58% $BaSO_4$, 11.2 CaF_2. The mill, capacity about 250 tons per day, started operation last week and the feasibility of separating lead and barite by flotation will be determined in the near future.

On the assumption the flotation mill at San Antonio will be satisfactory, Drunzer has recommended installation of a bulk jig plant at the mine. This will require bringing in water some distance but Drunzer believes this will be feasible. A middling product containing lead and barite would then be shipped to San Antonio where it would be ground and separated in two products.

With this in mind, Drunzer evaluated tonnage as follows in successive ore occurrences down the ridge:

Ore Zone	Estimated Tonnage	Approx. Grade
Dump at Snake Pit workings	70,000	3% Pb, 18% $BaSO_4$, 11% CaF_2
Snake Pit orebody-50' wide, 20' thick	85,500	Some samples assay 6.4% Pb
Faulted zone separating Mex-Tex orebody from Snake Pit - Much of this could be mined from surface by stripping	60-70,000	No value determined for this zone
Caliche pit- 40' wide, 100' long, 4' thick	Not Determined	5% Pb-sulphide & carbonate
Bishop orebody	21,333	Drilling not complete
Royal Flush Mine-Samples show 8-10% Pb Ore mined assays 5-6% Pb	20,774	3.4% Pb indicated by drilling
Downey orebody- drilling completed	77,740	3-4% Pb, high grade $BaSO_4$

Galbar Corp, con't.

When success of the flotation plant has been demonstrated installation of the jig plant at the mine will be expedited so the mine will be ready to produce by the time the slime tonnage has been exhausted.

9. Copper Flats Mine, Hillsboro. Wade White of Silver City and Quentin Drunzer joined in a request and obtained a lease on the Copper Flats property near Hillsboro. This mine has been of interest to several large companies and has recently been released by Bear Creek Mining Co. Information obtained from exploration indicates 300,000 tons of 1% Cu available for leaching. This tonnage outcrops and requires no stripping. Drunzer and White plan to put this property in operation with their own capital. At this time they do not know what amount of mining will be required or how much water for a leaching plant will cost.

10. Scholle Sandstone Deposit. Rufus C. Little of Santa Fe has indicated interest in a sandstone copper property south of Scholle which has been brought to our attention a number of times. At one time I visited this property, located in Section 32, T. 1 N., R. 4 E., with Quentin Drunzer to determine the possibilities as a source of flux for El Paso.

In the latter part of 1956 Meader Corp. delivered 92 tons to El Paso from the Scholle property assaying .96 to 2.2% Cu with 50-78% SiO_2, 7.5-15.8% Al_2O_3. In January and February 1957 Scholle Corp. shipped 2576 tons averaging about 1.3% Cu, 79% SiO_2, 1.5% Fe, 4% CaO, 6% Al_2O_3.

Rufus Little, an employee of the State of New Mexico, has done some manganese mining and has inquired about shipping siliceous flux to El Paso if the Scholle product is of interest. I advised him not to pursue this further until he hears from me.

The Scholle deposit, on a State section, is a flat, soft sandstone bed with 4 to 5 feet of soil overburden. Mechanical equipment could strip the sandstone bed very readily, which would drill and blast without excessive cost. The product could be loaded on trucks for hauling about 14 miles to the Santa Fe ramp at Scholle. The copper occurs as thin lenses along bedding planes--chalcocite and carbonate. The deposit cannot produce higher grade than shipped in the past because sorting appears to be impossible. The mineralized zone is about 5 to 8 feet across the bedding. Quentin Drunzer drilled the area from which Meader and Scholle Corp. shipped. This is about 20 feet wide and 200 feet long. Drunzer was interested in shipping silieeous flux and went back into that area after the former operators abandoned the project. His work determined that copper values decrease noticeably away from the banks of the pit, but the ore could be followed lengthwise for another 200 feet in the strike of the pit. Drunzer estimated 3,000 to 5,000 tons assaying 1.5-2% Cu.

11. Sancho Panza Mine, Allamore, Texas. I advised Quentin Drunzer the Sancho Panza might be of interest at the present time. In 1948 and 1949 A.P. Williams shipped the following tonnage from this mine:

Year	Tons	Cu	SiO2	Fe	CaO	Al2O3
1948	451	2.1	46.7	1.5	8.0	8.7
1949	1227	2.0	51.0	2.0	8.0	12.0

In an earlier operation M. F. Drunzer produced 5168 tons averaging about .8 oz Ag, 2.5% Cu, 54% SiO2 1.6% Fe, 9.1% CaO, 11% Al2O3

Inasmuch as El Paso needs to cut silica content in present flux, this product may be suitable. The Sancho Panza is open pit 200 to 300 feet wide with mineralization 9 to 10 feet thick, overburden 2 to 8 feet. Ore reserve is estimated at 10-12,000 tons assaying about 1.75% Cu.

12. Clarence Barrett Magdalena Claims. In my field report for October-November 1959 I mentioned Barrett's exploration work three miles north of Magdalena, N.M. He is still busy in exploring this property. Since my previous visit he has extended the adit work and sunk two shafts, one to a depth of about 70 feet, another 40 feet. Barrett has associates in ownership of these claims--Walter Burson Jr, Phillips Petroleum distributor, and W.G. Johnson, both of Magdalena. Barrett claims this ownership covers two to three square miles.

Barrett has discussed the potentials of his property with several companies, including Consolidated Mining and Smelting of Canada and Barrett reports that company expressed interest. A Denver firm headed by Jim Cazier apparently drilled from some distance to the west. Burson thought these claims may have been examined some years ago by Empire Zinc Co. and possibly this property was drilled as a government project.

The principal mineral showing is coming from a winze about 40 feet deep located at the edge of a dry wash. While most of the ore minerals are oxidized and show evidence of zinc and lead, there are blobs of galena, occasionally sphalerite, and in some instances chalcopyrite. The mineral zone is in the Kelly limestone adjacent to the contact with argillite greenstone igneous rock and strikes almost north and south along vertical limestone beds about 30 to 50 feet west of the contact. Cavities in the oxidized mineral zone in the adit suggest the limestone could have contained 10-15% mineral. The mineral zone beginning at the wash extending northward is easily discernible 600 to 800 feet where it strikes into valley fill.

In June 1960 Barrett shipped 51 tons to El Paso from this prospect assaying:

Au	Ag	Pb	Cu	Zn	SiO2	Fe	CaO	Al2O3	S	As	Sb
.02	1.0	5.1	.20	11.0	49.6	6.4	3.0	2.1	.2	.20	.15

The material coming from the present working face in the 40-foot shaft appears to be better grade than this lot.

This prospect looks like a lively potential and with some exploration work might be made into a producer. In the event the Exploration Department is not interested in examining the property it is my intention to call it to the attention of some small experienced operator.

13. Surprise Claims, Carrizozo. Carl Degner is owner of this claim on the northwest slope of the White Mountains in Walker Canyon District about 10 miles southeast of Carrizozo. The property is now held by New Mexico Copper Corp. and is inactive. Jim Malfi of Albuquerque, who acquired New Mexico Copper Corp., apparently holds a lease on the Surprise claims. Quentin Drunzer reports an interesting copper vein showing on this property, describing the ore occurrence to be a quartz vein filling in granite with copper mineral content undetermined. New Mexico Copper Corp., originating through promotion and inexperienced in mining personnel, did little to explore the Surprise prospect. Drunzer will keep in touch and advise me when a trip should be made to this property later in the year.

The New Mexico Copper Corp. mill at Carrizozo was built to concentrate copper but by the time the mill was completed decreasing interest was being shown in copper and promotional activity became difficult. As a result the only work done on the Surprise vein consisted of a few shallow cuts.

14. Sierra Minerals & Milling, successor to D & R Mining Co., is working at the Prospector's Delight claims. Bart Parker, of Parker Plumbing, Baldwin Park, California, is president of this company. His cousin Burrell Rogers, inexperienced in mining, is manager of the mining operation. Don Fingado is mining engineer and foreman. Rogers' enthusiasm has promoted his cousin in investing $60,000 in the Prospector's Delight property and Parker is quite concerned about the return of his investment inasmuch as this represents capital rather than tax money. Mr. Parker has been advised the ore is improving and, now that the mill is completed, return of capital should be near at hand.

The mine is located 16 miles northwest of Cuchillo over a good road with the exception of about 2 miles. The mill is near Cuchillo close to the highway and near a ranch house where water is developed. The mill consists of a crusher, set of rolls and two jigs. Two lots of jig concentrates from this mill--44 tons--assay about 2 oz Ag, 6% Pb, 1.9% Cu, 7.3% Zn. Prior to construction of the mill D & R Mining and Sierra Minerals shipped approximately 1249 tons of crude ore assaying:

Ag	Pb	Cu	Zn
1.7 - 11.3	1.4 - 7.0	.91 - 4.4	1.6 - 6.2

The ore occurs in limestone immediately above monzonite contact paralelling the dip of bedding. The limestone bedding strikes practically north and south with dip 25° easterly, which also is the dip of the monzonite contact. A small fissure zone striking east and west is the focal point of ore occurrence on the contact. Stoping from surface to minus 250 feet on the dip of bedding has been accomplished. The stope represented a mined area about 10 feet wide and 6 feet deep with little evidence of ore extending along the strike of the beds beyond this weak fissure zone. The ore minerals, most of which are partially oxidized, are sphalerite, galena and primary copper minerals, the gangue being silica and calcite. Occasional blobs of galena, apparently increasing in occurrence with depth, have encouraged Mr. Rogers to continue this operation. Mining geologists of other companies have been in this area. Field men for Utah Construction Co. recently made an examination of the Prospector's Delight claims and gave Rogers some encouragement to continue with the project.

Sierra Minerals & Milling, con't.

The mine is worked on two shift basis using five men and producing 15-20 tons per day. It is quite apparent the ore to be mined in this small shoot is insufficient to justify the expenditure incurred and I am sure Mr. Parker will realize this before long.

15. Don Fingado and Alex W. Johnson are attempting to operate the Big Bear claims in the Apache Mining District northwest of Winston. Fingado reports preliminary sampling indicates 30-35 oz Ag, 0.8% Cu, .2% Pb, 85% SiO_2. The vein is a vertical structure in andesite country rock with maximum width 3 feet and known strike length 200 feet. While this property has been worked in the past, it has produced little if any ore in recent years. Fingado and Johnson are now clearing the road of fallen timber for truck access. Fingado will keep me advised and send samples when he is ready to ship from the Big Bear claims.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
DJPope
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard-1

J. H. C.

APR 15 1961

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 14, 1961

K. R.

APR 15 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

HANDLE

FIELD TRIP REPORT-REED F. WELCH
SOUTHERN ARIZONA-APRIL

Recent rumors from the Patagonia area indicated considerable activity in mine prospecting and on a trip to that section on April 12 I confirmed some of these reports.

1. Ten Grand Claims: W.D. Roper of Safford, who with partners recently sold claims in the Safford area to Kennecott and/or Phelps Dodge, has acquired the above group, claims No. 1-136, located about five miles south of Patagonia. Roper, an old prospector suddenly rich, is exploring the Ten Grand claims by driving an adit into Red Mountain with the idea of developing a leaching area for low grade oxide copper which he thinks the mountain above his adit will contain. The adit, now in about 200 feet, is well equipped with machinery and is progressing with employment of about five men. Roper plans to extend the workings at least 1,000 feet and possibly 2,000 feet, depending on the encouragement at the first objective. He is a good prospector but lacks experience for evaluation of the potential of this property. He called attention to the occurrence of leached copper in an adit a short distance down the creek from his claims, but as he describes this, I believe the material may be iron sulphate. The Roper adit encountered pyrite-bearing dense andesite and in my opinion he has little chance of finding the oxidized mineralization he is seeking.

Roper told me that after he reaches his objective in advancing the adit two large mining companies have expressed interest in examining the property and if justified entering into a drilling program from the face of the adit. The companies mentioned may be Bear Creek Mining and American Metal Climax.

Before moving to the Patagonia area Roper and his partners became interested in the Great Western Mine at Courtland. Under the management of Bill Ward they attempted to leach stope fills of previous operations. This project started out with production of 85% Cu shipped to Inspiration Consolidated at Miami, but poor management and general inexperience resulted in failure and I understand Bear Creek Mining Co. now has an option on the Great Western property. No doubt it was from the project at Courtland that Roper became aware of the potential of leaching operation, stimulating interest in the Red Mountain area at Patagonia where he reports evidence of copper stain in some surface showings. Roper is condifent he can develop a large tonnage of low grade copper on the Ten Grand claims that will be suitable for leaching.

2. Montezuma Mine, Baca Float: Last fall Larry Drake of Tucson acquired a lease on the Montezuma Mine on the Baca Float Landgrant. Drake recently asked permission to ship ore to us but because of disappointment with his past performance I discouraged him. I understand he has asked Strong & Harris to haul a carload of ore for him as soon as trucking equipment is available. He estimates this ore will contain about 20 oz Ag per ton.

Drake apparently interested Utex Exploration Co. of Moab, Utah, in the area and Boyles Bros. last fall drilled two holes for Utex on part of the Montezuma property, after which they removed their equipment. Two months ago Boyles Bros. returned to the Patagonia area, apparently for Utex, and are now drilling the Trenton claim vein.

Drake is working also at the Royal Blue Mine, reported to be lead-silver ore. We received some tonnage from this mine at El Paso and Hayden. El Paso receipts in 1945-46 total 426 tons assaying

Au	Ag	Pb	Cu	SiO_2	Fe	Zn	CaO	S	Al_2O_3
.05-.15	5.6-12.9	1-2	1.9-4.3	45	12	2-3	5	10	5

3. Coronado Mine: Jackson L. Mershon of Bristow, Oklahoma, has purchased over 100 unpatented claims in the Patagonia area including the Coronado, Buena Vista and Four Metals groups. He is having mineral survey on the property by Robert Lenon for the purpose of patenting claims that will qualify. This approach suggests that Mershon is interested in some of the property for real estate although the topography is very rough.

4. Palmetto Group: John L. Splane and Pete Mosier of Tucson hold claims in the Palmetto District on the west slope of the Patagonia Mountains. Three claims of the Palmetto Group are being surveyed for patent. The fact that Mosier is associated with Splane in this venture again suggests that part of the ownership may be of interest for real estate.

5. Humboldt Mine: In the Trench-Flux area Dan Stranahan and Thayer Lindsey (both formerly associated with Ventures, Ltd.) with others have taken over the old Humboldt claim near the Trench Mine. It is expected Stranahan and Lindsey will sink a 100-foot shaft at the location of the old workings.

6. American Metal-Climax Co. has shown some interest in the Aztec Gulch area on the Andes claim. This firm, I understand, is in close contact with Dr. Baker, Geologist, and a student from Southern California, both working on doctorate theses in this area. By keeping in touch with this work, and perhaps employing Baker and the other man, American Metal Climax is showing some interest for exploration work in the area south of Patagonia, which I understand will continue through summer field work.

7. Nash-McFarland: Since J.P.Nash and E.W.McFarland acquired the lease the Flux Mine, through March 1961, has produced about 100,000 tons of ore. McFarland employs 35 men in the mine and mill, alternating operation of mine and mill so the mill runs continuously for one week, after which the ore bins are again filled. This allows the mine to produce about 2,000 tons of ore per month.

Continued work on the 430 level has produced more ore, which is now being raised on to the 360 level. This small shoot reaches maximum width of 14 feet but is limited to about 50 feet in length. The deeper levels of the Flux have been abandoned and water is now flooding that area. The mine will be kept dry above the 730 level.

8. Bonanza Mine, Duquesne: Recently J.P. Nash leased the Bonanza, Illinois and Estelle-Louise mines to James Moreno of Nevada. Moreno placed John McFarren in charge of rehabilitating and unwatering the Bonanza shaft under supervision of A.J. Zinkl of Prescott. McFarren has lowered the water to about the 285 level in the shaft and plans to carry this to 335 feet so the 330 level may be opened for examination and possible exploration work.

McFarren will extend the raise in the Estelle-Louise area for about 30 feet, looking for zinc-copper ore that occurs in a stope with difficult access. Also he has cleaned out the winze under the Elayer copper stope which carries zinc-copper showings and will follow this hoping it will lead to another orebody.

This operation is just getting started. Part of the program calls for long-hole drilling in some of the better areas on the 230 and 330 levels.

McFarren and Zinkl are interested in the old mine dump which they believe contains about 15,000 tons with values in copper and zinc. Probing of the dump shows interesting mineral content but there is considerable oxidation that may hinder satisfactory separation of the zinc and copper for concentration.

9. Holy Joe Group, Aravaipa Creek: L.L. Belnap, 1466 Indian Hill Drive, Salt Lake City, is in the trucking business between Arizona and Utah, frequently hauling ore from northwestern Arizona to the Utah smelter. He has developed an interest in acquiring mining property and last week called my attention to the Holy Joe group (6 claims) located about nine miles east of the Mammoth-Winkelman road up Aravaipa Creek.

These claims are owned by Jess and Russ Lacey, Box 548, Mammoth, presently under lease to Belnap. Lacey became interested in the property and located claims 3 or 4 years ago, originally known as the Three Jokers claims. In March 1959 Lacey brought in a sample assaying .01 Au, 11.4 Ag, 7.15% Cu. Because of inaccessibility of the property, however, Lacey was not able to prepare a shipment.

Holy Joe Group, Con't.

With the idea of shipping siliceous silver-copper ore to Hayden, Belnap was influential in having me visit the property. The country rock is Apache series sediments with pre-Cambrian granite and diabase dikes and sills. The diabase has intruded into the quartzite, limiting the tonnage available for open pit mining even if the values prove high enough to justify shipping. A typical sample cut across the quartzite series adjacent to northeasterly shear zone and across 30 inches was left at Hayden for assays.

10. Little Hill Mines. Dave McGee, leasing this property on the Wilson Ranch, has been shipping siliceous copper-bearing flux by truck to Hayden. The claims are located about 3 miles off the Oracle highway in Canyon del Oro drainage basin. Initial production came from surface outcrops, but McGee has now cleaned out the old adit and winze for underground mining. He is working through an 80-foot internal winze where he reports ore 35 feet wide assaying 2% Cu. At this position the vein is being explored westerly for 135 feet and with frequent crosscutting of the vein McGee thinks he has opened considerable tonnage that may be moved to Hayden. On the east side of the winze he reports about 6 feet of ore assaying 2.7% Cu. McGee estimates he can ship 50 tons a day beginning the second week of April. After he has adequately equipped the mine with working stope faces he hopes to produce 400 tons per week. With response of the vein to development work, McGee plans to raise a vertical shaft to the surface to afford easier access for larger production. On completion of this shaft he believes production may reach 150 tons per day.

I have encouraged Dave McGee in this work, particularly since Mr. Groff reports satisfactory experience in using this product in the converters. The mineralization is oxide copper, principally chryscolla with typical analysis. Receipts at Hayden for the first quarter 1961 -- 1138 tons-- assay:

Cu	SiO2	Fe	CaO	Al2O3
1.68-1.99%	73%	1.8	0.6	10

11. Catalina Mining Co. About 1,000 feet east of Dave McGee's adit, Louis McGee is prospecting the same vein structure by sinking a shaft. He is experiencing some disappointment, although the vein structure continues to the east beyond his lease. At the position of his shaft there is considerable faulting along the vein and the ore he started the shaft on has now pinched to fault gouge 5 feet wide. The shaft is down about 50 feet. It appears this strike faulting condition might open up in depth, but Louis McGee may not have finances to continue prospecting. For the first quarter 1961 Catalina Mining Co. delivered 191 tons assaying:

Cu	SiO2	Fe	Al2O3
1.86-2.87	67	2.3	13.6

This production came from surface cut.

12. Chilito Mine, Banner District: For a number of years our principal source of converter flux at Hayden has been the Chilito Mine under lease to Gordon Wainwright. For the period 1953 through March 1961 receipts amount to about 76,500 tons with approximately 1.5% Cu, 75-80% SiO_2, 5-6% Al_2O_3. The ten year lease expires early next year and in an attempt to prepare for the stripping required for continued pit mining Wainwright has been trying to negotiate an extension of his lease. However, because of outside influence, with promoters offering unreasonable terms for the property, the lessors are asking cash payment of $15,000 and royalty increase from present 5% to 10%.

In anticipation of losing the Chilito Mine as a source of siliceous flux I will encourage faster exploration and development at the Little Hills Mine near Oracle.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
DJPope
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard-1 J.H.C.

MR. HHC-JMR-AGB, SWF
READ AND RETURN ____ HANDLE ____
PREPARE ANSWERS ____
FILE ____ INITIALS ____

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

APR 3 - 1961

March 30,1961

K. R.

MAR 31 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
NORTHERN ARIZONA-MARCH

1. Transarizona Resources: At Casa Grande I visited George Freeman who is still trying to obtain finances to add two new furnaces to the plant at Lake Shore property south of Casa Grande. Freeman is working for $600,000 for plant modification with Transcontinental Resources, Ltd. supplying $300,000. The last production of concentrates shipped from the single-furnace operation assays 53-54% Cu. Freeman is hopeful this can be increased to 60-65% with better plant efficiency. A three furnace operation would allow the plant to process 750 tons per day.

Pending modification of the Lake Shore installation, Freeman and James Mason on their own have gone into the silica business with production coming from quartzite at the old Orizaba Mine. They are shipping about 1500 tons per month to Ajo for converter flux and about 500 tons monthly of patching silica sized minus 4 inch assaying 95%+ SiO_2, 0.9% Al_2O_3, 1.1% CaO, 0.8% Fe. From the patching silica they realize $7.00 per ton to pay freight, hauling and mining. In the event we are interested in patching silica, Freeman thinks he could deliver 80% minus 100 inch at a cost of $19 to $20 per ton. With other outlets for such product the price could be reduced.

Freeman is equipped with wagon drill and compressors for cheap mining and has this year's production drilled and blasted at a cost of 87¢ per ton. He advises that for 1960 silica production they received $120,000.

In mining the silica Freeman occasionally encounters high grade silver-lead lenses which he has sorted for shipment to El Paso. This product is expected to assay 500-600 ozs. Ag. The barren silica moving to Ajo contains 1-2 ozs Ag per ton.

2. Mexico-Pacific Mining Co. at Cave Creek north of Phoenix is conducting a small operation on a gold property. The company is managed by P.M. Taber and G.E.Brown. C.A. Knight is operating a small portable mill on the property. Neither Taber nor Brown understand much about mining and are attempting to mine large thicknesses of barren schist. They are under the impression this is the vein but as a matter of fact the vein is an iron-siliceous structure 4 to 5 feet wide. The material being mined by open-cut methods, of course, contains large amounts of talcy sericitic schist which on grinding in the mill becomes slime. The mill feed is reported to contain about .56 oz Au per ton but no one has verification of this assay. The small pile of slime now produced is expected to assay about $47 per ton in gold but this also has not been verified. I advised Messrs. Brown and Knight I could not handle the product in its present form and I would be reluctant to purchase it in any case without knowledge of grade and analysis.

Mexico-Pacific Mining Co.,Con't.

Mexico-Pacific Mining Company has located 30 claims and survey for patent is now under way. An off-the-record remark leads me to believe the object is to obtain title to mountain real estate which they could not obtain otherwise. If patent is issued on the mining claims it is quite apparent mining will yield way to real estate promotion inasmuch as the Cave Creek area is preparing for subdivision almost continous from Phoenix.

3. Solor Minerals-Copper Giant Mine: In 1956 Ranrex Mining Company started to drive a lower adit on the Copper Giant property at Hackberry. This work progressed about 1,000 feet toward the vein when finances were exhausted and with decease of the operator. Solor Minerals, successor to the lease in 1960, continued the adit to the vein and drifted 250 feet on this structure intercepting the old shaft from surface. At this position the vein is 2.0 to 2.5 feet wide in massive white quartz with specks, small streaks and blobs of chalcopyrite, visually estimated to carry 1-2% Cu. This vein, contained in schist foot and hanging walls, strikes northerly and dips about 75-80° west.

Solor Minerals, managed by John Carroll of Twin Falls, Idaho, recently shipped four cars to Hayden which were unsatisfactory in grade and incurred a deficit for freight. This deficit was made up by a check from Mr. Carroll. My advice to Carroll was that he should not attempt to mine this ore with the expectation of an economic outlet at Hayden. He has been advised by a practical miner who knows nothing about costs and, since Carroll has no knowledge of mining, he has been led astray.

4. Clarkdale Smelter Cleanup. W.W. Jacobson, formerly with our Murray plant, is engaged in cleaning up the old Clarkdale smelter which he has leased. Because of his experience at Murray, followed by cleanup at Midvale, he is prepared to do a good job at Clarkdale even though the present owners of the plant, Webb & Knapp, consider there is no cleanup remaining.

In past years we have received 7200 tons of cleanup material from this plant containing approximately 337 ounces gold, 13,500 ounces silver and 790,000 pounds of copper. Two cars recently shipped to Hayden by Jacobson assay 3.65% and 4.97% Cu. This is the lowest grade he has shipped. Previous cars delivered to Superior and Miami assayed 6-11% Cu with return of $20,000. While our Hayden Plant is down for remodeling, Jacobson will ship to the other outlets.

In the course of this cleanup of the old smelter yard, Jacobson encountered about 20 tons of lead matte, not recognized in previous cleanup operations. This product will be shipped to El Paso.

5. Shattuck Denn Mining Corp. In view of the pending contract proposal I visited the Iron King property in order to be familiar with current operations before Mr. Bardon's arrival for contract discussion. Mr. Kentro was very cooperative and supplied me with data pertinent to success of the operation.

Shattuck Denn, Con't.

To familiarize myself with present underground conditions I visited the 21st level which appears identical in size and mining method with the 15th level which I saw about six years ago. No. 7 shaft is being deepened, with the sinking hoist on the 21st level, and at present is at 2716 feet. Sinking is done on a two-shift basis and at the same time No. 6 is being connected with lower workings by raising. No. 7 shaft hoist has been converted from 400 to 600 H.P. motor and arrangements are being made to modify the hoist drum from 1½" to 1½" cable which will adequately serve the mine to 4,000 feet depth.

Current production is 1050 tons crude ore per day. The mine is on a 6-day basis with men working 5 days only.

The 17th, 18th, 19th and 21st levels are in ore on the north face of the ore zone which is about 1,000 feet south of the end-line of Iron King claims. The property north of Iron King is owned by Western Gold and Uranium(formerly Golden Crown Mining Co.). Consolidated Mining and Smelting Company of British Columbia is seriously considering entering into an agreement with Western Gold and Uranium to develop that property. A meeting has been arranged with Mr. Bardon in the near future to discuss and possibly conclude arrangements for exploring northerly through the Iron King workings.

Ore in the Iron King vein is about 2,000 to 2500 feet long on strike and practically continuous for that distance and with depth to the 21st level, approximately 2366 feet from the collar of No. 7 shaft.

Recent mine evaluation has disclosed the possibility of occurrence of a minable hanging wall vein with 2-3% Cu and gold, silver, lead and zinc. This vein, about 80 feet west of Iron King vein, is not as yet proven to be as extensive and continuous as the Iron King vein but exploration is encouraging and some metallurgical test work has been done on this ore with indicated success. At present Shattuck Denn has no plan to modify the mill to accommodate this copper-bearing ore. It is expected the vein structure must be developed for tonnage before installing copper circuit.

The latest information on Mr. Bardon's projected trip to Arizona is early in April but the date has not yet been advised.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
DJPope
CPPollock
TASnedden
KERichard-2

Mr. K.E.Richard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 21,1961

K. R.

FEB 28 1961

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
NORTHERN SONORA FEB. 1961

In view of the importance of tonnage now moving to El Paso and Amarillo from northern Sonora I am listing below receipts in 1960 from various shippers in this area. This tonnage is rather impressive, particularly with present depressed lead market. With the exception of Minas de Guatamo, resuming production about the middle of 1960, this tonnage is crude ore.

	Dry Tons 1960	
Fcc. del Pacifico Lead Dept.		
A.A. Antunez, Hermosillo	106	
Servando Lemas F., Benjamin Hill	783	
Raul F. Lemas " "	935	
Minas de Guatamo,Hermosillo-Lead Conct	667	
Minerales, S.A., Santa Ana	1,065	
Minerales de Hermosillo	411	
Jorge F. Robinson	49	
Total Fcc. del Pacifico - El Paso		4,016
Nacozari Railroad		
Lead Dept. Gustavo Aldana A.	48	
J. M. Borevitz	98	
M. A. Castillo	114	
Angel Navarez (Raul Ochoa C.)	35	
		295
Copper Dept. Gustavo Aldana A.		47
Fcc. del Pacifico - Zinc Conct Minas de Guatamo		1,885
Total Tonnage Northern Sonora 1960		6,243

Because of the action taken as indicated in my report on Southwest Production for 1960 I visited the Hermosillo area with comments on shippers as follows:

1. Raul F. Lemas is working the San Eduardo and Tizoc mines in the Pitiquito district and the Plomosa Mine at Tepachi. At the Eduardo property Lemas is still working on completing construction of a jig mill. He was involved with this construction when I visited him about a year ago but was interrupted as a result of an option on the mine given to Bill Allison of Phoenix. Allison failed to exercise his option when he learned of the new mining regulations in Mexico. While his interests are somewhat scattered between the three properties, Lemas is doing a good job and is a hard worker.

2. Jorge F. Robinson, located in the Asarco yard in Hermosillo at Yucatan y Iturbe, has been accumulating considerable tonnage of ore for shipment to Cananea and an occasional car for El Paso. His assays on a recent lot of lead ore shipped to El Paso are 5 grams Au, 884 grams Ag, 23% Pb. Robinson makes a practice of leasing properties and putting gambusinos to work to assure a source of ore for his agency. His business is picking up and out of many small lots he accumulates 200-300 tons per month, most of which is shipped to Cananea.

3. Minas de Guatamo is sharing the Asarco yard with Jorge Robinson. This facility seems to be adequate for accumulating ores and concentrates for shipment by rail and is the most convenient ore-loading arrangement in Hermosillo. At the time of my visit Minas de Guatamo had stored in the patio about 100 tons of lead concentrates and 150 tons of zinc and Lynch had ordered cars for shipment.

At the Guatamo property Lynch employs about 100 men in the mine and mill, processing 50 tons per day and accumulating about 125 tons of lead concentrates and 250 tons of zinc per month. The ore assays about 300 grams Ag, 5% Pb, 14% Zn, 1.5% Cu and occurs in two parallel veins about 30 feet apart over a length of at least 1,000 feet. One vein is about 5 feet wide, the other about 7 feet. Lynch is now on the first level below the adit and must sink a shaft to open up a new level. Minas de Guatamo does not have adequate funds for this work and Lynch is now developing means to secure the required capital.

Comision de Fomento Minero receives the returns on shipments made by Minas de Guatamo. The Hermosillo office is authorized to advance Minas de Guatamo 60% of the value of concentrates based on sampling done by the government agency in the Hermosillo patio. A further advance is made equivalent to 60% of the tax subsidy. About three years ago Lynch obtained a substantial tax subsidy granted to extend up to April 1960. However, Fomento Minero at Hermosillo still applies this tax subsidy without finalization from Mexico City of request for extension.

Minas de Guatamo is hopeful of not being held for the recent additional 15% tax on sale of gold and silver because of the business connection with Fomento Minero. Lynch is willing to let the government agency have 51% of Minas de Guatamo stock and if such arrangement is concluded the operators will not be liable for the additional tax. The operation at Batuc has never paid the stockholders a return and consequently they are not apprehensive in making this stock transfer. This operation keeps the community of Batuc alive and perhaps Comision de Fomento Minero will accept this proposal.

4. Minerales de Hermosillo, Jesus Navarro Cordova, successor of Juan Serrato's ore-buying agency, has moved to a new location at Num. 12 Ave. Doce. His business seems to be better run than the predecessor's. As in the case of other ore buyers in Hermosillo, Navarro is accumulating copper siliceous ore for shipment to Cananea. On inquiry why mining of copper ore is more important in preference to lead I was advised the present lead price has discouraged gambusino operation. In spite of this, lead ore still dribbles into the Minerales de Hermosillo yard. Navarro has not leased mines for gambusino operation but has been successful in accumulating about 200 tons per month.

5. Minas de San Javier: For the past several years Louis Pitzel has contacted this office regarding his operation at San Javier financed with money from California in a cautious manner employing 7 or 8 men. Pitzel has been held up for interpretation of the new mining regulations in Mexico but is confident he will

Minas de San Javier, con't.

be able to operate as long as he has assurance of tax subsidy. Pitzel has opened up the lower adit level, cleaning out the old workings and advancing the face in ore 100 to 200 feet. He advises ore encountered in the adit level assays about .087 oz Au, 34 ozs Ag, 6.5% Pb. By careful mining he estimates he can sort the ore to about .12 oz Au, 46 ozs Ag, 9-10% Pb. His purpose in persevering in exploration at San Javier is encouragement from the new work together with reports that ore shoots are continuous in depth to the lower level, indicating 200,000-300,000 tons of potential ore. If such an ore body proves to exist a concentrator would be installed to assist in upgrading the ore.

6. Cananea Smelter. While in Hermosillo I met Francisco Varela who reports that tonnage of copper ore moving from Sonora to Cananea has dropped considerably since the decrease in copper price. Mr. Varela advises me the Cananea smelter now operates in the name Compania de Minera Cananea.

7. Minerales, S.A. At Santa Ana Marcos Serrato is making regular shipments to Cananea of silver-low gold siliceous ore. He also accumulates copper siliceous ore, some of which comes from the Caborca area. About two months ago Marcos closed his Caborca buying station inasmuch as it costs as much to handle ore out of Caborca as it does to truck to Santa Ana and load on the railroad at that point. He found also that his agency at Caborca was not taking dependable samples and he was paying for higher metal content than determined in his assay office or at Cananea. Marcos is shipping 400-500 tons per month to Cananea and an occasional carload of lead ore to El Paso. At present he has about 75 tons for El Paso delivery but does not have an export permit. He advises me he has trouble in obtain export permits.

According to Mr. Serrato there has been a controversy over tax subsidy applying on copper ore shipped to Cananea. This has arisen over deduction from price of copper made for the refinery Cobre de Mexico. The refinery deducts 4¢ from copper price on which tax refund was interpreted not to apply. However, before the previous President of Mexico retired he issued an order changing this interpretation and allowing tax subsidy on deduction from copper price retroactive to 1956 or 1957. Minerales,S.A. received $4,550 pesos over a period of five months in 1960 representing tax subsidy on price deduction on past shipments. No doubt the full amount will eventually be refunded to Cananea shippers and will represent a substantial sum of money. In the past the tax subsidy has been based on export copper price whereas current settlement is on a weighted average of export price and the price realized on sales in Mexico.

8. Pacific Brokerage Co. At Nogales I visited this brokerage firm. The recent directive requiring payment of 75% of production and export ad valorem taxes on exported ores and concentrates before crossing the border has been overcome by arrangement between the broker and shippers in Sonora. The brokerage firm is satisfied with the new arrangement whereby Mexican customs obtains weights and assays when cars arrive at Nogales, Sonora, for evaluation of taxes and submits statement to Pacific Brokerage Co. representing 75% of the Mexican taxes.

Pacific Brokerage Co., con't

The balance of the tax obligation is then paid direct by the shipper. Charges for crossing are added by the broker in the statement submitted to the smelters and represents final deduction for Mexican taxes in smelter liquidations which permits expediting settlement with shippers in Sonora.

With reference to the recent 15% additional tax on gold and silver in Mexican products, the procedure for handling has not yet been resolved.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
RAMora
WJNock
JGUrquhart
TPClendenin
DJPope
CPPollock
TASnedden
KERichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

K. R.

February 1,1961

FEB 2 1961

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

SOUTHWEST PRODUCTION 1960
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant tonnages)

Lead Department	Tons Received-Year 1960 Domestic	Foreign	Total
January	11,666	25,167	36,833
February	10,071	9,315	19,386
March	13,711	13,763	27,474
April	10,264	717	10,981
May	12,847	14,497	27,344
June	8,286	12,921	21,207
July	7,281	6,501	13,782
August	6,504	12,899	19,403
September	10,591	18,163	28,754
October	10,493	23,303	33,796
November	9,357	999	10,356
December	9,766	1,174	10,940
Total	120,837	139,419	260,256
Copper Department			
January	26,413	61	26,474
February	26,966	100	27,066
March	30,109	6	30,115
April	22,506	(4)	22,502
May	28,853	45	28,898
June	17,793	-	17,793
July	21,657	135	21,792
August	19,555	-	19,555
September	20,926	65	20,991
October	18,835	-	18,835
November	16,084	53	16,137
December	18,505	530	19,035
Total	268,202	991	269,193

2. Fluxing Situation and Stocks
(From 15-day Reports--Estimated Tonnages Excluding Intraplant)

Lead Department	Total 1960 Received	Smelted	On Hand-Tons 1-1-60	1-1-61
Concentrates	168,945	166,548	6,225	7,462
Residue	81,613	82,701	2,611	2,192
Dust	4,183	3,559	163	534
Siliceous Lead	7,039	8,486	1,386	44
Pyrite	62	62	826	826
Total	261,842	261,356	11,221	11,058

El Paso Plant, Con't.

Copper Department	Total 1960 Received	Total 1960 Smelted	On Hand-Tons 1-1-60	On Hand-Tons 1-1-61
Concentrates	201,368	205,227	7,352	3,686
Matte	4,414	4,867	424	-
Residue	4,145	3,977	311	370
Scrap	1,612	1,871	47	9
Sulphide	2,187	255	2,712	4,642
Reverb Flux	1,214	1,306	97	9
Converter "	53,061	62,411	12,230	3,866
Total	268,001	279,914	23,173	12,582

In December Leadville tonnages startd moving to El Paso Plant.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received		Tons Received
January	21,201	July	16,058
February	24,384	August	17,523
March	28,772	September	15,764
April	22,136	October	17,758
May	27,433	November	17,961
June	22,330	December	19,619
Total First Half	146,256	Total Year	250,939

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tons)

	Total Year 1960 Received	Total Year 1960 Smelted	Tons on Hand 1-1-60	Tons on Hand 1-1-61
Concentrates	180,420	181,689	2,985	1,910
Reverb Flux	44,998	38,923	6,935	12,200
Converter "	27,114	23,108	5,756	10,027
Total	252,532	243,720	15,676	24,137

Flux Stocks have been built up with purchase of siliceous tailings from the Mammoth dump, approximately 5,000 tons trucked to Hayden by McFarland & Hullinger during November and December. The Chilito Mine continues as the principal source of converter flux. Little Hill Mines and Catalina Mining Co., both mining on the Wilson Ranch in Canyon del Oro near Oracle, are supplying copper-bearing flux. Development work at this property has been encouraged to determine the potential.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi from Southwest Producers

	Tons Rec'd.-Conct		Tons Rec'd-Conct
January	2,406	July	3,655
February	4,270	August	3,856
March	4,270	September	3,893
April	3,670	October	3,665
May	4,124	November	3,985
June	4,001	December	3,624
Total 1st Half	22,741	Total Year	45,419

COMMENTS ON SHIPPERS

Bagdad Copper Corporation. Concentrate production received at Hayden in 1960 totals 55,621 tons assaying 21.8-40% Cu with about 1.5 oz Ag. It is expected concentrate production will continue in 1961 at the rate of 3500-4000 tons per month.

Banner MiningCompany,Pima District: Concentrates from Mineral Hill Mill shipped to El Paso total 4,945 tons for 1960, ore coming from development in the Daisy and Palo Verde shaft areas. For 1960 concentrates assay 25-31.5% Cu, 4-13.6 oz Ag. Some of the ore from the new Palo Verde shaft contains gold-silver values, recent carlots of concentrates showing up to .05 oz Au, 16 ozs. Ag. The mill is expected to be operating near capacity by the end of 1961, treating ore from the Daisy and Palo Verde shaft.

Bonney Mine, Lordsburg: Production for 1960 - 6613 tons averaging about 28% Cu, 4.5 Ag, .12 Au. This production is expected to continue at the rate of about 600 tons monthly. A new vein encountered in this property assures a longer life to the mine.

Brannan & Fuller, Lordsburg: Fluxing ore delivered to El Paso in 1960 is shown below:

	Dry Tons	Au	Ag	Cu	SiO_2	Fe	Al_2O_3
Henry Clay	17,811	.04	2.8	1.34	70	5	8
85 Mine	34,530	.038	2.4	1.5	66	7	8

The Henry Clay shaft is being sunk to the 800 level from which this property and the Phelps Dodge 85 Mine will be operated. Production should continue at about the same rate through 1961.

Chillito Copper Co. Shipments of siliceous flux to Hayden in 1960 total 24,398 tons averaging about 1.5% Cu, with 76-81% SiO_2, 4.8-7.9 Al_2O_3. When a satisfactory new lease is concluded, arrangements will be made for delivery of flux on a tonnage basis without sampling.

Cyprus Mines Corp. at Bagdad delivered to Hayden in 1960 11,776 tons assaying 23-26% Cu with about 1.8 oz Ag, 10% Zn. Production will continue in 1961 at a rate of about 1,000 tons monthly with mill feed coming from the Old Dick and Copper Queen mines.

Duval Sulphur & Potash, Esperanza Pit production for 1960 is shown below:

Receiving Plant	Dry Tons	Ag	Cu
El Paso	89,904	1.5 - 2.0	23.1 - 27.6
Hayden	34,411	1.5 - 2.7	22.4 - 27.8

Production will continue through 1961 at approximately the same rate.

Gibralter Minerals production of lead concentrates from the American Mine at Hachita in 1960 - 474 tons averaging about 60% Pb with 51 ozs Ag, .03 oz Au. Two cars have been shipped since last June when I visited the property and apparently some new ore has been developed.

Little Hill Mines during the last half of 1960 trucked 4,145 tons of high-silica ore to Hayden from the Wilson ranch area, Gold Hill claim, in Canyon del Oro. This flux assays from 1.2 to 1.59% Cu, 76-83 SiO_2, 4-8% Al_2O_3. Dave McGee, Lessee, is now mining underground with resulting product containing better copper value with lower silica and higher alumina, which seems to be satisfactory for smelter flux. Part of Dave McGee's holding has been leased to his cousin Louis McGee, dba Catalina Mining Co., who is also shipping fluxing material to Hayden. Development work in this property is being encouraged to determine the potential of this deposit.

Nash-McFarland-Trench Mill, Patagonia. Concentrate production in 1960, coming principally from Asarco's Flux mine, is shown below.

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conct	2,150	.02	40.0	70.4	1.4	4.2
Zinc Conct	3,149	-	2.4	1.3	1.4	54.5

An adjustment has been made in royalty provisions effective January 1 to encourage continuation of this operation on present metal market. It is hoped also that more mill feed may be developed in the Nash Mines at Duquesne.

Pima Mining Company receipts at El Paso in 1960 total 56,865 tons assaying 22.5 - 29.1% Cu with about 3.5 oz Ag. Stripping of the "cone area" has exposed ore but concentrate grade and tonnage will not increase over last year's receipts until the last half of 1961. Low grade ore mined in the east end and hanging wall of the pit has resulted in recent low grade concentrate shipments.

Shattuck Denn Mining Corp. Iron King production for 1960 is shown below.

	Dry Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct	40,251	.04-.05	2.3- 3.6	1.1-2.2	.30	54.3-56.5
Lead Conct	24,440	.68-1.15	28 - 40	30 - 35	1.5-1.8	7.2- 9.3
Au-Ag Ppts	19.4	210-518	1563-3891	.5 - 12	12.6-32.5	19 - 46

A new contract is now being negotiated for three year extension with revision proposed in zinc terms to be effective January 1,1961. The new purchase agreement will cover also 35-40 tons per month of jig concentrates for El Paso delivery assaying 20-30 ozs Au, about 6 ozs Ag, 8-10% Pb.

Transarizona Resources Started production last July at the Lake Shore Mine south of Casa Grande. Shipments were suspended at the end of November for installation of an additional furnace which the operators hope to be completed in the near future and production resumed at the rate of about 200 tons monthly. Receipts at El Paso and Hayden during the last half of 1960 are shown below.

	Dry Tons	Au	Cu
El Paso	341	.01-.10	20.1- 53.2
Hayden	95	.10-.11	45.1- 50.8

When this product was brought up to over 50% Cu the published rate to El Paso did not cover the higher valuation. For this reason we agreed to handle shipments at Hayden pending publication of rate for El Paso delivery. Rate covering freight value to $100 per ton Casa Grande to El Paso became effective January 7,1961.

United States Smelting Co., Bayard,N.M. Shipments to El Paso in 1960 -

Dry Tons	Au	Ag	Cu	Zn
8,331	.07-.10	2.0	26 - 28	4-8

Production of copper concentrates at Bayard mill is expected to continue at the same rate providing the copper price does not drop below 28 cents.

C.D. Wilson at the Narragansett Mine, Helvetia, has been shipping selected product to Hayden since the middle of the year. Shipments in 1960 - 2226 tons show range in copper assay 2.7-7.7%. Wilson is now shipping one to two cars per month averaging about 5.8% Cu and the operation has been more profitable shipping selected ore and this product is more satisfactory for the smelter.

Yucca Mining & Milling Co. in November 1960 reopened the Antler Mine at Yucca. Two carloads of low grade copper concentrate were shipped to El Paso, averaging about 10% Cu with 4 oz Ag. The zinc product, which was off grade and not suitable for a zinc plant, was shipped to International Smelting at Tooele. New flotation cells are being installed to improve concentrate production. Yucca Mining and Milling resumed this operation because of the value of tailings sold in the California market as soil conditioner at a price of about $20 per ton.

RECEIPTS FROM SONORA

	Dry Tons-1960	
Fcc. del Pacifico-Lead Dept.		
A.A. Antunez, Hermosillo	106	
Servando Lemas F., Benj. Hill	783	
Raul Lemas F. " "	935	
Minas de Guatamo,Hermosillo -Lead Conct	667	
Minerales,S.A., Santa Ana	1,065	
Minerales de Hermosillo	411	
Jorge F.Robinson	49	
Total Fcc. del Pacifico - El Paso		4,016

Receipts from Sonora, Con't		
Fwd. Fcc del Pac., El Paso		4,016
Nacozari Railroad		
Lead Dept. Gustavo Aldana A.	48	
J.M. Borevitz	98	
M.A. Castillo	114	
Angel-Navarez (Raul Ochoa C.)	35	
		295
Copper Dept. Gustavo Aldana A.		47
Fcc.del Pacifico-Zinc Conct:Minas de Guatamo		1,885
Total tonnage Sonora 1960		6,243

We have been forced to cancel the Company bond with Ferrocarril del Pacifico because of delayed billing for additional charges on freight tax in Mexico. In some cases the Mexican line has asked for accounting by the smelter on shipments liquidated four years earlier with no opportunity to collect from shipper. The smelter will continue to deduct freight charges as in the past but will not be responsible for additional billing by the Mexican line after shipment has been liquidated. Our shippers in Sonora, I believe, will have no difficulty in posting personal bond with the Fcc. del Pacifico and no objection has been received from them. We continue to guarantee freight charges with Southern Pacific from the border to the smelter.

REED F. WELCH

cc:EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
CPPollock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

December 21,1960

K. R

DEC 23 1960

Mr. E. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
NORTHERN ARIZONA-DEC. 1960

1. Kelsey & Associates (Kelsey and wife) at Wickenburg has been working on the old Abe Lincoln mine for about a year. Conversations with Kelsey at various times have kept me advised of his plans in the Wickenburg area. Recently two cars were delivered to Hayden, shipped in the name of Silver Queen Mines, assaying:

Lot No.	Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
943/1	32.2	.003	.07	4.20	50.6	12.1	5.3	4.1
1007/2	55.9	Tr	-	2.53	55.8	12.9	3.9	4.1

Shortly after receipt of these lots at the smelter we were served with garnishment papers on the proceeds.

Last week I visited the Abe Lincoln mine and find there has been no activity at this property. However, to the north, possibly on the San Juan Mine claims, Kelsey has done some stripping along a fissure zone containing oxide minerals and the ore shipped to Hayden apparently originated in this area. The mineralized zone is a fissure not over 3 to 4 feet wide with small stringers of copper oxide. Because of the method of mining these shipments were a disappointment to Kelsey who could not be located at the time I visited Wickenburg. Subsequently he reported to my office that the garnishments have been satisfied and new miners will be employed for future work. However, until Kelsey recognises the need for selective mining his shipments will not be up to grade. I understand he is interested also in the Monte Christo mine at Constellation.

2. Dan Russell and two associates are leasing the Stuckey property about two miles out of Bagdad on the road to Old Dick mine. These old claims show considerable iron oxide with copper oxide minerals in minor proportion. Russell has selected specimens for copper determination assaying as high as 48%, ignoring the necessity of including lower grade material to determine the grade of his shipping product. The vein material also contains a small amount of galena and oxidized lead minerals. A good grade product could be handsorted for shipment if Russell and associates understood the rudiments of preparing ore for shipment. Russell is employed in the crushing department at the Old Dick mine and works at the Stuckey claims only on weekends. He is inexperienced in mining and obtains counsel from visitation of flying saucer men.

3. Cyprus Mines Corp. The Old Dick mill is operating at capacity--245 tons per day. Eighty men are employed in the mine, mill and office, including 5 men on development work in the Copper Queen Mine. Current mill heads assay 3.5% Cu, 10% Zn. Copper concentrates are shipped to Hayden at the rate of about 1,000 tons monthly with approximately the same tonnage of zinc concentrates moving to Bartlesville.

Cyprus Mines, con't.

Mill feed is coming from the 800 level of the Old Dick shaft, currently being deepened to the 900 level. I understand prospecting by diamond drilling in depth continues in ore. Mr. Sundeen advises me Cyprus is considering increasing mill capacity, including installation of a sink-float plant to step up capacity of the flotation section by about 20%.

The Copper Queen mine shaft was sunk by Centennial Development Co. to the 450 foot level and exploration on the 300 and 450 foot levels is being conducted with five men presently on this work. Any ore encountered in this development is hauled to the Old Dick mill, about four miles away. The Copper Queen orebody drilled by Cyprus Mines several years ago indicates insufficient tonnage to justify a mill at that location. After the Copper Queen orebody is developed this ore will be milled in conjunction with Old Dick mine production.

4. Bagdad Copper Corporation has resumed stripping operation, which for many months has been at a minimum rate. Bagdad is now stripping 8 benches of waste on the north side of the pit only, 4 benches in oxide copper for the leaching plant dump, and 4 benches in sulphide ore. Not operating all of these benches at present, the stripping ratio is 3.5 to 1. Mr. Colville would like to step this up to 4.5 to 1. The lower ore benches are in chalcopyrite and the pit advance is to the northwest down Copper Creek.

Mill heads are assaying 0.7% Cu which produces about 4700 tons of concentrates per month assaying about 25% Cu. This production and grade will continue for several months.

Fisher Construction Co. of Phoenix engineered and is now constructing the precipitating plant at Bagdad, located on the east side of the canyon north of the Giroux orebody. The plant is about 80% complete and includes a sulphur burning furnace of 200 tons per day capacity for acid generation. Concrete precipitation tanks are about completed and it is expected Bagdad will produce 30 tons of precipitates per day. Mr. Colville estimates the precipitating plant will start operation some time in March 1961. The oxide dumps are in two different canyons, one containing about 28 million tons, the other around 3.5 million tons assaying 0.5% Cu. The plant will start operation on the smaller dump.

The Bagdad precipitation plant will require about 4500 g.p.m. of water, 1,000 gallons of which must be new water. Bagdad is drilling for water. The first hole encountering water in the gravels immediately below the lava flows proved to be intermittent in supply. This hole penetrated about 300 feet of gravels but did not reach bedrock.

Bagdad Copper has been notified the law suit with Zannaras has been decided in the company's favor by the Appellate Court in San Francisco. This decision, however, will not result in much additional water supply for the Bagdad operation.

5. Yucca Mining and Milling Co. The old Antler mine and mill at Yucca was closed down early in 1953. Since that time the only activity at the property has been in marketing mill tailings for use as soil conditioner in California fruit orchards. This product has been selling at about $20 per ton and nets Yucca Mining and Milling about $6.00 per ton at the mine. The tailings pond tonnage will be depleted by the end of this year and the mining company decided to reopen the mine. The reason for starting the operation on present metal prices is the desire to continue producing tailings.

About four months ago work was started to rehabilitate the mill for production of concentrates. Mr. Mason Rankin, General Manager at Yucca, advises me he purchased a set of flotation cells from Mohave Mining & Milling Co. at Wickenburg when the manganese operation terminated. He plans to add this bank of cells to increase the efficiency of the Antler mill.

Work in the mine is progressing on the north 500 level which is 240 feet below the collar of the shaft. A winze is being sunk in the hanging wall vein in the south 500 level. Three samples taken across a 13-foot face on the 500 level 200 feet north of the shaft assay:

Width	Au	Ag	Pb	Cu	Zn
3.5'	.06	4.5	4.2	3.95	11.0
5.0	-	-	-	4.15	2.0
4.5	-	-	-,	2.1	14.0

To date Rankin has produced three cars of copper concentrates. The first two lots at El Paso assay:

Lot	Dry Tons	Au	Ag	Pb	Cu	Ins	Fe	Zn	S
3053/1	34.4	.04	4.39	3.5	11.8	16	25.8	10.4	32.1
3189/2	31.6	.01	3.7	2.9	9.4			7.9	

Assays on the third car are not yet available.

The zinc product has been below acceptance standard for the zinc plant and has been sold to International Smelting Company at Tooele, Utah. The Tooele plant has offered terms and accepted two railroad cars of this product which will give the mine some return.

Rankin employs 15 men in the mine and mill and is having difficulty in continuity of operation because of shortage of water.

6. Shattuck Denn Mining Corp. The Iron King mine is producing about 25-27,000 tons of ore per month coming from between the 17th and 21st levels. The modernized mill is operating very efficiently, but Mr. Kentro feels it is necessary to change some facilities underground to keep up with increasing costs mining in depth. This includes use of raise climber machines, equipping the hoist with higher horsepower motor, and changing the lower levels to 24-inch gauge track instead of the present 18-inch.

Shattuck Denn-Iron King, Con't.

Recent experimentation in the mill indicates the justification of installing jigs in circuit with the ball mills and classifier. One jig has been operating for about a month and approximately 15 tons of concentrates have been accumulated assaying:

Au	Ag	Pb	Cu	Zn	Fe
15-20 ozs	4-8 ozs	8-10%	0.5%	8-10%	30-35%

Metallurgical balances indicate no detraction from the value of lead and zinc products in making this jig concentrate. Shattuck Denn expects to install a jig in the other ball mill to produce 35 to 40 tons of jig concentrates per month. There is some concern on the part of the mine management about the handling of this product at the smelter because the gold is free metal. The assayer at Iron King advises me the size of gold particles is plus 200 mesh and minus 100 mesh.

I have issued purchase terms for this material to be delivered to El Paso. The product is dried to about 6% moisture and sealed in cans. Inasmuch as there is no freight rate for movement of this high grade product by rail, first deliveries will probably be by truck.

7. Duval Sulphur & Potash Co. In the Mineral Park Mining District near Chloride Duval has been conducting a drilling program for the past two years. Sixteen holes on 800-foot centers were drilled last year. This year drilling has been stepped up and Duval is now on the 53rd hole in this area. The work in 1960 has redrilled part of last year's area on 400-foot centers and is finding some ore in the Ithaca Peak, Gross Peak and Turquiose areas. Duval has acquired about five square miles around the drilling area pertinent to an operation. The company also has acquired acreage for water supply and successfully completed one well in the Sacramento Valley about 14 miles southwest of Mineral Park.

8. L.E. Potter, of Salt Lake City, has taken over the Copper Giant Mine southeast of Hackberry. He was authorized to ship one car to Hayden which was delivered on December 12 in the name of Solar Minerals. This 39-ton lot assays:

Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
.053	.28	1.82	78.8	5.1	1.6	1.8

Inspection of the dump from which the material originated indicates this will be marginal and not a promising source of siliceous flux. Additional shipments will depend upon Potter's economics of production.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
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DJPope
CPPollock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 2,1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION NINE MONTHS 1960
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant tonnages)

Lead Department	Tons Received-Nine Months Domestic	Foreign	Total
January	11,666	25,167	36,833
February	10,071	9,315	19,386
March	13,711	13,763	27,474
April	10,264	717	10,981
May	12,847	14,497	27,344
June	8,286	12,921	21,207
July	7,281	6,501	13,782
August	6,504	12,899	19,403
September	10,591	18,163	28,754
Total 9 Months	91,221	113,943	205,164
Copper Department			
January	26,413	61	26,474
February	26,966	100	27,066
March	30,109	6	30,115
April	22,506	(4)	22,502
May	28,853	45	28,898
June	17,793	-	17,793
July	21,657	135	21,792
August	19,555	-	19,555
September	20,926	65	20,991
Total 9 Months	214,778	408	215,186

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnages Excluding Intraplant)

Lead Department	Total 9 Months Received	Smelted	On Hand-Tons 1-1-60	10-1-60
Concentrates	136,338	123,641	6,225	17,915
Residue	60,908	59,114	2,611	4,945
Dust	2,707	2,222	163	579
Siliceous Lead	5,952	6,702	1,386	721
Pyrite	62	62	826	826
Total	205,967	191,741	11,221	24,986

El Paso Plant, Con't

Copper Department	Total 9 Months Received	Total 9 Months Smelted	Tons on Hand 1-1-60	Tons on Hand 10-1-60
Concentrates	159,216	158,973	7,352	7,835
Matte	3,494	3,771	424	140
Residue	2,307	2,452	311	48
Scrap	1,180	1,510	47	14
Sulphide	255	1,052	2,712	4,426
Reverb Flux	1,052	1,129	97	19
Converter "	43,504	46,314	12,230	10,416
Total	211,008	215,201	23,173	22,898

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received		Tons Received
January	21,201	July	16,058
February	24,384	August	17,523
March	28,772	September	15,764
April	22,136		
May	27,433		
June	22,330		
Total First Half	146,256	Total 9 Months	195,601

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnage)

	Total 9 Months Received	Total 9 Months Smelted	Tons on Hand 1-1-60	Tons on Hand 10-1-60
Concentrates	143,618	143,473	2,985	3,324
Reverb Flux	35,631	29,855	6,935	12,058
Converter "	19,280	17,741	5,756	7,403
Total	198,529	191,069	15,676	22,785

Flux Stocks: Chilito and Little Hill Mines continue to supply converter flux as required. It is hoped that revision of royalty provisions in Chillito Copper Co. lease may permit purchase of quartzite flux carrying about .4% Cu on a tonnage basis eliminating handling in the sampling plant. We have encouraged development at Little Hill Mines near Oracle to see if this property may develop a dependable source of siliceous flux. Tonnage trucked to Hayden to date is a blend of open pit and underground ore of very marginal grade. During the last quarter McFarland & Hullinger will deliver an additional 4,000 to 5,000 tons of tailings to Hayden from the Mammoth dump.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi from Southwest Producers

	Tons Rec'd-Conct.		Tons Rec'd-Conct.
January	2,406	July	3,655
February	4,270	August	3,856
March	4,270	September	3,893
April	3,670		
May	4,124		
June	4,001		
Total First Half	22,741	Total Nine Months	34,145

COMMENTS ON SHIPPERS

Bagdad Copper Corp. Hayden Plant receipts for the first nine months of 1960 total 44,618 tons with copper content 21.8 to 40.2% on monthly assays. The management forecasts production for the balance of this year of 4000 tons per month assaying 23-25% Cu.

Banner Mining Co.-Mineral Hill Mill: Nine months production shipped to El Paso from Banner Pima County operation - 4191 tons with copper assay 25-28%, about 4 oz Ag. After considerable interruption in operation because of excessive water lateral development is progressing on the 700 and 800 levels of the Palo Verde shaft. Production date for this new shaft is indefinite.

The Bonney Mine at Lordsburg has shipped 5098 tons to El Paso January through September 1960 averaging about 28.5% Cu with 5 oz Ag, .10 Au.

Brannan & Fuller deliveries of siliceous flux to El Paso in 9 months--

	Tons	Au	Ag	Cu	SiO_2	Fe	CaO	Al_2O_3
Henry Clay	13,371	.04	2.8	1.34	68	5	3	7.4
85 Mine	29,286	.04	2.7	1.45	65	7	3	8.2

A new operating contract has been negotiated with Werner Lake on the Henry Clay-Atwood property wherein the owner is advancing money to sink the shaft 150 feet below the 700 level. Mr. Brannan recently advised me the new lateral at the 800 foot level should keep the operation going for about two years. Work is continuing also in the adjoining Phelps Dodge 85 Mine.

Chilito Mine production for the first nine months of 1960 19,088 tons assaying 1.2 to 2.2% Cu with 76-81% SiO_2, 4.8-7.9 Al_2O_3. The present stripping ratio of about 10 to 1 will produce around 2% Cu. Within three to four months the operators should know if the lessor is willing to extend and modify the lease with suitable terms to allow the smelter to purchase flux from Chilito on a tonnage basis without regard to copper content. Such material would contain .3 to .5% Cu.

D & R Mining Co. (Sierra Minerals) has been shipping to El Paso on a tentative basis to determine the potential in this leased ground near Winston, N.M. Since January receipts have been as follows:

	Tons	Ag	Pb	Cu	SiO2	Fe	CaO	Zn	Al2O3
Lead Dept.	698	5.5	4.9	2.5	42	5.0	12.3	4.1	4.5
Copper Dept.	101	3.2	1.8	1.7	44	5.8	14.4	2.6	4.3

Cyprus Mines Corp.-Old Dick & Copper Queen Mines. Copper production from this operation at Bagdad January-September 1960, delivered to Hayden, totals 8943 tons averaging about 24.7% Cu, 1.8 Ag, 10% Zn. Production is expected to continue at approximately the same rate.

Duval Sulphur & Potash Co., Esperanza pit shipments for the first 3 quarters of 1960 -

	Tons	Ag	Cu
Hayden	29,179	1.6	25.85
El Paso	69,516	1.7	25.85

Little Hill Mines in Canyon del Oro (Dave McGee, Lessee) has been trying to open up this property as a source of converter flux for Hayden. In four months 1876 tons have been trucked to the smelter assaying about 1.5% Cu with 77-83% SiO2, most of this tonnage coming from open pit. This property has a limited tonnage of copper-bearing silica which justifies moving to Hayden, and McGee is now blending approximately equal tonnages from the high-silica pit and from underground which contains better copper value but higher alumina.

Pima Mining Company shipments to El Paso for nine months total 43,097 tons averaging about 3.8 Ag, 28% Cu. Stripping on the west end of the pit has encountered the oxidized outcrop of the ore horizon and Pima has asked for purchase terms on this product assaying 4% plus Cu. The oxide zone may produce a few hundred to a few thousand tons.

Shattuck Denn Mining Corp. shipments for nine months are shown below:

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct.	30,821	.045	2.6	1.5	.3	55.8
Lead Conct	19,708	.99	36.5	33.0	1.7	8.0
Au-Ag Ppts.	14.5	298.0	2579.7	4.2	22.2	28.2

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
CPPollock
TASnedden
KERichard-2

J.H.C.

AUG 1 - 1960

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 29, 1960

K. R.

AUG 1 1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION FIRST HALF 1960
RECEIPTS EL PASO, HAYDEN & AMARILLO

MR. JHC SPF JER AGB
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant tonnages)

	Tons Received-First Half		
	Domestic	Foreign	Total
Lead Department			
January	11,666	25,167	36,833
February	10,071	9,315	19,386
March	13,711	13,763	27,474
April	10,264	717	10,981
May	12,847	14,497	27,344
June	8,286	12,921	21,207
Total First Half	66,845	76,380	143,225
Copper Department			
January	26,413	61	26,474
February	26,966	100	27,066
March	30,109	6	30,115
April	22,506	(4)	22,502
May	28,853	45	28,898
June	17,793	-	17,793
Total First Half	152,640	208	152,848

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnages excluding Intraplant)

Lead Department	First Half		On Hand - Tons	
	Received	Smelted	1-1-60	7-1-60
Concentrates	92,035	83,356	6,225	14,192
Residue	46,636	42,987	2,611	6,375
Dust	1,680	1,543	163	223
Siliceous Lead	3,113	3,404	1,386	1,226
Pyrite	62	62	826	826
Total	143,526	131,351	11,221	22,842
Copper Department				
Concentrates	114,414	116,113	7,352	6,155
Matte	1,887	2,232	424	104
Residue	1,557	1,535	311	234
Scrap	621	773	47	129
Sulphide	974	-	2,712	3,691
Reverb Flux	763	795	97	-
Converter "	30,471	31,681	12,230	12,022
Total	150,687	153,129	23,173	22,335

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received		Tons Received
January	21,201	April	22,136
February	24,384	May	27,433
March	28,772	June	22,330
Total 1st Qtr.	74,357	2nd Qtr	71,899
Total first Half			146,256

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnage)

	First Half		On Hand-Tons	
	Received	Smelted	1-1-60	7-1-60
Concentrates	107,974	105,787	2,985	4,851
Reverb Flux	29,869	21,889	6,935	14,741
Converter "	11,476	12,992	5,756	4,384
Total	149,319	140,668	15,676	23,976

Flux stocks have been built up with purchase of 10,000 tons of reverberatory flux from the tailings dump at Mammoth, Arizona, trucked to the smelter during May and June by McFarland & Hullinger. Chilito Mine continues to supply high silica converter flux--13,054 tons delivered in first half assays 1.2-2.2% Cu with about 79% SiO_2, 5% Al_2O_3. Little Hill Mines in Canyon del Oro near Oracle is developing a siliceous copper-bearing deposit, shipments to date assaying 1.5-2.0% Cu, 80% SiO_2.

COMMENTS ON SHIPPERS

Bagdad Copper Corporation: Receipts at Hayden for first half 33,030 tons, including tonnage stockpiled during the smelter strike. Monthly copper assays 26.9 to 40.2%; current production assays 22% to 37% Cu. A new two-year contract has been submitted to Mr. Colville to cover concentrates and precipitates. The leaching plant is now under construction with production scheduled to begin about March 1961.

Banner Mining Company: Mineral Hill mill production for the first six months of 1960 totals 2648 tons averaging about 26.5% Cu. Mill feed is coming from development in the Daisy shaft. The Palo Verde shaft is down to the 900 level where a drift has been started. A small amount of bornite ore has been milled from this level. It is expected the new shaft will be producing in the near future.

Brannan & Fuller shipments for six months of 1960 are shown below.

	Tons	Au	Ag	Cu	SiO_2	Fe	CaO	Al_2O_3
Henry Clay	10,250	.04	2.7	1.4	67.8	5.0	3.5	7.0
85 Mine	20,163	.04	2.7	1.5	64	7.5	3.5	8.0

This shipper is having financial difficulties under present operating conditions and also ore reserves are exhausted. In an attempt to find new ore Brannan & Fuller plan to unwater the Atwood Mine shaft and deepen the Henry Clay shaft. At the present time no reliable source of siliceous fluxing ore is available to replace this operation.

Cyprus Mines Old Dick Mine copper production for the first half year totals 5960 tons assaying 23.5-25.9% Cu. In the near future Cyprus Mines expects to start mining in the Copper Queen Mine, this ore to be mixed with Old Dick for treatment in the Old Dick mill. Production from the Copper Queen is not expected to increase shipments of copper concentrates which will continue at 900 to 1000 tons per month.

Duval Sulphur & Potash Esperanza pit shipments for six months of 1960, including stockpiled tonnage, were as follows.

	Tons	Ag	Cu
Hayden Plant	23,281	1.6	25 - 27.8
El Paso Plant	50,693	1.7	25 - 27.6

McFarland & Hullinger terminated shipment to Hayden from the Elgin property on June 24 and no further purchase of this material is contemplated for Hayden. During 1959-60 this operation delivered 13,390 tons assaying 1.2 - 1.46 Cu, 24 - 27% CaO.

McFarland & Hullinger in April acquired the tailings dump at Mammoth, Arizona, reported to contain 100,000 tons or more of siliceous material suitable for reverberatory flux. Because of our need for such flux at Hayden we purchased 10,000 tons, delivered by truck during May and June. This material assays .046 Au, 0.75 Ag, .08 Cu, 84% SiO_2, 2.3 Fe, 1.6 CaO, 3.4 Al_2O_3. The remainder of this dump is available when and if needed at the smelter.

Pima Mining Company production, delivered to El Paso Plant, for the first six months of 1960 totals 30,363 tons averaging about 3.8 oz Ag, 28% Cu. Production for the next six months will be 3800 to 4000 tons per month.

Shattuck Denn Mining Corp. Shipments for the first half of 1960 were as follows.

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Concts	20,834	.045	2.6	1.5	.35	55.9
Lead Concts	13,085	1.02	38.0	33.7	1.6	7.8
Au-Ag Precip	12	282.0	2516.0	2-12	22.7	19-36

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
CPPollock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

MR. HKC-SoF AGB
READ AND RETURN ____ HANDLE ____
PREPARE ANSWERS ____ INITIAL ____
FILE ____

J. H. C.
JUN 14 1960

June 10, 1960

K. R
JUN 13 1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH - FIELD TRIP REPORT
JUNE 8 - 9, 1960

1. Brannan & Fuller. On a trip to Lordsburg on June 8 I visited Mr. Brannan operating the Henry Clay-Atwood and 85 Mines. Brannan advised me that when Werner Lake Nickel Mines exercized its option at the end of last year to purchase the Atwood-Henry Clay property from John Augustine that company borrowed $100,000 to complete the purchase. Brannan & Fuller, as lessees, pay 10% royalty to Werner Lake and in addition they agreed to pay $1.00 per ton on ore from the Atwood, Henry Clay and 85 Mines hoisted through the Henry Clay shaft. The lessees have paid approximately $23,000 on the shaft charge and this represents the amount Brannan & Fuller has lost since working under this arrangement. The shaft also needed repairing and the lessees replaced 150 feet of shaft timber at a cost of $8,000. Werner Lake agreed to pay half of the timbering cost up to $3500 but such deduction will be credited to lessee's account only after the $100,000 loan is repaid.

With current loss of $2000 to $3000 per month being assumed by Brannan & Fuller, Brannan is of the opinion the operation must be abandoned. At the present time the ore has been mined between the 600 and 700 levels extending from the Henry Clay into the 85 Mine. The South Atwood vein which is in the hanging wall of the Henry Clay has been mined for about 150 feet along the strike above the 600 level. In prospecting for this structure on the 700 level, Brannan is now diamond drilling from a short crosscut on the 700 level. If drilling is encouraging he may drift and mine what ore may easily be made available. However, because the Henry Clay vein and Emerald vein, the extension in the 85 Mine, are practically mined out above the 700 level and the faces in each direction are in waste, Brannan thinks he and his partner will give Werner Lake 60 days notice of abandonment some time this coming week. During this 60-day period Brannon thinks he could ship about 6,000 tons representing material in the stopes and final cleanup.

Brannan & Fuller employs 35 men--three are paid $18 per day, miners $14 and muckers $12. The mine operates on a six-day week.

2. Quentin Drunzer: At Deming I met Quentin Drunzer who brought to my attention an occurrence of an apparent wide siliceous outcrop located within a mile of Hermanos railroad siding. This siliceous occurrence is a replacement along bedding comprising arkosic material and dolomitic limestone. The old work

Quentin Drunzer, con't.

performed on this outcrop indicates minor copper. The visible mineral showing, however, is confined to the eastern zone, although the siliceous reef itself continues northwesterly and outcrops on the other side of the railroad.

In view of the apparent limitation of siliceous flux available at the Henry Clay and 85 Mines I have encouraged Drunzer to spend a minimum amount in crossing this siliceous reef with bulldozer channels to determine if it contains minable width by open cut method. I took one sample from the old dump that appears to contain at least 85% SiO_2, .5% Cu. Minimum freight rate from Hermanos to El Paso is $1.79 per ton. I will keep in touch with Drunzer and after he evaluates his interest in spending up to $2000 on these claims it is possible this could be a source of barren flux with 85% SiO_2 at the best.

3. Sunshine Mining Company has been actively carrying on exploration work in the Oscura Mountains south of Bingham with Earl Elstone local representative at Socorro. Mr. Elstone asked our interest in purchasing siliceous copper-bearing fluxing ore from the Adycopt claims located in the mountains northeast of Alamogordo. The sandstone bed on this property has been prospected by long hole drilling from surface and is reported to contain 2% Cu. Several years ago I visited this property with Quentin Drunzer and determined the bed as exposed on the surface to be only about four feet thick containing nodules up to 3/4 inch diameter of chalcocite and oxidized copper minerals.

El Paso has had some shipments from this area subsequent to my visit. Early in 1956 West Uranium and Development Corp. shipped 105 tons assaying 1.15 to 1.50% Cu, 69-72.8 SiO_2, 2.6-3.4 Fe, 2.7-4.5 CaO and 7-10% Al_2O_3.

When Mr. Elstone discussed this with me I advised him of the probability that the deposit would contain alumina higher than the smelter could tolerate. At my request he supplied a sample of the outcrop representing the bed he is interested in exploring. This sample assayed at El Paso gave the following results: Cu .45%, SiO_2 73, CaO 1.1, Al_2O_3 7.8%. Although Sunshine Mining Company has not completed exploration on these claims I have advised Elstone we could handle up to 2,000 tons per month at El Paso providing the analysis is satisfactory.

4. Gibraltar Minerals Company at Hachita has been working in the old Hornet Mine and mill and adjacent American Mine for the past five years. Original work by Gibraltar Minerals in the Hornet included sinking the inclined shaft paralleling the ore shoot. This incline was sunk 254 feet to 845 feet on the incline, which is about 500 feet below surface. Gibraltar encountered ore at the lowest level and raised about 150 feet on the ore shoot where the face in section was about 30 by 40 feet. This ore assays about 7% Pb, 14.5% Zn with 4 oz. Ag per ton. When the

Gibraltar Minerals, Con't

operation was at this position in the Hornet Mine the American Mine became available and mining activity moved to that property.

The American Mine is operated through a 70° inclined shaft and after Gibraltar mined the ore available at the 270 foot level they sank the shaft 100 feet and are presently engaged in cross-cutting to the expected ore horizon. So far this new work has encountered only small stringers of lead-zinc.

During the smelter strike last year Gibraltar Minerals accumulated a few railroad cars of lead concentrates, the last of which will be shipped this coming week. Additional production must await opening up new ore by exploration and development.

5. Ira Moseley at Johnson Camp is still producing 80% siliceous copper-bearing flux for the Douglas smelter from the quartzite section on the Coronado Copper & Zinc Company property. He has mined down the dip of the quartzite bed about 60 feet with widths of 20-25 feet. The hanging wall is limey and garnetized and carries better values in copper but is not shippable. Moseley has shipped about 54,000 tons to Douglas and is currently producing 300 tons per day assaying .6 to .7% Cu with 81-82% SiO_2. He has been advised by Phelps Dodge people that for the remainder of this year the smelting rate will be reduced which will necessitate cutting down tonnage received from this property.

The freight rate from Dragoon to Douglas has been increased from $1.48 to $1.74 per ton and Moseley has protested to the railroad and is being assisted by Phelps Dodge Traffic Department to obtain reconsideration of the recent freight rate increase on this movement.

6. McFarland & Hullinger at the Coronado Mine produce 220 tons of ore per day milled in the Republic mill. Treatment of the ore in the local mill results in better grade concentrates than produced at Sahuarita.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
DJPope
CPPollock
WJNock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 20, 1960

MR. VHC-AGB-KEK-SOF K. R
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIAL

MAY 23 1960
J. H. C.
MAY 24 1960

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

REED F. WELCH -FIELD TRIP REPORT
MAY 1960

1. Bagdad Copper Corp. Bagdad is producing 5,000 tons of ore per day and is working the pit to the north down Copper Creek. At this position there is considerable non-sulphide assaying as high as .5% Cu which is being stripped and stockpiled for leaching in a canyon west and north of the present pit. The oxide dump to be prepared for leaching carries 11-12 pounds copper per ton from which Mr. Colville expects to recover at least 8 pounds. This tonnage is accumulating each day and Colville expects there will be approximately 30 million tons in this area.

Sulphide ore from present mining location is producing about 20% Cu and it is expected 20-25% concentrates will continue for the remainder of this year. Concentrates stockpiled during the latter part of 1959 came from a section of the pit immediately north of the mill,most of which is now mined. Production from this area assays 30-45% Cu. Stockpiled concentrates remaining consist of about 800 tons at Hillside and 1300 tons at the mine. This tonnage is being loaded out as fast as possible and should be cleaned up by the end of this month.

One factor of concern to Mr. Colville is the power contract and capacity of the transmission line which now handles capacity output. Use of flood lights on the ball park in the evening places a burden on the transformer and transmission line. This is a problem Mr. Colville must overcome before he can install additional water pumps on the leaching dump.

Sulphur will be burned to generate acid. This element will be delivered in tank cars at Hillside which will require a steam plant to liquify the sulphur and transfer to tank trucks for delivery to Bagdad. Quotation for sulphur is approximately $44 per ton f.o.b. Hillside.

2. Cyprus Mines Corp. The Old Dick Mine is developing ore on the 800 level assaying approximately 4% Cu, 11-12% Zn. The mill is producing about 30 tons of copper concentrates and 40 tons of zinc per day. Present employment is 70 men in mine and mill.

Cyprus Mines did considerable diamond drilling in the Copper Queen Mine prior to purchase of the Old Dick property. In this exploration a small tonnage of low Cu-Zn ore was encountered and Cyprus is now sinking a 1½ compartment shaft to mine this ore, which will be commingled for milling with Old Dick production.

Cyprus Mines, Con't.

It is expected the Copper Queen shaft will be bottomed at 500 feet with two working levels at 300 and 450 feet. This shaft is being sunk on contract by Centennial Development Company, now at the 280-foot level. It is not expected that operation of the Copper Queen Mine will change the rate of copper concentrate production.

3. Shattuck Denn Mining Corp. held its Director's Meeting in Prescott on May 18. Prior to the meeting I met Tom Bardon and Dan Kentro. Neither has any problem with the smelters or complaints. Mr. Kentro had just returned from a trip to Selby where he was impressed with handling of the gold-silver precipitates now purchased by Selby Plant.

The Iron King lead concentrate stockpile, being shipped at the rate of 300 tons per month, will be cleaned up by the end of November. Mr. Bardon advised he chose to ship stockpile on this basis, as he thought the price of lead would increase but is not now optimistic on the price. I advised him that in the event they wanted to increase shipments from stockpile they could do so at Shattuck Denn election.

Iron King Mine is producing 900 tons per day and the mill is performing metallurgically up to expectations. No interruption is anticipated in rail service during rainy seasons since the railroad has re-railed the line from Prescott to Humboldt eliminating the hazard of light rails on a wet roadbed.

4. Stoddard Mine, Mayer: Mason Rankin has the Stoddard under option but is not pursuing this operation at present. He is now engaged in preparing cans from the Prescott city dump for copper precipitation. In a few months he hopes to resume activity at the Stoddard property and may ship one to two railroad cars per month of 5-6% Cu ore. He is aware of the high alumina content in this ore but is optimistic that by selective mining he can eliminate much of the country rock which contributes to this impurity in the ore.

5. Chillito Mine northwest of the Hayden Plant has been the principal dependable source of converter silica for the past several years. In a recent trip to this mine Mr. Wainwright, Lessee-operator, expressed optimism in being able to supply the Hayden Plant with adequate tonnage of flux for some years to come. However, his approach to the operation is without engineering knowledge and the main source of shipping product comes from a quartzite bed 12 to 30 feet thick covered with a capping of quartzite up to 75 feet in thickness lightly mineralized with copper. The overburden is drilled and blasted and moved by bulldozer blade. The resulting product delivered to Hayden over the past year assays 1.2 - 2.1% Cu with 75-80% SiO_2, about 3.5% Fe, 5-6% Al_2O_3.

It is apparent to me that Wainwright cannot operate economically with much less return than he now receives. In the event there are no other sources of silica developed, this deposit could be expanded to supply tonnage for a long time but without regard to copper content.

6. Little Hill Mines. On February 16, 1960, Dave McGee of Tucson acquired the Gold Hill-Copper Hill group of claims in Canyon del Oro southeast of Oracle. Preliminary work on these claims by McGee indicated a possible source of low-copper high-silica ore and as a result he was authorized to ship two test cars to Hayden with results as follows on 94 dry tons: Cu 1.59%, SiO_2 83.6, Fe 2, Al_2O_3 3.9.

McGee is asking permission to continue shipping to Hayden but as a steady producer this would divide tonnage requirement between Chilito and Little Hill Mines with uneconomic operation for both properties. However, to learn more about the McGee property I suggested to him that we could stockpile up to 2,000 tons provided he will open the mineral showing so we can see the continuity of the ore occurrence as a source of copper-bearing siliceous flux. McGee has been instructed to pay particular attention to copper and silica content and has agreed he will work the property in the places I think will show its potential. He understands also that a market at Hayden beyond the 2,000 ton purchase is indefinite and may not materialize. With care he might be able to ship 2.5% Cu with 78% SiO_2 which should be determined.

7. Mammoth Tailings: In our search for reverberatory silica and flux for Hayden, McFarland & Hullinger acquired the real estate on which the old Mammoth Mine table concentrator operated some 50 to 60 years ago. We agreed to purchase 10,000 tons of this material which is currently being trucked to Hayden. Recent liquidations on flux used in current smelting indicate this product assays .045-.05 Au, .7-.8 Ag, .06-.08 Cu with about 84% SiO_2, 2.3 Fe, 1.6 CaO and 2-4% Al_2O_3.

In looking for fluxing material McFarland & Hullinger first sampled the Tiger Mine tailings pond which is of less interest metallurgically and with longer truck haul. However, some preliminary samples taken on the older part of the Tiger dump assay: Au.01, Ag .39, Pb .1, Cu .1, SiO_2 80.5, Fe 2.3, CaO 1.5, Zn 2.0, Al_2O_3 3.7.

8. Three R Mine. On February 11, 1960, McFarland & Hullinger acquired a 10-year lease on the Three R Mine near Patagonia. The purpose of this lease was to explore the possibility of a rumor of ore intercept in Hole No. 5 drilled by Magma Copper Company in 1920. From the Magna Mine office they obtained records of this hole given to them confidentially and substantiating the report of this drill intercept. For the past two weeks operation at the Three R property has been in diamond drilling which to date has not located the objective.

Reed F. Welch
REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
GHPlayter
DJPope
CPPollock
WJNock
TASnedden
KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 28, 1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION FIRST QTR. 1960
RECEIPTS EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant tonnages)

Lead Department	Tons Received-1st Qtr. Domestic	Foreign	Total
January	11,666	25,167	36,833
February	10,071	9,315	19,386
March	13,711	13,763	27,474
Total First Quarter	35,448	48,245	83,693
Copper Department			
January	26,413	61	26,474
February	26,966	100	27,066
March	30,109	6	30,115
Total First Quarter	83,488	167	83,655

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnages Excluding Intraplant)

Lead Department	1st Quarter Received	Smelted	On Hand - Tons 1-1-60	4-1-60
Concentrates	56,771	51,088	6,225	11,129
Residue	23,929	23,324	2,611	3,388
Dust	559	626	163	97
Siliceous Lead	1,643	1,962	1,386	1,005
Pyrite	62	62	826	826
Total	82,964	77,062	11,221	16,445
Copper Department				
Concentrates	63,225	60,982	7,352	9,794
Matte	785	1,141	424	58
Residue	568	833	311	2
Scrap	141	205	47	7
Sulphide	--	--	2,712	2,650
Reverb Flux	411	420	97	56
Converter "	16,457	14,647	12,230	14,383
Total	81,587	78,228	23,173	26,950

Concentrate receipts and tonnages smelted for the past three months are more than double the figures for 1959 first quarter as a result of stockpiles accumulated during the smelter strike. The only remaining tonnages in stockpile as of April 28 are about 1300 tons at Silver Bell, 4200 Duval Sulphur & Potash, and 4800 at Bagdad.

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

	Tons Received-1st Qtr.
January	21,201
February	24,384
March	28,772
Total	74,357

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnage)

	1st Quarter		On Hand - Tons	
	Received	Smelted	1-1-60	4-1-60
Concentrates	61,560	56,967	2,985	7,266
Reverb Flux	10,830	11,934	6,935	5,831
Converter "	5,270	7,166	5,756	3,860
Total	77,660	76,067	15,676	16,957

Concentrates received and smelted at Hayden also reflect handling stockpile tonnages, which will be cleaned up in May.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
From Southwest Producers

	Tons Received-Concts
January	2,406
February	4,270
March	4,270
Total 1st Quarter	10,946

COMMENTS ON SHIPPERS

Bagdad Copper Corp. receipts at Hayden through March total 14,645 tons assaying 32-40% Cu, 1.7 Ag. This includes approximately 6000 tons from the stockpile accumulated during the smelter strike. An estimated 4800 tons remains in the stockpile as of April 30 which should all be shipped by June 15. The loan made to Bagdad Copper Corporation on stockpiled concentrates has now been repaid.

Current mill production is lower grade; receipts in April average about 28% Cu and Bagdad management advises production for the rest of the year will be the lower grade concentrate--25-28% Cu but tonnage will remain about the same.

Banner Mining Co. Mineral Hill mill receipts at El Paso for the first quarter 1960 - 1161 tons averaging about 25.8% Cu 5.3 oz Ag - represent concentrates produced from development ore originating in the Daisy shaft. The management expects to increase output of the Mineral Hill mill to produce approximately 1900 tons by the end of this year and up to 3400 tons by 1961, when mill feed will come from the Daisy and the new Palo Verde shaft now sinking. A new three-year contract will be concluded in the near future.

Lordsburg production for the past three months - 2135 tons averaging .15 Au, 6.5 Ag, 28.5 Cu. Mill feed is now coming from the 1360 level of the Bonney Mine. With copper price 30¢ or higher it is expected shipments from this operation will continue at about the same rate.

Brannan & Fuller, supplying siliceous flux to El Paso, shipped the following tonnages in the first quarter 1960.

	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Henry Clay	5,170	.055	2.70	1.51	66.0	7.0	3.0	7.2
85 Mine	11,326	.044	2.80	1.55	65.6	7.6	2.6	7.6

The above production includes some tonnage stockpiled during the strike. The lease on the Henry Clay-Atwood property is now assured and this shipper will continue to furnish flux for El Paso.

Chillito Copper Co. is delivering high-silica flux by rail as required at Hayden - first quarter receipts 6923 tons averaging about 1.78% Cu, 80% SiO2, 3.9% Fe, 5% Al2O3.

Cyprus Mines Corp. at the Old Dick Mine is shipping about 1000 tons per month to Hayden Plant. First quarter receipts 3246 tons assaying about 24.6% Cu, 1.8 Ag. Cyprus is milling about 200 tons per day assaying 3.9% Cu, 12-14% Zn. Zinc production 800-1500 tons per month is shipped to Bartlesville.

Duval Sulphur & Potash Co. Esperanza Pit current production and stockpile accumulation has been divided between El Paso and Hayden with receipts for the first three months of 1960 shown below.

	Tons	Ag	Cu
El Paso	25,590	1.6	25.40
Hayden	15,373	1.7	26.85

All of the concentrates shipped to Hayden came from stockpile. The loan secured by this tonnage has been fully repaid. Duval estimates about 4200 tons remaining in the stockpile which should be cleaned up by the end of May.

McFarland & Hullinger have been delivering to Hayden about two cars per day of limey flux from the Elgin property, Helvetia District. Receipts through March total 4734 tons averaging about 1.3% Cu, 37% SiO2, 26% CaO, 5.6% Fe, 2.6% Al2O3. Recently shipments were reduced to one car daily at the smelter's request.

Nash-McFarland production continues from the Flux Mine with first quarter receipts shown below.

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct.	722	-	2.0	.85	1.36	54.0
Lead Conct	869	.02	43.0	70.0	1.2	4.8

Ore reserves in the Flux Mine are sufficient to keep the Trench mill operating for the remainder of the year.

New Jersey (Empire) Zinc Hanover Mill resumed shipment of lead concentrates in December. Receipts for the first quarter 1960 total 1157 tons assaying Au .017, Ag 16.9, Pb 64.3, Cu 0.9, Zn 6.9.

Pima Mining Company production has been handled at El Paso Plant since conclusion of the strike. First quarter receipts - 18735 tons assaying approximately 27.5% Cu, 3.6 Ag. Current mill output has been at the rate of about 3200 tons per month, the balance coming from stockpile which was cleaned up about the middle of March.

Pima production from the cone area, now being developed, is expected to start in January 1961. The change in mill grinding circuit is completed, now handling 3600 tons per day. For the balance of the year concentrate production of 3800 to 4000 tons per month will be maintained.

Shattuck Denn-Iron King first quarter production:

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct(Amarillo & Corpus Christi)	10,090	.044	2.8	1.4	.3	55.9
Lead Conct(El Paso)	7,221	1.036	38.0	33.4	1.6	8.2
Au-Ag Precip.(Selby)	5.3	275.84	2479.0	7.8	21.6	22.7

All lead concentrates stockpiled at Iron King during the strike will be shipped to El Paso by the end of November. Mine production will continue at the same rate.

United States Smelting Bayard mill output for three months, treating ore from the Continental Mine leased to Patten & Galassini, totals 3314 tons assaying Au .092, Ag 1.9, Cu 26.6. First quarter shipments include tonnage accumulated during the strike. Current production is about 600 tons monthly.

Receipts from Sonora		Tons Rec'd
Fcc del Pacifico	Lead Ore	1,361
Nacozari RR	Lead Ore	107
	Copper Ore	47
Total 1st Qtr.		1,515

Most of the lead ore shipped from Fcc del Pacifico stations comes from mining operation by Raul F. Lemas at his San Eduardo Mine near Pitiquito where he proposed to install a mill to concentrate the lower grade.

REED F. WELCH

cc:EMcLTittmann, RLJourdan, CNWaterman, WGRouillard, EEGroff
CPPollock, TASnedden, KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE

Tucson Arizona

April 22,1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-FIELD TRIP REPORT
SONORA, APRIL 1960

1. Minerales, S.A. Marcos Serrato at Santa Ana is accumulating some lead ore for shipment to El Paso. His principal production is copper ore that is blended with silver-bearing siliceous material to meet the 60% silica requirement at Cananea in order to realize the minimum treatment rate. Shipments to Cananea amount to one railroad car per week.

Mr. Serrato was advised his export permit would be forthcoming within two or three days. On this promise he loaded two railroad cars of lead ore for shipment to El Paso via Naco to take advantage of lower freight charge than through Nogales. It has been three to four weeks since these cars were shipped, Serrato still does not have his export permit, and the cars are accumulating $100 pesos per day demurrage at the border.

Providing there is no change in quota setup and he is granted export permits, Mr. Serrato thinks he can ship two railroad cars of lead ore per month.

Mr. Serrato has been buying lead ore from a large dump at Cananea. This material is washed and screened for shipment to El Paso. Previously this product was moved to Santa Ana for shipment but to save freight Serrato has now set up a yard in Cananea to accumulate this tonnage and will ship direct through Naco.

2. Raul F. Lemas at Hermosillo is the most active shipper of lead ore in this area. He is not buying small lots but is mining all the tonnage he ships. Current production is coming from San Eduardo Mine, some shipped in Raul Lemas's name and some in the name of Servando Lemas. We are now requested to issue freight guarantee for Manuel F. Lemas to cover cars loaded at Hermosillo, Carbo and Benjamin Hill. Lemas has export permits in each name and has been getting renewals without difficulty. Previously permits were granted for six-month period but are now reduced to three months.

Raul Lemas is working with engineers engaged by Fomento Minero in Hermosillo to design a table concentrator for some of the ore coming from San Eduardo Mine. So far tests indicate the ore can be successfully concentrated and Lemas is making financial arrangements to install a 50-ton per day plant. He expects to produce 10-12 tons of 50% lead concentrates per day. Lemas feels very optimistic about the potential tonnage of the Eduardo property and has supplied me with an engineer's report on the mine which I am forwarding to Mr. Nock.

Raul F. Lemas, Con't.

Lemas has obtained a lease on the Keller property near Caborca and is presently unwatering that mine. He reports the vein is two to two and one-half feet in width and ore exposed by lowering the water level assays up to 30% Pb, 12-15% Cu with 200-300 grams Ag per ton, 11 grams Au.

3. Minerales de Hermosillo, Jesus Navarro Cordova. I understood from correspondence with Mr. Navarro that he had purchased the Minerales de Occidente ore-buying station. However, Marcos Serrato corrected this by advising Juan Serrato's widow still holds 80% interest and Navarro purchased 20%. Navarro is carrying on his ore buying at the address formerly used by Oscar Monteverde, Ninos Heroes y Octava. The assayer employed by Juan Serrato has joined Navarro. In the patio there are two railroad cars of 20-25% Pb ore being held in readiness to ship to El Paso when export permit is available.

Mr. Navarro is buying siliceous silver ore from La Colorado Mine, blending with oxidized copper for shipment to Cananea. He is energetic, seems to be a good business man, and no doubt will be successful in operating this ore-buying agency. He has been having difficulty in obtaining export permit and asked if our Mexico City office could assist him to expedite granting of permits.

4. Oscar Monteverde has given up ore buying and is concentrating his efforts in working out metallurgy for oxidized copper ore in his property northwest of Hermosillo. He feel confident this will be successful, in which he has some support from Fomento Minero engineers. He expects to produce copper concentrates by tabling and contemplates leaching additional tonnage and will ship this production to Cananea.

5. Jorge F. Robinson has purchased the ore-buying agency of A.A. Antunez at Hermosillo and for the time being is conducting business at Antunez's address. He has two railroad cars of lead ore but has not yet received his permit for export. In the meantime he is shipping occasional carlots of copper ore to Cananea. Robinson has rented the yard space in Hermosillo owned by Asarco and by the end of this month expects to move to that address. He plans to keep the watchman who has been living in the yard area.

Mr. Robinson took me to Luis Porcha's address at 5 de Febrero 59 where I observed trucklot piles of hand-sorted, well classified copper ore. According to Robinson this ore is shipped to Cananea and assays about 15% Cu. I understand the ore comes from our El Cobre Mine and that mining has been going on at this property for some time. Reports of this activity have come to my attention previously from Ted Dodge, one of the owners of the nearby Alaska Mine. Robinson estimates the gambusinos are producing one to two railroad cars per week. Inasmuch as the company does not derive any royalty from this type of operation, Jorge Robinson asked if we would grant him a lease and give him control so he could pay us royalty on the production.

6. Minas de Guatamo,S.A. Grattan Lynch is joining Jorge Robinson in using Asarco's storage yard in Hermosillo, where he is currently stockpiling lead and zinc concentrates. In July 1959 Lynch advised me his request for retroactive tax subsidy had been granted and he expected to be producing concentrates again in the Batuc mill. Inasmuch as our contract covering zinc concentrates had been cancelled, I advised Lynch we would purchase future production on open schedule terms which I would provide when shipments were started. Without advising me he had actually resumed production of concentrates and without further discussion of terms for purchase, Lynch billed two cars of zinc to Amarillo. On April 18 while at Hermosillo I observed Lynch had about 60 tons of lead concentrates and 90-100 tons of zinc in the patio but was advised by Robinson that Minas de Guatamo was awaiting receipt of permit to export. However, on my return to the office I learned that the export permit had been received and Lynch left Hermosillo the day I arrived, apparently to attend to crossing of the zinc cars now en route to Amarillo. As far as I know, no lead concentrates have been shipped.

The last shipments received at Amarillo from Minas de Guatamo were in January 1958--151 tons of 56.4% Zn. Production for 1957 was 1251 tons averaging 55-57% Zn. The zinc schedule issued for current shipments does not specify tonnage and I should like to have Mr. Buck advise me if we should place tonnage limitation on these shipments. If we reject part of the tonnage, this production will go to a competitive smelter.

7. Antonio Cortez Cordova in recent correspondence made representation to me he could ship high grade lead-silver ore. This man is not experienced in shipping to the smelter and local people at Hermosillo were somewhat hesitant in advising me as to his financial ability and mining knowledge to carry through and make shipments. I met Mr. Cortez who showed me his denouncement papers for El Conquistador Cortez property located about 56 kilometers southeast of Querobabi. He advised me the road to the mine has been completed and he hopes to start shipping in the near future. Specimens of ore Cortez gave me indicate high grade copper-lead sulphide with some zinc.

Summary: In generalizing observations on my trip to Sonora I find there is still keen interest in a market at El Paso Plant for Mexican production. The Sonora area is isolated for shipping to any of the currently operating lead smelters in Mexico and El Paso is the only outlet since the Mazatlan smelter failed.

Without exception copper ore is being prepared for shipment to Cananea. Such purchases are regulated according to silica content and treatment charge jumps from $4.50 per metric ton for ore containing 60% or more SiO_2 to $10 under 60%. This spread in smelting charge is an incentive to the ore buyers to blend ore.

Jorge Robinson's request for a lease on our El Cobre property is passed on to the Mexican Mining Department. I do not think Mr. Robinson has visited the mine and I am not prepared to estimate his ability to carry on the operation financially. However, no financing is required in the present type of gambusino mining and Robinson feels he could do as well.

In my opinion the best operator in the area is Raul F.Lemas who has consistently been a fairly good producer and has been more successful than any other small miner in making regular shipments to El Paso.

There are others talking about mining in Mexico but because of inexperience with conditions in Mexico and mining I am not commenting on these individuals.

REED F. WELCH

cc:EMcLTittmann
RLJourdan
JCBuck
CNWaterman
WGRouillard
RAMora
KHSchultz
DJPope
CPPollock
WJNock
LJSlessinger
TASnedden
KERichard-2

AGB
JEK

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 4, 1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

REED F. WELCH-FIELD TRIP REPORT
JANUARY 1960

1. Elgin Mine, Helvetia District. McFarland & Hullinger, lessees, on January 4 resumed shipment of limey copper-bearing flux to Hayden following settlement of the smelter strike. This operation continued mining for about 30 days after the strike started in August and accumulated about 5000 tons of broken material. Current work is aimed at a showing with much higher copper content than current shipments. Present production of two cars per day will be maintained for about two months before getting to this objective.

2. C.D. Wilson Mining: Because of recent heavy winter storms the Narragansett property, located high on the mountain, was unable to resume shipments to Hayden until January 18. The operation, now managed by Mrs. C.D. Wilson, accumulated some tonnage of mined ore during the early part of the smelter strike. After delivery of a few cars in January shipments were suspended because the material contains too much moisture for handling in the sampling mill. If the smelter later is interested in receiving more of this tonnage the Narragansett property could resume shipment of 3 or more cars per week.

3. Del Rio Minerals, Bulldozer Mine: Art Muller continues to expand his leaching plant at the Bulldozer property in the Helvetia District. Since last November he has constructed a small wooden platform on which precipitates will be placed for drying, installed an additional leaching reservoir of heavy timber, and another precipitating trough. In spite of high lime content (26% CaO) Mr. Muller still believes leaching is feasible and expects to make about 30 tons of copper precipitates per month. It is doubtful if this much tonnage will materialize from this operation.

4. San Xavier Mine. In September 1959 McFarland & Hullinger abandoned operation at the San Xavier Mine and all equipment was recovered from underground levels with the exception of the pump. At that time McFarland & Hullinger entered into negotiations for sale of the San Xavier Mine to Banner Mining Company. I understand the transaction was concluded in January and Banner now has full control of the San Xavier property. In discussing this with Mr. Bowman he expressed some enthusiasm in prospecting for new ore along the strike of the San Xavier mine to the east. Although there has been considerable geological study of this possibility, Mr. Bowman believes certain surface showings on the San Xavier claims and adjacent Banner claims justify additional study and exploration. Banner Mining Co. does not have a program in mind for San Xavier but is keeping the mine unwatered for later field work.

5. McFarland & Hullinger, Coronado Mine. In my field report for July 1959 I reported that Coronado Copper & Zinc Co. mine at Johnson Camp has been leased to McFarland & Hullinger. Since that time 130-200 tons of ore per day have been shipped from Dragoon to the Sahuarita mill for concentrating. At the present time this is the only ore the Sahuarita mill is handling. However, McFarland & Hullinger believe better economy will be effected in the Coronado Mine operation through use of the old Coronado mill at Johnson camp. That mill is now being reconditioned and by February 15 the ore will be treated in the local mill.

6. Sunrise Mining Company has abandoned work at the Glove Mine near Amado and carried its mining interest to the old Paymaster Mine in the San Xavier area. Interest in this property was in one diamond drill hole drilled by John Cloiter of Tucson two years ago. To reach this objective Sunrise Mining Co. cut a new station at the 140 foot level rather than clean out the old workings 10 feet above. In exploration work at this new level several stringers were cut with the best samples of a group of seven assaying:

	Ag	Pb	Cu	Zn
1)	23.6	15.5	4.92	13.1
2)	18.6	9.1	2.50	19.4

Subsequent to this sampling long hole drilling crossed approximately 20 feet of mineralization which seems to be in the general vicinity of the ore intercept made by Mr. Cloiter. It is not known whether this is in an area of old stopes but G.W. Irwin thinks the present work is in the hanging wall of the older stoped area. In crosscutting this mineral zone four to five feet of the better grade on the footwall side will be drifted along and high grade sorted for shipment to El Paso. Such product prepared for shipping will assay about 25% Pb, 5% Cu, 40 oz Ag, 15% Zn. It is expected the five men now employed at the Paymaster will not accumulate more than 30-40 tons per month unless the mine changes into more uniform type of mineralization than so far indicated. With development of suitable tonnage of lower grade milling ore, such product could be delivered to the Sahuarita mill for concentration. The exploration program at the Paymaster costs about $2200 per month.

Pollard Simons of Dallas, owner of Sunrise Mining Co., told me he expects to go into the mineral industry in the Tucson area. The basis of this new industry is a high grade lime deposit in the Empire Mountains east of Tucson located by Sunrise Mining Co. Local representatives, G.W.Irwin and W.C. Lacy, have done considerable preliminary field work on the limestone bed sufficient to indicate a high grade lime product can be obtained for the building industry and local copper mills. Mr. Simons has employed Longyear Company to advise him on this project through various stages--1) exploration of the deposit for tonnage, to be done by diamond drilling; 2) a market survey; and 3) estimate of plant cost and proper location with reference to markets and the lime deposit.

7. Mar Pak Corporation, leasing mines at Duquesne from J.P. Nash, concluded mining operations at the end of December. Verbal report of the Mar Pak representative in Tucson indicates expenses incurred total about $100,000. During the six months of operation Mar Pak Corporation produced about 2400 tons of ore shipped to the Sahuarita mill for concentrating. El Paso received 100 tons of copper concentrates and Amarillo about 365 tons of zinc representing Mar Pak production. After El Paso Plant was closed by the strike four carloads of copper concentrates were sold to Inter-National Smelting Company at Miami. Returns from concentrate sale fell far short of meeting total expenditure and Mar Pak Corporation is now trying to interest Central Transformer Company of Tennessee in joining the operation with equal investment. A new corporation would be formed owned by Cee Tee Mining Co.(Central Transformer) and Mar Pak Corporation. Cee Tee Mining Co. is represented by A.H. McRae of Albuquerque; Al Pyrah, mine operator; and Harry Anderson, of Grants, N.M. Norman Dausinger, a geology student working for his Masters degree at the University of Arizona, and R.A. Fogle of Mar Pak brought the Cee Tee Mining Co. interest into this venture. One of the reasons for the high expenditure at Duquesne by Mar Pak Corporation was excessive overhead, which will not be overcome in the proposed new organization.

The proposed new corporation contemplates taking over the lease on the Pride of the West claim at Duquesne. The present lessee on this claim, working on the 200 level continuing on the strike of the old stope through five or six feet of barren rock, encountered sulphide ore assaying 4-5% Pb, 6% Cu, 8% Zn and 2-3 oz. Ag per ton. Approximately 100 tons of this ore has been mined from a face about 5 feet in width opened along the drift visible in excess of 8 feet. The new company hopes to buy out this lessee and operate the Pride of the West mine in conjunction with the Bonanza, Kansas and Estelle-Louise, possibly building a 50-ton mill to treat the ore.

8. Paramount Mining Co. In September 1959 Irwin Icove of Tucson, Carlton Spalding and Gary Dixon of Safford, and Sam Makalla of Miami became interested in the Mame claim at Courtland on which Great Western Copper Co. did considerable shaft sinking and lateral development work in 1910-1913. Icove and associates, operating as Paramount Mining Co., reconditioned the shaft to the 100 level with the idea of shipping stope fill and continuing mining, as proposed by Bill Ward, formerly superintendent at the Great Western. However, when the operators saw the old stope fills and tested the water, finding it contained about 12 pounds of copper per 1,000 gallons, their plans were changed to a leaching operation rather than mining. A nylon reinforced plastic 3-inch pipe and stainless steel pump were installed and by circulating mine water from the 200 level over the old stopes on the 100 level, then to a surface precipitating tank, they produced about 15 tons of 80% Cu precipitates per month. This method of operation required batch precipitation, so two new tanks have been installed to permit uninterrupted precipitation which should increase production to 30 tons monthly. This production came in while our smelters were on strike and tonnage has been trucked to International Smelting Company at Miami. I am now working with Mr. Icove and associates to obtain the precipitates for El Paso.

9. Carlisle Mine, Steeplerock District, N.M. Bruce Crawford, Fred Drake and Alfred Minestrello have a lease on the old Carlisle Mine, Grant County, New Mexico, and are interested in shipping low grade copper ore. A 50-pound sample taken by Ira Moseley assayed 1.8 oz Ag, 4% Pb, 3.7% Cu, 62% SiO_2, 4.5% Fe, 4.6% Al_2O_3. Crawford reports 200 tons ready to ship which I agreed to accept at El Paso as soon as weather conditions permit repair of the road to the mine. This ore showing was first reported as a new discovery, but on investigation I learn it is ore cropping in the old Carlisle glory hole stope.

10. B.S.& K. Mining Co., Atlas Mine, Silverbell District. Effective December 31, 1959, the smelter contract for zinc and copper concentrates was cancelled by B.S.& K. Mining Co. During 1959 this operation shipped Amarillo Plant 5814 tons of 59% Zn and 135 tons of copper concentrates to El Paso assaying 24.5% Cu with 6 oz. Ag, .04 oz. Au, 14% Zn, .15% Bi. Current zinc production is purchased by Eagle Picher Company, according to Mr. Kalaf on terms more favorable than the Amarillo contract. It is expected the copper product will continue to be shipped to El Paso under open schedule.

Exploration work in the mine through headings and diamond drilling has been encouraging and successful in opening new ore. The mine is producing ore assaying 20-25% Zn with very little copper content. The copper concentrates are stockpiled for shipment when 100 tons or more have been accumulated.

Equipment at the mine is in very poor condition and the mill also is in a bad state of repair. B.S.& K. Mining Co. hauls the concentrates to the railroad and has repeatedly experienced truck breakdown.

11. Swisshelm District: J.F. Rydbom, owner of the Chance Mine, has been working on a lead carbonate showing northwest of the Swisshelm Gold Silver Co. property. Work performed by sinking on the mineral showing has penetrated about 25 feet and Rydbom has accumulated about 25 tons of 30% Pb. The ore will be shipped to El Paso as carload lots are accumulated.

12. Yucca Mining & Milling Co.-Tailings Antler Mill: Yucca Mining & Milling has not operated at the Antler property since early in 1953. Mr. Ben Williams of Douglas advises me the tailings pond containing pyrrhotite has been built up to a valuable business with limited outlet in the fertilizer industry of California. For a number of years the tailings were leased to R.J. Dalton, former manager for Yucca Mining & Milling Co. Dalton managed the fertilizer business according to his personal tax position and did not expand beyond two consumers. His operation consisted of breaking up the tailings with a small hammer mill, sacking the product at the mine, and shipping for soil application. This product brought $22 per ton, which is more valuable than the original ore from which it was separated. Mr. Williams reports that Dalton no longer has this business and the tailings deposit has been leased to Doctor Arnold of Kingman, which operation nets Yucca Mining & Milling Co. $6 per ton. Arnold follows the same procedure as Dalton and is attempting to expand sale of the product to other users. Approximately 25,000 tons remain in the Antler tailings pond.

13. Minera Benwilco,S.A. For some years the Anaconda Company has been exploring Ben Williams' Guadalupe claims near Nacozari, Sonora. Mr. Williams advises Anaconda reports at least seven breccia pipes on these claims, three of which were drilled without making a copper discovery of the size Anaconda is seeking. The property has been dropped by Anaconda although there are other breccia pipes to be studied.

In this same area Minera Benwilco produced copper concentrates, all of this production going to Douglas. For the past two years the operation has been shut down with no production.

Ben Williams is presently engaged in construction of about 32 kilometers of road to his La Gloria tungsten claims north of Sahuaripa. Union Carbide made an examination of this property and prepared geological and topographic maps which were turned over to Mr. Williams when the option was dropped. Williams contemplates installing a 50-ton mill at this property to treat scheelite assaying 6% WO_3. The operation will be known as Minas Americano. About 50% of the road has been completed and the remaining half, for the most part, can be constructed by bulldozer. Williams thinks he road will be in by the end of April and he will start construction of the mill by that date.

REED F. WELCH

cc:EMcLTittmann DJPope
RLJourdan CPPollock
CNWaterman WJNock
WGRouillard TASnedden
EEGroff KERichard-2

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 28, 1960

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST PRODUCTION YEAR 1959
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

1. Summary Domestic & Foreign Receipts
(From Metal Purchase Reports-Excluding Intraplant tonnages)

Lead Department	Tons Received Year 1959		
	Domestic	Foreign	Total
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
October	-	(133)	(133)
November	(1)	-	(1)
December	7,119	176	7,295
Total Year	60,075	60,895	120,970
Copper Department			
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
October	-	-	-
November	-	-	-
December	15,843	-	15,843
Total Year	129,287	838	130,125

El Paso Plant, Con't.

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnages-Excluding Intraplant)

	Year 1959		On Hand-Tons	
Lead Department	Received	Smelted	1-1-59	1-1-60
Concentrates	77,180	89,293	16,057	6,225
Residue	31,164	34,682	2,178	2,611
Dust	1,920	2,067	322	163
Siliceous Lead	7,151	7,103	1,277	1,386
Pyrite	-	-	7,190	826
Total	117,415	133,145	27,024	11,221
Copper Department				
Concentrates	84,108	84,366	7,316	7,352
Matte	1,256	1,072	-	424
Residue	11,760	11,388	3,884	311
Scrap	1,938	2,252	72	47
Sulphide	4,895	8,603	239	2,712
Reverb Flux	597	659	-	97
Converter "	27,362	26,915	11,848	12,230
Total	131,916	135,255	23,359	23,173

HAYDEN PLANT

1. Summary of Monthly Receipts
(From Metal Purchase Reports)

January	11,415	July	19,265
February	10,539	August	13,195
March	12,467	September	-
April	15,642	October	-
May	16,434	November	-
June	19,541	December	5,227
First Half	86,038	Total Year	123,725

2. Fluxing Situation and Stocks
(From 15-day Reports-Estimated Tonnage)

	Total 1959		On Hand-Tons	
	Received	Smelted	1-1-59	1-1-60
Concentrates	86,079	84,966	1,872	2,985
Reverb Flux	23,957	27,331	10,292	6,935
Converter _	11,280	10,276	4,752	5,756
Total	121,316	122,573	16,916	15,676

Copper Concentrates: At the conclusion of the strike copper concentrate tonnages were divided between Hayden and El Paso to meet smelting capacity at the two plants. Approximately equal proportions of stockpile are allowed to move to the smelters from each contract producer which should clean up concentrates accumulated during the smelter strike within nine to ten months. Tonnages may be adjusted as required at the smelters.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi
From Southwest Producers

	Tons-Conct.		Tons-Conct
January	5,232	July	3,514
February	4,167	August	3,749
March	3,945	September	3,531
April	4,310	October	3,462
May	3,094	November	4,062
June	4,408	December	3,781
Total First Half	25,156	Total Year	47,255

COMMENTS ON SHIPPERS

Bagdad Copper Corporation on December 14 resumed shipments to Hayden Plant and will deliver about 4800 tons monthly until the stockpile accumulated during the smelter strike is cleaned up. All of this tonnage is moving to Hayden.

Banner Mining Company at Mineral Hill is milling only a small tonnage of development ore, shipping about 200 tons monthly and will continue on this basis until further notice. The small stockpile was shipped in December because of anticipated labor trouble at the mine.

The Lordsburg operation had in stock about 1500 tons at the end of the strike and has been authorized to ship 850 tons per month until the stockpile is moved.

Brannan & Fuller on termination of the smelter strike had sufficient tonnage mined at the Henry Clay and 85 mines to start immediately moving siliceous fluxing ore to El Paso. The lease on the Henry Clay-Atwood property is assured since Werner Lake made the option payment due in December, and production from both properties will continue to move to El Paso.

Cyprus Mines Corp. Old Dick Mine copper concentrates are moving to Hayden at a rate of 1100 tons per month, approximately 800 tons current production, the balance from accumulated stock. Part of this stockpile was sold to International Smelting Company at Miami, leaving only about 2000 tons for shipment to Hayden.

Duval Sulphur & Potash Co. is shipping stockpile tonnage to Hayden at a rate of about 4000 tons per month. Current production, 7000 tons monthly, is going to El Paso Plant.

McFarland & Hullinger in December made final shipment of lead concentrates from the San Xavier property and the mine has been sold to Banner Mining Company. The Sahuarita mill will be without ore supply early in 1960 when the Coronado mill at Johnson camp has been reconditioned to handle that ore locally. Possible sources of milling ore for Sahuarita are now being investigated -- Glove Mine east of Amado and the old Paymaster property west of San Xavier.

Nash-McFarland-Trench Mill: Receipts in 1959 total

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct	3690	-	2.4	1.5	1.2	54.0
Lead "	1082	.027	48.9	67.0	1.9	4.6

Mr. Nash thinks this operation can continue finding enough ore to continue the operation through 1960.

Pima Mining Company at the end of the strike was diverted to El Paso Plant taking 1500 tons per month from the remaining stockpile in addition to current production. International Smelting at Miami purchased 10,000 tons of the Pima stockpile. Pima Mining Co. is now engaged in extending the pit on the Banner side under an agreement recently concluded with Banner Mining Company. No increase in production is anticipated in 1960.

Shattuck Denn Mining Corp. shipments for 1959 are as follows:

	Tons	Au	Ag	Pb	Cu	Zn
Zinc Conct	37,427	.06	2.5	1.3	.3	56.0
Lead "	17,163	.91	36.8	32.3	1.5	10.8

During the strike at El Paso Iron King stocked about 6000 tons of lead concentrates which the mine has been authorized to ship at a rate of 1500 tons per month, in addition to current production. However, Shattuck Denn has Asarco consent to ship only 300 tons per month from stock.

Sunrise Mining Co. made the last shipment of lead ore from the Glove Group in December, being small tonnage broken and left at the mine awaiting termination of the smelter strike. Sunrise Mining Co. is presently exploring the Paymaster property west of San Xavier with the hope of finding minable widths of silver-lead ore in this old mine.

United States Smelting Co. started milling ore from the Continental Mine, leased to Patten & Galassini, about the time the strike was called at El Paso. Mining was continued on bank financing and copper concentrates accumulated during the strike with shipments started at its conclusion. Stockpile and current production received at El Paso in December - 770 tons assaying: Au .086 oz, Ag 1.7 oz, Cu 26.9%.

REED F. WELCH

cc: EMcLTittmann
RLJourdan
CNWaterman
WGRouillard
EEGroff
CPPollock
TASnedden
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TAB

1963 thru 1969

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Subject: R. F. WELCH FIELD TRIP REPORTS
1963 thru - 1969

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Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona
August 12, 1969

J. H. C.
AUG 12 1969

Mr. K. D. Loughridge
General Manager, Western Dept.
SALT LAKE CITY OFFICE

SOUTHWEST & COLORADO PRODUCTION
First Half 1969

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ore & Conc.	Tons Received		% of Group
From Arizona-New Mexico	2,037		6.82%
Colorado	15,007		50.21%
Utah	10,627		35.56%
Other Areas	2,214		7.41%
		29,885	100.00%
Copper Department			
Custom Tonnage-Conc., Ppts. & Cu Ore			
From Arizona-New Mexico	135,228		77.25%
Other Areas	17,212		9.83%
		152,440	87.08%
ASARCO-Mission Conc.	-		
Silver Bell Conc. & Ppts.	1,359		
		1,359	.78%
		153,799	
Diversion to Tacoma			
from Southwest-Colorado Cu Conc.	20,094		
N. J. Zinc Co. " Crude Ore	1,164		
		21,258	12.14%
		175,057	100.00%
Cu-bearing Flux	17,103		
ASARCO-San Xavier Flux	16,644		
		33,747	

HAYDEN PLANT

	Tons Received		% of Group
Custom Tonnage-Conc. (Arizona origin)	105,569		46.70%
Ppts. " "	4,361		1.93%
ASARCO			
Mission & Silver Bell Conc. & Ppts.	116,137		51.37%
		226,067	100.00%
ASARCO-San Xavier Flux	13,247		
Cu-bearing Converter Flux	20,944		
Reverb Flux-Tailings	32,860		
		67,051	
Total Receipts Hayden-First Half 1969		293,118	

AMARILLO PLANT

Custom Tonnage-Zinc Conc.			
Arizona-New Mexico origin	21,647		65.20%
Colorado origin	11,556		34.80%
		33,203	100.00%

COMMENTS ON SHIPPERS

Atlas Minerals Division of Atlas Corp., Moab, Utah: Receipts of copper concentrates at El Paso first half 1969 -

Dry Tons	Approx. Avg. Analysis Ag	Cu
793	7.09	27.66

Bagdad Copper Corporation: Deliveries to Hayden first half 1969 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc.	18,973	1.62	25.90
Ppts.	3,222		83.78

Catalina Mining Company: Shipments from Battle Axe Mine for April and May, 1969, to Hayden -

Dry Tons	Au	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	CaO	Al2O3
410	.025	0.30	2.12	70.4	3.1	0.5	10.2

This property is now operated by McFarland and Hullinger. The flux is crushed to minus 2 inches and delivered by truck, but is much lower grade.

Duval Corporation-Battle Mountain: Shipments of precipitates to El Paso first half 1969 -

Dry Tons	Cu
1,866	74.30

Duval-Esperanza: Shipments first half 1969 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc. Hayden	38,418	2.55	25.32
Conc. El Paso	2,328	2.3	25.40
Ppts. El Paso	1,188		73.92

Duval-Mineral Park: Production for first half 1969 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc. Hayden	18,640	4.42	20.73
Conc. El Paso	29,926	4.2	20.42
Conc. Tacoma	8,236	4.51	19.49
Ppts. El Paso	2,229		77.81

El Paso Natural Gas Company-Emerald Isle, Kingman, Arizona: Shipments for first half 1969 -

	Dry Tons	Cu
Ppts. El Paso	156	85.68
Ppts. Hayden	1,084	77.19

This operation is producing at maximum capacity. Lack of sufficient water determines mill tonnage.

El Paso Natural Gas Company-Lakeshore, Casa Grande, Arizona: Shipments for first half 1969 -

	Dry Tons	Cu
Conc. Hayden	2,068	43.77

The Transarizona Mill is operating better now than at any previous period. Estimated tonnage under contract of 750 tons per month will probably never be reached.

Federal Resources Corporation-Bonney and Eighty-five, Lordsburg, New Mexico, shipments for first half 1969 -

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	Zn
3,208	.138	4.7	29.26	.8

This company has spent large sums of money on these properties. Working conditions have been improved. A second way out has been provided, crosscuts for air connections and transportation improved; but here as other underground mining the lack of sufficient miners has limited production to present receipts.

Goldfield Corporation: Shipments May and June, 1969, from the San Pedro Mine and Mill, Santa Fe, New Mexico -

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu
223	.300	6.4	25.18

Homestake Mining Company-Bulldog Mountain, Creede, Colorado: Shipments to El Paso during May and June, 1969 -

Dry Tons	Approx. Avg. Analysis Ag	Pb	Cu	Zn
759	165.89	26.99	0.92	15.42

The mill at Bulldog Mountain Mine is performing better than original forecasts, and the concentrate grade is better than expected. The mine and mill concentrate tonnage is up to forecasts. There does not seem to be a dearth of miners in Creede.

Idarado Mining Company: Shipments for first half 1969 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Lead Conc. El Paso	6,655	.535	54.21	71.13	4.11	1.8
Copper Conc. Tacoma	3,704	.47	18.15	5.73	27.81	3.4
Zinc Conc. Amarillo	11,230	.035	2.93	.78	1.07	59.33

An insufficient number of underground miners limits Idarado production. This has been the factor controlling production for more than a year.

Kennecott Copper Corporation, Hurley, New Mexico: Shipments of copper concentrate March through June, 1969 -

Dry Tons	Cu
21,098	18.38

Kennecott Copper Corporation, Iron King, Utah: Shipments lead ore January and February, 1969 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
1,802	.006	14.69	16.07	0.10	9.3

Little Hill Mines near Oracle, Arizona: Flux deliveries to Hayden first half 1969 -

Dry Tons	Cu	Approx. Avg. Analysis SiO2	Fe	CaO	Al2O3
16,964	.29	83.5	2.1	0.6	5.3

There is a large supply of this type flux at Little Hill Mine. The product is being crushed to minus 2 inches and screened to plus 1/8 mesh. Rejects under 1/8 amount to about 40% of material mined.

McAlester Fuel Company, Hillside, Arizona: Precipitate shipment from the Zonia Mine in January, 1969 -

Dry Tons	Cu
55	62.74

McFarland and Hullinger: Tailings for reverb flux delivered to Hayden first half of 1969 -

	Dry Tons	Au	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	CaO	Al2O3
Mammoth	5,105	.040	.50	.12	83.0	3.1	1.4	2.8
Tiger	27,755	.008	.36	.13	78.9	2.9	1.9	4.5

Ira L. Moseley & Sons: During the first half of 1969 shipped fluxing ore to El Paso from the Burro Claim near Dragoon -

Dry Tons	Cu	Approx. Avg. Analysis SiO2	Fe	CaO	Al2O3
17,342	.57	81.0	2.6	0.6	6.0

New Jersey Zinc Company, Belden, Colorado: Lead concentrate and Eagle Mine crude ore production for first half 1969 -

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	2,450	.203	45.20	52.53	1.83	9.2
Crude Ore-Tacoma	1,164	.08	22.78	1.14	2.87	4.6

New Jersey Zinc Company, Hanover, New Mexico: Shipments during first half of 1969 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Lead Conc.-El Paso	541	.038	24.85	57.38	1.23	12.6
Zinc Conc.-Amarillo	11,959	.009	0.71	0.32	0.77	53.18

Old Dick Mining and Timber Company, Hillside, Arizona: Shipped during first half of 1969 -

	Dry Tons	Ag	Cu	Approx. Avg. Analysis Fe	CaO	Zn	S	Al2O3	Cd
Conc. Hayden	7,014	2.19	21.3	24.4	0.5	12.4	31.6	0.7	
Conc. Amarillo	9,213	.29	1.0	11.7	0.18	50.24	30.8		.136

Pima Mining Company: Copper concentrate shipments during first half of 1969 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu	Zn
Hayden	20,456	3.04	27.78	0.7
El Paso	47,126	3.1	27.97	0.5
Tacoma	8,154	3.15	27.80	0.7

Silver Bell Mines Co., Ophir, Colorado: Concentrates shipped during first half of 1969 -

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	272	.143	47.72	61.00	3.26	
Zinc Conc.-Amarillo	304	.02	5.01	1.99	3.25	50.62

The mill located at Ophir is treating ore produced at Rico, Colorado.

Thomas Consolidated Mines, Inc.: Fluxing ore shipped to El Paso from the Bearup Mine, Silver City, New Mexico, during first half 1969 -

Dry Tons	Au	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	CaO	Al2O3
395	.657	38.74	.17	73.5	2.6	6.3	6.1

Tierra de Plata Mining Co., Canon City, Colorado: Lead ore shipped during first half 1969 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
112	.018	6.22	9.85	.20	3.8

U. S. Silver Mining Company, Salida, Colorado: Shipments to El Paso during first half 1969 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
508	.063	35.02	22.47	4.70	14.0

This is the total tonnage shipped from the Rawley Mine under above name--promotion, then failure.

United States Smelting & Refining Company, Hanover, New Mexico: Concentrate shipped to El Paso during first half 1969 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Cu	Zn
27,275	.088	2.2	26.32	6.8

This mill is working to capacity.

United States Smelting & Refining Company, Midvale, Utah: Concentrate shipments during first half of 1969 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
8,825	.170	24.24	57.56	3.05	6.6

United States Smelting & Refining Company (Standard Metals, Ridgway, Colorado) shipments during first half of 1969 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
3,269	.497	26.82	65.59	4.91	5.2

These tonnages were spot purchases. Concentrate accumulated at Tooele, Utah, during the smelter strike made this feasible. Shipments were concluded on June 30, 1969.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: FWArchibald
HLMontague
RMMcGeorge
ALHatch
LCTravis
SYStennis
MJWinkel
MECoats
TASnedden
RBMeen
CPPollock
JHCourtright

WES

Mr. J. H. Courtright

J. H. C.
JUN 18 1969
W.E.S.
JUN 30 1969

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona
June 13, 1969

Mr. K. D. Loughridge
General Manager, Western Dept.
SALT LAKE CITY OFFICE

FIELD TRIP REPORT - REED F. WELCH
June 2-7, 1969

On June 2, 1969, I met Mr. A. J. Kroha of our New York Office in Denver, Colorado, for the purpose of a joint field trip to be made through the Colorado Rockies. The following notes are the result of this trip.

DENVER, COLORADO

1. STANDARD METALS CORPORATION has offices in the Petroleum Club Building and, in the absence of Mr. A. C. Melting who was in Silverton that week, we visited Mr. Ed Larson. Mr. Larson reported operations at Silverton in connection with Standard Metals Corporation were moving along rather smoothly and satisfactory experiences were enjoyed in the diversion of lead concentrate from U. S. Smelting Refining and Mining Company to our El Paso Plant. Inasmuch as bookkeeping is kept for Standard Metals Corporation by Mr. Larson, we decided to talk the mining problems with Mr. Oliver Hower, who is Resident Manager of Standard Metals Corporation at Silverton.

2. GOLDFIELD CORPORATION is managed by Mr. I. A. Sanders, who also has been made Manager of Western Operations. Mr. Sanders' offices are in the Petroleum Club Building. Conversation developed around the operation at the San Pedro Mine, east of Albuquerque, New Mexico, from which we have recently begun receiving truckload lots of copper concentrate. Mr. Sanders advised the mill is operating satisfactorily and is expected to produce according to their forecast as follows:

Period	Dry Tons	Period	Dry Tons
May, 1969	118	Aug., 1969	339
June, 1969	238	Sept., 1969	339
July, 1969	355	4th Quarter-monthly	630

From the Tucson Office we have been negotiating in connection with our Traffic Department for a satisfactory freight rate for concentrates shipped from Los Cerrillos, New Mexico, to El Paso, Texas. Mr. Sanders was interested to know that we are proceeding with this negotiation; and, until this rate is available, deliveries by truck to El Paso will continue.

3. OCCIDENTAL PETROLEUM CORPORATION has offices at 6073 W. 44th Avenue, Wheat Ridge, Colorado, and is operating in the name of Occidental Minerals Corporation. Mr. M. A. Mason is International Division Manager. Mr. Arthur R. Still, former partner of Still and Still, Prescott, Arizona, recently joined this firm as Senior Staff Geologist. Mr. Ronald Haxby is Staff Engineer, with whom I have had telephone communication and correspondence. Our point of interest was stimulated by the activity of Occidental Minerals Corporation in the Old Reliable Mine in Copper Creek, northeast of Mammoth, Arizona. On May 27, 1969, I had an inquiry from Mr. Harry Winters requesting ASARCO's interest in purchasing copper precipitate in an area near the Hayden Smelter. Knowing that Occidental had been drilling the Old Reliable Mine, I assumed Mr. Winters was representing Occidental Minerals Corporation. Mr. Haxby confirmed Mr. Winters' involvement in the Old Reliable Mine, but instead of representing Occidental he was making an evaluation of the property for the Siskon Corporation, Reno, Nevada, owners of the mine.

According to Mr. Haxby, Occidental has developed 5 million tons of leachable copper ore assaying 0.8-0.9% copper, 3.5-4 million tons of which is available in open pit. I list below the proposed production offered by Mr. Winters from Siskon's point of view compared to Mr. Haxby's.

Evaluation by Mr. Winters:

First year	800,000	pounds of Cu
Second year	1,250,000	
Third year	8,300,000	
Fourth year	5,300,000	
Fifty year	4,400,000	
Sixth year	600,000	
	20,650,000	pounds of Cu

Evaluation by Mr. Haxby:

First year	1,400,000	pounds of Cu
Second year	8,000,000	
Third year	8,000,000	
Fourth year	4,000,000	
Fifty year	3,400,000	
Sixth year	3,100,000	
Seventh year	2,500,000	
Eighth year	1,800,000	
Ninth year	600,000	
	32,800,000	pounds of Cu

Without commitment of purchase, but for evaluation purposes, I quoted Mr. Winters and Mr. Haxby the same terms for precipitate with Hayden delivery.

Mr. Haxby is not sure who the operator of this project will be because of its limited tonnage. Very likely they will arrange for a

OCCIDENTAL PETROLEUM CORPORATION (Cont.)

contractor to strip and mine the ore in a prepared area for leaching. Water has been made available by drilling some distance down toward the San Pedro River and will be pumped to the mine.

It is anticipated that production will begin the latter part of 1970 and Occidental Minerals Corporation is very much interested in acquiring acid at Hayden for use in the leaching plant. It is expected that there will be consumed 3-4 pounds of acid per pound of copper produced. For evaluation purposes I quoted Mr. Haxby the cost of acid in the range of $20-$22 per ton.

4. CONGDON AND CAREY, Patterson Building, Denver, Colorado, have acquired an operating agreement on the Escapule Mine in the Dragoon Mountains east of Tombstone. Their representative called upon me in Tucson asking that I appraise them of any milling facility for a small mine operator that might be interested in such a project, inasmuch as there is no milling available at this time.

Mr. Dolph Fieldman, Geologist, reports as a result of careful diamond drilling this firm has developed 33,800 tons of sulphide ore that assays 3.32 oz. silver per ton, 5.71% lead and 6.96% zinc. In addition to that tonnage there are 19,800 tons of oxide or partially oxidized ore assaying 6.42 oz. silver per ton, 4.26% lead and 6.71% zinc. Congdon and Carey still are looking for an operator and I reported, since their field representative called on me in the Tucson Office, our Deming Mill was again operating and that some day the sulphide ore may be able to find an outlet at the operating unit. This firm would like to be advised when tonnage could be received and they would look for an operator to mine the ore on a split check basis after deducting operating costs.

GOLDEN, COLORADO

5. In order to become acquainted with the Colorado School of Mines Research Department, I introduced Mr. Kroha to Mr. Ed Crabtree, Director of Research. From there we called on Mr. Richard Vincent, who is Director of Research for AMAX. The new laboratory belonging to AMAX is without doubt a commendable structure for research purposes and leaves little to be imagined in the facilities provided.

BONANZA, COLORADO

6. U. S. SILVER MINING COMPANY (Rawley Mine) This firm put together by Mr. Reed Johnston, a local miner of Salida, and Mr. George P. Bates of Canton, Massachusetts, has been producing from the 200 level adit and delivering an occasional railroad car of lead concentrate to El Paso and zinc concentrate to Amarillo. The ore, as described by Mr. Johnston and confirmed by Mr. Bates, is only about three feet wide and has a tendency of pinching and swelling in its occurrence through development of the 200 level

U. S. SILVER MINING COMPANY (Cont.)

face advance. The ore is satisfactorily milled and produces a good concentrate; but, due to the irregularity of the ore, it is difficult to provide sufficient ore to keep the mill running on an economic basis. Consequently production costs exceed returns and Mr. Bates is discouraged. Reed Johnston is made well aware of Mr. Bates' position.

Before entering the Rawley Mine, Mr. Bates obtained geological consulting advice from professionals in Colorado as well as his geologist Harvard associate. Because forecast ore reserves have not been verified, Bates feels like neither of the geologists employed made proper assay evaluations of ore; and he is now of the opinion that everybody conspired against him. Bates reported that unless ore appeared unexpectedly to change the economic position there would have to be other money brought into U. S. Silver Mining Company to sustain its operation or he would be forced to shut down the mine. Mr. Harold Wall, Mill Superintendent who suffered a heart attack during the past winter months, is again back operating the mill.

On June 12, 1969, Mr. Bates called me and reported the mill is closed. There will be one or two more shipments of concentrate from cleanup of the mill.

CREEDE, COLORADO

7. HOMESTAKE MINING COMPANY under the management of Mr. Tom Connolly is operating the Bulldog Mountain Mine and Mill. Mr. Connolly took Mr. Kroha and me through the mill and was very proud with results of the mill's performance to date. This firm has shipped four railroad cars to El Paso since starting up in May, 1969. The mill was designed with spiral cones and table facilities to collect by gravity methods any free silver that would not be concentrated by flotation. To date the gravity section has not been picking up any consequential amount of free silver. On the other hand flotation concentrate, expected to run approximately 125 oz. silver per ton, is approximating 128-194 oz. silver per ton with 18-30% lead. The mine is responding successfully to mining methods which include return of sand from the tailings pond to backfill the stopes. The sand produced eliminating the slimes is just about on balance with that needed to fill the stopes as mining progresses.

8. EMPERIUS MINING COMPANY is being managed by Mr. Bob Jones of Denver, whom I have known for 35 years. Mr. Jones reported that the mine equipment and development work when he took over the management last winter was almost in a state of collapse, as was the mill equipment.

Tyrus Poxson, son of the Owner and Manager, Ben Poxson, seems less concerned with mining activity than he ever did, and his father is

EMPERIUS MINING COMPANY (Cont.)

growing older and more inadequate to handle mine management. Although he has suffered a heart attack, Ben still makes frequent trips to Creede. He has historically interceded with good mine management to the point where mine and mill managers leave the property. Consequently the deterioration referred to above has occurred. Mr. Jones reported the condition of his employment was predicated on the fact Poxson would not interfere with any of his activities as Manager. I am of the opinion that eventually this property should be acquired by Homestake Mining Company, who may do so because it is not long before a large amount of money will be required to be spent at the Emperius property for further exploration work.

There are claims known as Creede Mining Company, owned by Humphreys Engineering Company of Denver, that cross the strike of the Emperius' Amethyst veins; and due to the ownership may cause some conflicting problems for long range development work of the Emperius Mine.

To my surprise neither Homestake nor Emperius Mines are suffering for lack of miners. Wages are less there than in the San Juan Mountains and yet they have ample supply of miners. Labor turnover is of no consequence.

SOUTH FORK, COLORADO

9. While in South Fork we met engineers and operating personnel of the Union Pacific Railroad Company-Summitville Project. Last year this property was operating in partnership with W. S. Moore Company of Duluth, Minnesota, Union Pacific and Cleveland-Cliffs Iron Company. During the early winter shaft sinking and mill construction was stopped. It was impossible to get men and materials to the 12,000 foot elevation due to the severity of snow and winter. Since that time, Union Pacific has become Manager and Operator. Cleveland-Cliffs and W. S. Moore Company retain the same proportional interests. The property is once again being reactivated, and Mr. Robert Schlosser is Resident Mine Manager for U. P. There is no forecast date at this time when the Union Pacific Project at Summitville will be completed.

Mr. Frank McKinley of Humphreys Engineering Company, Denver, Colo., and Mr. John S. Holland, V. P. of New Park Mining Company, 25 Broadway, New York City 10004, were also at South Fork. Mr. Holland's address after July 1, 1969, will be 44 Montgomery Street, San Francisco, Calif. They had been to Spar City in the Creede area investigating the project New Park Mining Company is involved with in driving an adit to explore silver-bearing veins. So far New Park has progressed 3,000 feet with this adit. The objective of vein projection from surface to that level is still ahead of the adit face. They had not intercepted any vein structures in the work performed, although they were hopeful that some may be discovered that were not known to outcrop above.

SILVERTON, COLORADO

10. There is a sense of rejuvenation in the air at Silverton and considerable enthusiasm is justifiable. The most stimulating development comes from the activity started about two years ago by Mr. Edward Barge, a young school teacher geologist. Mr. Barge had family interests in the Osceola and Pride Claims; and, after obtaining a small amount of financial backing, he organized the 2-Bit Mining Company, later the Barge Mining Company, and proceeded to lease the properties to miners. These claims lie on the east side of Cunningham Gulch and end line is common with the Old Hundred Mine claims to the north, later acquired by Dixilyn Corporation. Through his lessee activity Mr. Barge succeeded in demonstrating that the limestone exposure carried sufficient amount of lead-zinc ore high enough in grade to be shipped in railroad car amounts to the U. S. Smelting Refining and Mining Company at Midvale, Utah. Some small amounts of lower grade material of insignificant tonnage was treated at the Pride Mill located at Howardsville.

11. DIXILYN CORPORATION At the same time Mr. Barge was demonstrating the occurrence of ore in limestone, Mr. Richard J. Fiorini acquired the Old Hundred Claims and interested Dixilyn Corporation into financing exploration of the claims. After geological examination, this firm made plans for and constructed a mine shop, office, and assay laboratory in preparation of exploring the Old Hundred veins in an adit some 3000-4000 feet below outcrop. At that time it could have been stated that Dixilyn was promotional. It is now confirmed through Mr. Fiorini's visit to my office in Tucson that this firm is serious and means business. To this date Dixilyn has spent over 3.5 million dollars and is prepared and expects to spend 10 million dollars before the mine has been fully developed and construction of a 1000 ton-per-day mill. The lower adit has been driven in excess of one mile and crossed four veins. They are drifting northerly and southerly on No. 7 vein and have raised to the second level above, which is 600 feet higher than present working level, and from there to the 18th level for a total of 1500 feet. Much of this raising was run in ore.

On March 24, 1969, Mr. Fiorini advised he had developed 1.5 million tons of sulphide ore assaying as follows:

Oz. per Ton		Percent:		
Gold	Silver	Lead	Copper	Zinc
0.08	2.95	3.65	0.79	2.75

Through the development work and raising, ore removed is being stockpiled at the Pride Mill which Dixilyn Corporation has just purchased and will soon modify with a larger crusher, ball mill and improve the flotation section so that the developed ore can be milled at the time it is mined. Mr. Fiorini estimates that some lead concentrate and zinc concentrate will be forthcoming from the Pride Mill in the latter part of July, 1969. It is estimated 150 tons of ore daily will be handled in this old mill, producing 55-58% zinc and 55-60% lead.

DIXILYN CORPORATION (Cont.)

Earlier this spring Dixilyn acquired from Mr. Barge the Osceola and Pride Claims. Mr. Fiorini has done considerable geological work in the district and on the northern part of the Osceola Claim he drilled the limestone section, which shows 92 feet across what he thinks is bedding of 15% combined lead-zinc with 2.0 oz. silver per ton. This particular ore intercept is being followed by another drill hole to the east, which will confirm his thoughts of limestone position identifying its angle of dip and perhaps further discovery of ore. In searching for limestone, Dixilyn Corporation drilled to the northwest of the present adit with results of discouragement inasmuch as the drill passed through the andesite flow into Pre-Cambrian schists. South of this diamond drill location and to the east there are evidences of limestone having been cut in old adits and shafts. Constructing an imaginary limestone occurrence in these workings shows a slight dip of limestone easterly of 8-10°. This suggests the occurrence of a fault or sub andesite topographic high north of the Osceola Claim and explains why the Old Hundred Claims are lacking in limestone.

The district operations and awareness of ore occurring in limestone by other claim owners has started Standard Metals Corporation drilling the Sunnyside Mine for stratigraphy hoping to hit limestone. Further to the east, Colorado Fuel and Iron Corporation has acquired a group of claims and is drilling with limestone objective. Up in the Dives Basin near Silver Lake, Dixilyn Corporation has six or eight claims identified as Contact. No work in the past has been done in the Contact Claim area. They have discovered siliceous gangue mineralization identifying gold, silver and gray copper. This company is going to prospect and explore the Contact Claims.

12. STANDARD METALS CORPORATION As referred to earlier, Standard Metals Corporation is managed by Mr. Oliver Hower, who also is in charge of development of the Antler Mine near Yucca, Arizona. In discussing deeper level drilling at the Sunnyside Mine with Mr. Hower, he was very pessimistic about the outcome of this drilling and gave me the opinion he was reluctant in this exploration work. I had heard a rumor that U. S. Smelting Refining and Mining Company insisted Standard Metals Corporation drill below the level over the objection of Mr. Hower, who commented that even if they did hit ore deeper it would not be commercial. The drill on June 6, 1969, was 1000 feet deep. It had been set up with the objective of drilling 2000 feet.

13. ANTLER MINE About two years ago this property, 15 miles east of Yucca, Arizona, was acquired by Standard Metals Corporation. The Centennial Development Company of Eureka, Utah, sank the old shaft 200 feet deeper after modifying the upper portion of the shaft. Ore has been encountered in the two levels below the fifth. The incline shaft passed through the vein between the fifth and sixth levels. Drifting along the vein has confirmed the occurrence of ore in depth. Metallurgical samples have shown mill

ANTLER MINE (Cont.)

test work possible to produce from 250 tons per day ore production, 35 tons per day of 25% copper concentrate and 35 tons per day of zinc concentrate assaying 50%. It is possible some lead concentrate will be developed, but this is not firm at the present time. A millsite near Yucca has been prepared where ample water is available. Mr. Tom Mache is the local Manager who lives at Kingman, but his office address is Joshua Motel, Yucca, Arizona. The above products are the same as referred to our New York Office by Mr. Vogelstein, who reported many thousands of tons per month as a potential.

RED MOUNTAIN, COLORADO

14. At the IDARADO MINING COMPANY Office, Mr. Kroha and I called on Mr. George Forbes, Office Manager, and visited a short time with Mr. A. C. Hilander. We informed them of our intent to modify the current effective contract with Idarado and advised at a later date I would supply a letter appraising Idarado Mining Company of our intended new terms which would replace the current contract. Mr. Hilander had visitors from New York and consequently we did not discuss much in detail, only to know the mine is still suffering from a lack of adequate number of underground miners. According to Mr. Forbes, Idarado is looking forward to exploring some of the contiguous properties in the Red Mountain-Telluride area held by Idarado Mining Company.

OPHIR, COLORADO

15. At this location SILVER BELL MINES COMPANY, with offices in Denver headed by Mr. Eugene H. Sanders, is operating their mill.

Silver Bell Mines Company is operating the property near Rico, Colorado, called "Silver Clad" Mine in which Silver Bell Mines Company owns 30% interest. The ore is mined and hauled to Ophir for concentration. That mill operates on day shift only and has shipped 147 dry tons of lead concentrate and 167 dry tons of zinc concentrate from January through April, 1969, which assayed approximately as follows:

	Oz. per Ton		Percent:			
	Au	Ag	Pb	Cu	Zn	Cd
Lead Conc.	.179	52.97	63.54	2.46		
Zinc Conc.	.024	5.60	1.88	3.48	51.57	.32

Mr. Lesley E. Smith is Mill Superintendent and Mr. Melvin Carlson is Chief Engineer. The mill appears to be in fairly good running condition. Mr. Sanders believes in the near future he will be able to ship us concentrate in railroad car quantities rather than trucklots.

16. RICO ARGENTINE MINING COMPANY Earlier last week we received an offer from Rico Argentine Mining Company to supply them with our smelting charges for a contract basis on concentrate produced at Rico. Mr. Sherman B. Hinckley, President, reports 200 tons of lead concentrate per month which will assay approximately as follows:

Oz. per Ton		Percent:				
Au	Ag	Pb	Zn	Fe	Cu	Cd
0.02	35.5	74.0	3.0	2.5		

and 350 tons of zinc concentrate per month assaying approximately:

0.01	6.5	2.5	53.0	6.5	1.1	0.32

I will pursue this with Mr. Hinckley; but, because the lead concentrate is currently going to Bunker Hill and is especially high grade and clean, it is doubtful I can obtain this tonnage for El Paso.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: RLHennebach
FWArchibald
ALHatch
SYStennis
LCTravis
MECoats
RKKirkpatrick
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona
February 14, 1969

~~WES~~
~~JHS~~

W.E.S. FEB 21 1969

J. H. C. FEB 18 1969

Mr. K. D. Loughridge
General Manager, Western Dept.
SALT LAKE CITY OFFICE

SOUTHWEST & COLORADO PRODUCTION
Year Ending Dec. 31, 1968

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ore & Conc.	Tons Received		% of Group
From Arizona-New Mexico	12,681		26.86%
Colorado	26,374		55.87%
Utah	6,883		14.58%
Other Areas	1,268		2.69%
		47,206	100.00%
Copper Department			
Custom Tonnage-Conc., Ppts. & Cu Ore			
From Arizona-New Mexico	225,341		74.64%
Other Areas	14,300		4.74%
		239,641	79.38%
ASARCO-Mission Conc.	12,423		
Silver Bell Conc. & Ppts.	5,555		
		17,978	5.95%
		257,619	85.33%
Diversion to Tacoma from Southwest-Colorado Cu Conc.	40,945		
Crude Ore	3,358		
		44,303	14.67%
		301,922	100.00%
Cu-bearing Flux	32,872		
ASARCO-San Xavier Flux	30,835		
		63,707	

It was hoped San Xavier flux could satisfactorily be used at both smelters. At about the same time, El Paso and Hayden experienced adverse metallurgical success and had to reduce the amount of San Xavier in the converter flux. This has reduced actual tonnage of forecast to about 50%. Currently Hayden is trying 200 tons per day and El Paso 100 tons per day. From my observation, the Mining Department cannot look for an outlet of this product with the smelters in excess of 9,000 tons per month.

HAYDEN PLANT

	Tons Received		% of Group
Custom Tonnage-Conc. (Arizona origin)	87,670		35.31%
Ppts. " "	3,183		1.28%
ASARCO			
Mission & Silver Bell Conc. & Ppts.	157,444		63.41%
		248,297	100.00%
ASARCO-San Xavier Flux	10,285		
Cu-bearing Converter Flux	8,509		
Reverb Flux-Tailings	44,833		
		63,627	
Total Receipts Hayden 1968		311,924	

AMARILLO PLANT

Custom Tonnage-Zinc Conc.			
Arizona origin	9,900		16.20%
Colorado origin	34,484		56.43%
Utah origin	16,725		27.37%
		61,109	100.00%

COMMENTS ON SHIPPERS

Atlas Minerals Division of Atlas Corp., Moab, Utah: Receipts of copper concentrates at El Paso in 1968 -

Dry Tons	Approx. Avg. Analysis Ag	Cu
290	15.7	22.04

Bagdad Copper Corporation: Deliveries in 1968 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc. Hayden	25,110	1.94	32.26
Ppts. Hayden	1,977		86.44
Ppts. El Paso	948		86.23

Precipitate from Bagdad is in excess of consumption by their own powder copper refinery. That plant's operation is irregular.

Duval Corporation-Battle Mountain: Shipment of precipitates to El Paso 1968 -

Dry Tons	Cu
2,123	77.85

Duval-Esperanza: Shipments 1968 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc. Hayden	46,650	2.24	25.24
Conc. El Paso	22,226	2.6	25.28
Ppts. El Paso	1,580		76.21

Duval-Mineral Park: Production for 1968 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc. Hayden	12,931	5.35	21.39
Conc. El Paso	50,061	4.9	21.35
Conc. Tacoma	23,453	5.52	21.73
Ppts. El Paso	2,609		80.80

El Paso Natural Gas Company-Emerald Isle, Kingman, Arizona: Shipments for 1968 -

	Dry Tons	Cu
Ppts. El Paso	93	66.69
Ppts. Hayden	986	73.02

Production from this property has been limited in part by lack of water.

El Paso Natural Gas Company-Lakeshore, Casa Grande, Arizona: Shipments for 1968 to Hayden -

	Dry Tons	Cu
Conc. Hayden	892	43.83

This segregation plant has had a late start and an interrupted performance which accounts for the small tonnage.

Federal Resources Corporation-Bonney and Eighty-five, Lordsburg, New Mexico shipments for 1968 to El Paso -

Dry Tons	Au	Approx. Avg. Analysis Ag	Cu	Zn
3,909	.220	6.5	25.98	2.3

Most of this concentrate originates in the Bonney vein. An underground connection with the 85 Mine provides better air and working conditions. Ore from both mines is now commingled for milling.

Grant County Mining Company, Steeplerock Mining District, New Mexico: Shipped to El Paso during 1968 -

			Approx. Avg. Analysis				
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
706	.070	3.01	.20	84.2	2.8	0.9	3.5

Although this is a high-grade converter flux, its surface occurrence is very limited which proved to be submarginal to the producer.

Idarado Mining Company: Shipments for 1968 -

			Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc. El Paso	11,121	.469	43.4	70.39	3.92	2.1
Copper Conc. Tacoma	9,856	.69	14.84	5.47	26.79	4.3
Zinc Conc. Amarillo	27,362	.035	2.73	.81	.98	58.7

Idarado Mining Company has been experiencing a scarcity of underground employees, and production of concentrate is directly limited to the number of miners.

Little Hill Mines near Oracle, Arizona: Flux deliveries to Hayden during 1968 -

		Approx. Avg. Analysis			
Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
3,778	.33	86.9	1.7	0.6	3.6

This flux, high in silica and low in alumina, was purchased to blend with San Xavier which when used alone is not satisfactory as a converter flux.

McAlester Fuel Company, Hillside, Arizona: Precipitate deliveries to Hayden during 1968 -

Dry Tons	Cu
191	86.11

This tonnage was purchased on a spot basis and represents about four railroad cars only.

McFarland and Hullinger: Tailings for reverb flux delivered to Hayden during 1968 -

				Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Mammoth	22,762	.04	.52	.12	79.1	3.0	1.5	2.8
Tiger	22,071	.006	.38	.17	77.9	3.1	1.5	5.3

McFarland and Hullinger: Iron King Mine, Humboldt, Arizona: Shipments during 1968 -

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc. El Paso	4,575	1.105	38.8	35.77	1.87	8.8
Zinc Conc. Amarillo	6,587	.072	1.97	.82	.24	52.28

The above tonnage represents concentrate shipped just prior to the abandonment of the Iron King Mine. This property was closed down by Shattuck Denn Mining Corporation on December 30, 1967. McFarland and Hullinger leased the mine and abandoned it on December 3, 1968.

Ira L. Moseley & Sons, during 1968 shipped fluxing ore to El Paso from the Burro claim near Dragoon:

Dry Tons	Cu	Approx. Avg. Analysis SiO2	Fe	CaO	Al2O3
31,010	.66	76.5	4.0	2.8	6.8

Although this is not the most satisfactory converter flux for El Paso, we are purchasing and stockpiling most of it.

New Jersey Zinc Company, Belden, Colorado: Lead concentrate and Eagle Mine crude ore production for 1968 -

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	5,047	.132	44.0	51.83	1.94	8.07
Crude Ore-Tacoma	3,358	.06	20.99	.86	2.23	6.1

New Jersey Zinc Company, Hanover, New Mexico: Lead production shipped to El Paso during 1968 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
3,706	.044	16.1	62.1	1.37	8.5

Most of the lead concentrate from Hanover Mill originates at the Lynchburg Mine in Magdalena District. This ore is produced by lessees.

Old Dick Mining and Timber Company, Hillside, Arizona: Shipped during 1968 -

	Dry Tons	Ag	Cu	Approx. Avg. Analysis SiO2	Fe	CaO	Zn	S	Al2O3
Conc. Hayden	2,046	1.87	21.15	3.8	23.5	0.5	12.2	30.5	1.2
Conc. Amarillo	2,590	.26	1.08	1.9	10.6	0.49	50.59	30.0	

After this mine closed down for about two years while sinking a new shaft to the 2250 level, ASARCO purchased copper and zinc concentrates under a new contract. The mine began production from its new ore body in September, 1968.

Pima Mining Company: Copper concentrate shipments during 1968 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu	Zn
El Paso	109,800	3.0	28.37	.5
Tacoma	7,636	3.28	28.91	.6

Standard Metals Corporation, Silverton, Colorado: Shipments of zinc concentrate during 1968 -

Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
7,019	.017	4.10	4.39	.59	54.73

This tonnage was purchased during the period of the recent 1967-8 copper strike. At resumption of operations at Great Falls, Montana, the concentrate was directed to that reduction plant.

Thomas Consolidated Mines, Inc.: Fluxing ore shipped to El Paso from the Bearup Mine, Silver City, New Mexico, during 1968 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Cu Dept.	724	.441	26.1	.10	71.9	2.7	6.7	5.2
Pb Dept.	1,075	.489	18.85	.19	70.0	2.7	8.6	5.8

United States Smelting & Refining Company, Hanover, New Mexico: Concentrate shipped to El Paso during 1968 -

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	Zn
33,218	.090	2.3	25.76	7.0

This tonnage is from the new Fierro Mill and Bullfrom Mill. The Fierro Mill is being supplied ore from underground and open pit.

United States Smelting & Refining Company, Midvale, Utah: Concentrate shipments during 1968 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Zn Conc.-Stockpile	16,725	.031	3.19	2.24	.84	52.10
Pb Conc.-Dec., 1968	1,029	.125	20.55	55.55	2.93	5.63

The zinc concentrate was purchased during the copper smelter strike and was a product of the Midvale Mill. The lead concentrate is current mill production.

United States Smelting & Refining Company (Standard Metals, Silverton, Colorado) shipments November and December, 1968 -

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
816	.638	27.9	64.1	6.15	4.9

This is a diversion by United States Smelting & Refining Company to El Paso Smelter.

White Rock Aggregate & Mining Company, Inc., Golden, Colorado: Lead ore shipments during 1968 -

Dry Tons	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	CaO	Al2O3
3,255	13.4	.10	72.9	2.3	0.5	9.8

White Rock Aggregate & Mining Company, Inc., working under a lease, has found direct smelting uneconomical since the price of silver dropped below $2.25. An attempt to mill the ore is now in progress.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: FWArchibald
HLMontague
RMMcGeorge
ALHatch
LCTravis
SYStennis
MJWinkel
MECoats
CPPollock
JHCourtright
TASnedden
RBMeen

J. H. C.

OCT 17 1968

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona
October 17, 1968

MR. WES
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS

Mr. K. D. Loughridge
General Manager, Western Dept.
SALT LAKE CITY OFFICE

W.E.S.
NOV 1 1968

FIELD TRIP REPORT - REED F. WELCH
September 22-28, 1968

On September 22nd I flew to Albuquerque, New Mexico, and proceeded on a trip through the Southern Rockies to contact shippers and new mines under development.

1. From a point of interest I visited the Moly Corporation Mine and Mill at Questa, New Mexico, only to learn that the mining and milling is a problem on the 11,000 ton mill capacity operation.

2. United States Silver Mining Company This mining company has recently acquired the Bonanza Mine as a result of Mr. Reed Johnson's efforts. The company Owner and Manager is Mr. George Bates of Canton, Massachusetts, and his partner is Mr. Dwight Rounds of Wichita, Kansas. Mr. Reed Johnson is Mine Superintendent and Mr. Harold Wall is Mill Superintendent. They are currently doing work in the 2 and 3 adit levels and eventually plan on opening the 12 level. While the mine is being reactivated Mr. Harold Wall, formerly Mill Superintendent of the Emperius Mill at Creede, is reconditioning the mill at Bonanza and has it in physical condition that should sustain a good operation. According to Messrs. Johnson and Wall production of lead and zinc concentrates is expected sometime in December of this year. An outlet of these products is expected by the shipper to be El Paso for the lead and Amarillo for the zinc. Neither of these gentlemen could tell me what tonnage of concentrates would be produced.

3. Paragon Minerals Ltd., Inc. Mr. Joe Furphy, operator of the Furphy Cafe at Salida, is optimistic and hopeful of shipping ore from the Salida Bonanza Mining District in the name of Paragon Minerals Ltd., Inc. Mr. Furphy reports he is amply financed to carry on an operation, but historically Furphy's attempts at mining have been failures.

4. Cotter Corporation is again operating its uranium mill at Canon City. Some of the product being handled by Cotter is an uranium by-product that had accumulated in St. Louis, which originated in South Africa. The by-product treated by Cotter contains a small amount of copper; and through the chemical application possible at Cotter's mill, that company will save the copper in the form of copper concentrate over a 2 1/2 year period and will produce approximately 3,000 tons of concentrate assaying 25-35% copper. I am assured the uranium content will not be over .02%. This product has been treated for some time and an accumulation of 400-500 tons of copper concentrate was ready for shipment. I instructed Mr. Marcott of Cotter Corporation that we could accommodate him at the rate of about one 70-ton railroad car per week. At his convenience he will load and ship to El Paso upon my instructions to do so.

5. Tierra de Plata Mining Co., Inc. Mr. Nathaniel P. Brown of Canon City, Colorado, has organized the captioned company and has finances currently being expended at sinking an exploration shaft on the Revelle Lode Mining Claim at Westcliffe, Colorado. At the time of my visit Mr. Brown had accumulated approximately one railroad car of ore while sinking the shaft. Sample values provided me by Mr. Brown indicate a rather high-grade product of lead and silver; but after discussing his problem in Canon City, I am of the impression that his first car, which has since been shipped to El Paso, will be a low-grade product. In correspondence after returning from the Canon City trip, Mr. Brown has his own reservations on what the product may assay and he thinks future ore will be an improvement over the first car. Mr. Brown was formerly a land agent for oil companies and is doing his best to learn what to avoid in dealing with irregular occurrences of ore. At the best, this company could produce only an occasional railroad car shipment.

6. Ute Ule Mine In Lake City, Colorado, I visited with Mr. Frank O. McCarthy who advised that Mr. Edward G. Hughes of Grand Junction was attempting to conclude a sale of this mine to Texota. This transaction is expected to be finalized in the very near future. Texota employed Bullock Engineering of Denver to examine the mine, who I understand has recommended its purchase. These engineers have recommended that Texota develop the mine before starting the mill, which seems to be the only logical approach inasmuch as there are such low ore reserves. Mr. Hughes, who was limited in finances, could not afford the development investment.

7. Jim Wells Property During the last several months Mr. Frank O. McCarthy has become interested in the Wells property located four miles above Lake City. This is an old mine that contains small high-grade showings of copper lenticular and blobby and requires careful mining and sorting, even washing before preparation for shipment. Mr. McCarthy, who is capable of doing this, could produce a few railroad cars over a period of six to eight months.

8. Bulldog Mine At the Bulldog Mine, Creede, Colorado, Homestake Mining Company is making rapid progress in mill construction and mine preparation for production. A 300 ton per day mill is being put together, with the mill building almost completed, efforts of which were emphasized in order to get the machinery under cover before the winter snow. It is expected the mill will start about February, 1969, and will go through a breaking-in period until April, handling during this period some 5,000 tons of ore. Annually thereafter 80,000 tons of ore will be milled. The ratio of concentration is expected to be 7 1/2 to 1, producing 10,500 tons of concentrates for the first year (1969) and, beginning with 1970, 13,500 tons annually which is equivalent to 1,125 tons of concentrate per month. In addition to this there will be shipped a small amount of native silver that will be caught in the mill and placed in barrels for shipment to either the smelter or a refining plant at Lead, South Dakota. The anticipated concentrate based upon metallurgical tests performed by Homestake indicates the concentrate to go to El Paso would assay approximately as follows:

Bulldog Mine (Cont.)

Oz. per Ton		Percent:					
Gold	Silver	Lead	Copper	Zinc	Arsenic	Antimony	Bismuth
0.01	103.0	13.6	0.3	7.9	1.24	0.18	0.01

Purchase terms have been submitted to Homestake and will be resolved in the very near future on a contract basis.

9. King Solomon Mine This property is currently being reactivated on a small scale by Mr. James M. Muir, Jr., of Anaheim, Calif., and is operated in the name of King Solomon Mining Corporation. Present activity is milling ore that is being taken from a stoping area 4,000 feet in the lower adit level. The mill built three or four miles up the canyon from the adit is a new structure, the circuit of which washes the ore through a Tromuel screen. The resulting product is then circulated through Humphrey Spirals and finally lead and zinc separated over two tables.

At the time of my visit the Mill and Mine Supt., Mr. Carl Duncan, estimated he had 12 tons of lead concentrate and about 14 tons of zinc concentrate on hand. Earlier this year this property produced similar concentrate as follows:

Amarillo Smelter:

Dry	Percent:										
Tons	Pb	Cu	SiO2	Fe	CaO	Zn	S	Mgo	Cd	As	Mn
19	4.23	.14	7.10	3.40	.14	53.40	28.60	.10	.29	.04	.40

El Paso Smelter:

Dry	Oz/Ton		Percent:								
Tons	Au	Ag	Pb	Cu	SiO2	Fe	CaO	S	Al203	As	Sb
16	.088	3.3	75.93	.06	1.6	1.6	.2	15.3	.7	.16	.10

It is quite obvious that work as carried on by King Solomon Mining Corporation is not economic. However, Mr. Muir is attempting to interest additional capital to take over his property and make the necessary changes for enlarging the mill and reducing costs, hoping to make an economic venture.

10. Pride Mine This property located on the south slope in Cunningham Gulch and owned by 2 Bit Mining Company (Mr. Edward M. Barge) is being leased to Mr. Fernard Friezell. Mr. Friezell lives at Durango and his address is Box 77. Present activity is mainly reconditioning the Pride Mine adit and developing some ore. It is expected this ore will be concentrated and purchased by Standard Metals Corp. in their mill at Silverton.

12. Osceola and Henrietta Claims Adjacent to the Pride Mine Claim Mr. Barge also owns the Henrietta and Osceola Claims, which are being leased to Mr. Whitey David of Silverton. Ore occurrences on these two claims are in the Paleozoic limestones; and, according to Mr. Barge, make almost a dip slope to the steep mountainside. Mr. David is mining the ore as it is encountered without development by drift or drilling. Everything mined is being shipped as ore. There have been thousands of tons shipped to the Midvale Mill in the Salt Lake Valley and a minimum tonnage processed through the Pride Mill. Current production amounting to about 100 tons per day is being trucked to the Standard Metals Mill and stockpiled to be run through that mill two days a week. This product is being purchased by Standard Metals and shipped in their name. According to Mr. Barge, the ore runs from 10-20% lead-zinc combined. Mr. Barge, who recognizes the operational lease by Messrs. David and Friezell on the Pride Claim, is assisting the property owner in a way of developing the ore inasmuch as there is no other development money available.

At the time of my visit Mr. Barge was waiting for a decision on the acquisition of his property by Louisiana Land and Exploration Company. This firm is considering taking over the property obligating itself to spend $200,000 per year on development for a three-year period. However, at the end of any one year development can stop and the property returned to the owner if that year's work does not continue to interest the operator.

13. Dixilyn Mine This property's eastern most end lines are common with the Osceola Claim and exploration is being conducted by driving an adit 4,000 feet, 3,200 of which is now completed. This adit is expected to cross seven veins. Part of the current work in addition to crosscutting is expected soon to drift on No. 5 vein and run raises for development of ore expected to be encountered. The Dixilyn management feels sure of ore to be developed. They have a mill site located and a mill partially designed in anticipation of early production of concentrates. Copper, lead and zinc concentrate all are forecast to be produced from the 1,500 tons per day production. No. 7 vein should produce ore assaying about as follows:

Oz. per Ton		Percent:		
Gold	Silver	Lead	Zinc	Copper
0.1	3.0	3.5	1.5	0.5

In No. 5 vein the assay of the ore running 8-9 feet wide was not available, but I was advised that 4 feet of this structure will assay about 1% Bi and the mineral is bismuthinite. I was asked if concentrate from the No. 5 vein could be sold and payment received for Bi.

The Dixilyn Mine is managed by Mr. R. J. Fiorini; Mine Superintendent is Mr. R. R. Ward and Assistant Manager is Mr. George Holcomb.

14. Idarado Mining Company At the Ouray Office I stopped in and had a visit with Mr. A. C. Hilander and Mr. Tom Hedlund. There were no problems involved with this producer and the normal concentrate produced this year can be expected in 1969. Ore in the cross vein has been mined about 150 feet deep in the Cutler Formation and it is still a good-grade product. The main complaint this property has is lack of proper miners, and this limits their ore production. According to Mr. Hilander, he could use 50 miners.

At Telluride Mr. Kenneth Tatman advised he is being assigned to the Granduc property in British Columbia for the next 18 months, at the conclusion of which he will retire. His assignment to Granduc will be to coordinate mill construction and be responsible for its successful start-up operation.

15. Silver Hat Mining, Inc. This property at Matterhorn, Colorado, is managed by Mr. Jack Montgomery. As far as mill operation is concerned, it has been idle the last several months. Mr. Montgomery reported that at the mine they are engaged in installing a new six-inch airline and, to use his words, he says he is trying to "peddle" the property.

16. Silver Bell Mine Mr. Eugene H. Sanders of Denver is attempting to reactivate the Silver Bell Mill at Ophir and to make gold-silver sponge in the name of Silver Bell Mines Co. The property is far from producing and the mill shows very little activity being carried on.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: RLHennebach
FWArchibald
ALHatch
KDLoughridge
SYStennis
LCTravis
MECoats
RKKirkpatrick
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 31, 1968

W.E.S.
AUG 8 1968

J.H.C.
AUG 19 1968

Mr. K. D. Loughridge
General Manager, Western Dept.
SALT LAKE CITY OFFICE

SOUTHWEST & COLORADO PRODUCTION
First Half 1968

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ore & Conc.	Tons Received		% of Group
From Arizona-New Mexico	5,779		38.83%
Colorado	8,445		56.75%
Other Areas	658		4.42%
		14,882	100.00%
Copper Department			
Custom Tonnage-Conc., Ppts. & Cu Ore			
From Arizona-New Mexico	79,999		72.98%
Other Areas	3,269		2.98%
		83,268	75.96%
ASARCO-Mission Conc.	12,058		
Silver Bell Conc. & Ppts.	3,740		
		15,798	14.41%
		99,066	90.37%
Diversion to Tacoma from Southwest-Colorado Cu Conc.	8,902		
Crude Ore	1,656		
		10,558	9.63%
		109,624	100.00%
Cu-bearing Flux	9,992		
ASARCO-Mission Flux	6,061		
		16,053	

Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 31, 1968

W.E.S.
AUG 8 1968

J.H.C.
AUG 19 1968

Mr. K. D. Loughridge
General Manager, Western Dept.
SALT LAKE CITY OFFICE

SOUTHWEST & COLORADO PRODUCTION
First Half 1968

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EL PASO, HAYDEN & AMARILLO

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		99,066	90.37%
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Crude Ore	1,656		
		10,558	9.63%
		109,624	100.00%
Cu-bearing Flux	9,992		
ASARCO-Mission Flux	6,061		
		16,053	

Southwest-Colorado Production
First Half 1968

HAYDEN PLANT	Tons Received		% of Group
Custom Tonnage-Conc. (Arizona origin)	8,669		22.91%
Ppts. " "	538		1.42%
ASARCO			
Mission & Silver Bell Conc. & Ppts.	28,632*		75.67%
		37,839	100.00%
Cu-bearing Converter Flux	3,357		
Reverb Flux-Tailings	10,408		
		13,765	
Total Receipts Hayden-First Half 1968		51,604	

AMARILLO PLANT			
Custom Tonnage-Zinc Conc.			
Arizona origin	2,196		7.69%
Colorado origin	21,812		76.39%
Utah origin	4,547		15.92%
		28,555	100.00%

* Tonnages priced in November and December, 1967, have been deducted from this total.

The above production record indicates the movement of concentrates to the various smelters after force majeure was lifted this year through the month of June.

From the copper concentrate stockpile accumulation of production by ASARCO-Silver Bell during the strike, 14,000 tons have been delivered to Inspiration Consolidated Copper Company for smelting, with 7,000 tons more to complete the contract obligation at that smelter. As of July 30, 1968, the stockpile at Plata still contains

approximately 11,000 tons. The accumulation of stockpiled concentrate that was incurred at ASARCO-Mission Mine has been cleaned up.

Zinc purchases made from Standard Metals Corporation, Silverton, Colorado, so far this year total 7,019 dry tons; and there are 4,547 dry tons liquidated of the zinc purchased from United States Smelting Refining and Mining Company at Midvale, Utah.

Zinc production in the Arizona area almost wholly came from the Iron King Mine. The property is being leased by McFarland and Hullinger who will be phasing this operation out within the next few months. In its place the Old Dick Mine will be forthcoming with approximately 1,900 tons of zinc concentrate per month, which is expected in the last quarter of 1968.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: FWArchibald
HLMontague
RMMcGeorge
ALHatch
LCTravis
KHSchultz
MJWinkel
MECoats
CPPollock
JHCourtright
TASnedden
RBMeen

Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 29, 1968

J.H.C
MAR 4 1968

Mr. K. D. Loughridge
General Manager Western Dept.
SALT LAKE CITY OFFICE

SOUTHWEST & COLORADO PRODUCTION
Year Ending Dec. 31, 1967

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ore & Conc.	Tons Received		% of Group
From Arizona-New Mexico	17,140		30.43%
Colorado	5,580		9.90%
Other Areas	23,303		41.37%
		46,023	81.70%
Diversion Pb Conc. to E. Helena from Colo.		10,309	18.30%
		56,332	100.00%

Copper Department

Custom Tonnage-Conc., Ppts. & Cu Ore				
From Arizona-New Mexico		153,923		68.69%
Colorado		52		.02%
Other Areas		7,818		3.50%
			161,793	72.21%
ASARCO-Mission Conc.		18,922		
Silver Bell Ppts.		1,557		
			20,479	9.14%
			182,272	81.35%
Diversion to Tacoma from Southwest-Colorado	Cu Conc.	40,079		
	Crude Ore	1,715		
			41,794	18.65%
			224,066	100.00%
Cu-bearing Flux			50,073	

HAYDEN PLANT	Tons Received		% of Group
Custom Tonnage-Conc. (Arizona origin)	26,112		11.37%
Ppts. " "	2,538		1.11%
ASARCO Mission-Silver Bell Conc.	201,048		87.52%
		229,698	100.00%
Copper Ore	116		
Cu-bearing Converter Flux	23,036		
ASARCO Flux	2,447		
Reverb Flux-Tailings	24,987		
		50,586	
Total Receipts Hayden 1967		280,284	

AMARILLO PLANT-Zinc Concentrates			
Southwest-Custom Tonnage	20,225		34.55%
ASARCO-Mission	-		
Colorado	38,314		65.45%
		58,539	100.00%

El Paso and Hayden Smelters went on strike July 15th and Amarillo Smelter on October 1, 1967. All shippers were notified of the impending strike about July 10th and shipments were stopped. Force Majeure was declared on products which normally would have gone to El Paso and Hayden.

In spite of the strike at Amarillo, receipt of zinc concentrate from Shattuck Denn-Iron King Mine continued without stockpiling. Lead concentrate moved to El Paso but was not priced.

Idarado Mining Company stockpiled for a short time, but by the end of the year the smelter had received the accumulation of concentrate and was also taking current production.

On November 15th I gave Standard Metals Corporation authorization to ship 6,000-10,000 tons of zinc concentrate to Amarillo. Through December 3360 dry tons had been delivered.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: FWArchibald
CNWaterman
RMMcGeorge
ALHatch
LCTravis
KHSchultz
MJWinkel
MECoats
CPPollock
TASnedden
RBMeen
JHCourtright

Mr. J.H.Courtright

WES

J. H. C.

JUL 14 1967

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 11, 1967

Mr. T. J. Woodside
Manager
EL PASO PLANT

W.E.S.
AUG 21 1967

SOUTHWEST & COLORADO PRODUCTION
First Half 1967

Origin of Receipts
El Paso, Hayden & Amarillo

EL PASO PLANT

Lead Department-Ores & Conc		Tons Received		% of Group
From Arizona-New Mexico		10,470		22.66%
Colorado		3,943		8.54%
Other Areas		22,190		48.03%
			36,603	79.23%
Diverson Pb Conc to E.Helena from Colo.			9,596	20.77%
			46,199	100.00%
Copper Department				
Custom Tonnage-Conc, Ppts & Cu Ore				
From Arizona-New Mexico		140,924		68.91%
Colorado		52		.03%
Other Areas		6,978		3.41%
			147,954	72.35%
ASARCO-Mission Conc.		18,553		
Silver Bell Ppts.		1,412		
			19,965	9.76%
			167,919	82.11%
Diversion to Tacoma from Southwest-Colorado	Cu Conc.	34,999		
	Crude Ore	1,578		
			36,577	17.89%
			204,496	100.00%
Cu-Bearing Flux			46,746	

HAYDEN PLANT	Tons Received		% of Group
Custom Tonnage-Conc.(Arizona origin)	24,431		13.90%
Ppts. " "	2,331		1.33%
ASARCO Mission-Silver Bell Conc.	148,995		84.77%
		175,757	100.00%
Copper Ore	44		
Cu-bearing Converter Flux	21,371		
Asarco Flux	2,447		
Reverb Flux-Tailings	23,426		
		47,288	
Total Receipts Hayden-First Half		223,045	

AMARILLO PLANT-Zinc Concentrates			
Southwest-Custom Tonnage	11,124		36.80%
ASARCO-Mission	-		
Colorado	19,104		63.20%
		30,228	100.00%

COMMENTS ON SHIPPERS

The Anaconda Company-Pilot Plant Concentrate: El Paso Receipts April, 1967

Dry tons	Approx. Avg. Analysis Ag	Cu
627	3.8	25.89

Test work in this pilot plant was completed in April and no more copper concentrates will be produced until the mine is placed in operation.

Atlas Minerals Division of Atlas Corp., Thompson, Utah: Receipts of copper concentrates at El Paso in first half 1967 -

Dry Tons	Ag	Cu
452	1.3	21.97

Atlas produces this concentrate as a byproduct in the uranium plant in Moab, Utah. No consistent production rate is available.

Bagdad Copper Corporation: Deliveries to Hayden in first six months 1967 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc.	17,929	2.08	24.64 - 40.68
Ppts	2,331		75.62

Bagdad Copper Corp.,Con't.

The Bagdad powder plant is not working as anticipated. Although precipitate tonnage is less than expected, the powder plant can not use more than about two-thirds of present production. Plant modification is necessary to consume all the precipitate production.

Banner Mining Co., Lordsburg: Receipts at El Paso in January 1967 -

Dry Tons	Au	Ag	Cu
72	.277	5.4	23.7

Banner abandoned its operation of the Lordsburg property at the end of November of last year. The mine has been taken over by Federal Resources but as yet not placed in operation.

B.O.W. Mining Company, from Silver Bell-Martinez Mine near Florence, Arizona, shipped to Hayden January through May 1967 -

		Approx. Avg. Analysis			
Dry Tons	Ag	SiO2	Fe	CaO	Al2O3
4,262	7.30	71.9	2.8	1.3	8.9

This product was mined along the Silver Bell-Martinez vein outcrop. It is satisfactory converter flux.

Diversified Mines, Lordsburg: First half 1967 receipts from the 85 Mine, the principal source of siliceous flux for El Paso -

			Approx. Avg. Analysis					
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	S	Al2O3
33,056	.053	.6	2.16	63.6	6.8	3.3	4.2	7.3

The silica content of 85 Mine ore is now fortified with outcrop vein silica to improve the fluxing quality. The mine is working to capacity.

Duval Corporation, Battle Mountain: First half 1967 shipments of precipitates to El Paso -

Dry Tons	Cu
412	70.06

Duval-Esperanza: Shipments first half 1967 -

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	5,799	2.25	25.97
El Paso	32,865	2.40	26.12
Ppts. El Paso	1,953		80.32

Duval-Mineral Park: Production for first half 1967 -

	Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc. Hayden	696	5.21	25.29
El Paso	35,229	4.90	21.99
Tacoma	16,955	4.57	22.34
Ppts. El Paso	2,536		62.1-78.8

Idarado Mining Co.: Shipments for the first half 1967 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Lead Conc.-El Paso	1,307	.75	42.3	71.2	3.2	0.3
East Helena	5,517	.58	53.8	72.1	2.8	3.0
Copper Conc.-Tacoma	4,288	.56	21.4	4.3	28.3	4.0
Zinc Conc.-Amarillo	15,578	.032	2.8	.8	1.0	58.1

Some lead concentrate was shipped to El Paso in the first half and total lead tonnage is now moving to El Paso. The mine is shipping to maximum production with labor available.

Little Hill Mines near Oracle, Arizona: Flux deliveries to Hayden for first half 1967 -

Dry Tons	Approx. Avg.Analysis Cu	SiO2	Fe	CaO	Al2O3
7,577	0.41	85.9	1.8	0.5	4.2

The Little Hill property has a large tonnage of similar value flux in reserve

McFarland & Hullinger from the Commercial Mine in Copper Basin delivered to Hayden during the first half 1967 -

Dry Tons	Approx. Avg. Analysis Cu	SiO2	Fe	Al2O3
9,272	2.19	64.7	2.7	13.1

These shipments came from surface cuts on the Phelps Dodge property. Mixed with Little Hill Mine ore, this product has been satisfactory converter flux.

McFarland & Hullinger: Tailings for reverb flux delivered to Hayden during first half 1967 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Mammoth	3,994	.05	.69	.12	84.1	2.5	1.3	2.8
Tiger	19,432	.01	.36	.22	78.9	2.8	1.7	3.9

McFarland & Hullinger, Keystone Mine, Crested Butte, Colo. Production for first half 1967 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Lead Conc.-E.Helena	1,900	.018	58.2	43.8	5.2	6.8
Zinc Conc-Amarillo	3,350	.005	2.6	.4	1.1	50.8

Lead concentrate tonnage has been returned to El Paso Plant. Due to low ore reserves the mine and mill may close down early in September.

Ira L. Moseley & Sons, during the first half 1967 shipped fluxing ore to El Paso from the Burro claim near Dragoon:

Dry Tons	Approx. Avg. Analysis Cu	SiO_2	Fe	CaO	Al_2O_3
12,295	0.89	76.7	4.4	2.1	4.3

Moseley has shipped all the ore available from the pit's present size. Exploration work is being carried on in another area, from which more flux may be mined.

New Jersey Zinc, Hanover: Lead production shipped to El Paso in the first half 1967 -

Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
1,198	.04	18.3	57.6	2.7	9.4

Practically all of this tonnage comes from shipper's Lynchburg Mine in Magdalena.

New Jersey Zinc, Belden, Colorado: Lead concentrate and Eagle Mine crude ore production for first half 1967 -

	Dry Tons	Approx.Avg.Analysis Au	Ag	Pb	Cu	Zn
Lead Conc.-E.Helena	2,179	.12	43.9	50.6	2.8	8.3
Crude Ore-Tacoma	1,578	.09	20.0	0.6	4.6	4.1

Pima Mining Company: Production first half 1967 -

	Dry Tons	Approx.Avg.Analysis Ag	Cu	Zn
Conc.-El Paso	63,486	3.2	28.7	2.0
Tacoma	13,756	3.3	28.4	1.0

In addition to the above production about 2000 tons of concentrates were shipped to Douglas.

Shattuck Denn-Iron King: Production for first half 1967 -

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Lead Conc.-El Paso	7,590	.91	35.8	32.9	1.9	7.8
Zinc Conc.-Amarillo	11,124	.09	1.8	0.9	0.2	54.2

This mine is producing at maximum capacity for best returns. The operation could continue for one more year.

U.S. Smelting Co., Hanover: Copper production at Hanover mill shipped to El Paso during first half 1967 -

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	Zn
3,505	.16	4.3	27.3	6.3

This tonnage has come from the old workings of the Continental Mine under lease. The new mine is not ready for production.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
KDLoughridge
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
JHCourtright
RBMeen
LCTravis
MJWinkel

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
FEB 14 1967

February 13, 1967

Mr. T. J. Woodside
Manager
EL PASO PLANT

Dear Sir:

I enclose Page 3 of the Southwest & Colorado production report dated February 6, 1967, covering the year 1966.

Since the item on Banner Mining Co. was not clearly stated, please replace the original with the enclosed Page 3.

Yours very truly,

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
RBMeen
JHCourtright
LCTravis
MJWinkel

Banner Mining Co., Lordsburg: Receipts El Paso for 1966:

Dry Tons	Au	Ag	Cu	Zn
	Approx. Avg. Analysis			
6,254	.218	4.8	20.9	1.7

The Bonney Mine was officially closed November 30, 1966. Ore reserves were low and operating expenses too high. Production from this property from August, 1936, through November, 1966, was 2,286,663 dry tons, which assayed

Au	Ag	Cu
.02	.757	2.56

Dry tons of concentrate produced: 215,153

	Au-oz.	Ag-oz.	Cu-pounds
Total Metal:	33,531.72	1,575,191.47	114,833,849

Cyprus Mines Corp.-Old Dick-Copper Queen - Copper concentrates delivered to Hayden in 1966:

Dry Tons	Au	Ag	Cu	SiO2	Fe	Zn	S
	Approx. Avg. Analysis						
1,353	.005	1.55	21.71	3.3	22.3	15.57	30.4

The Old Dick Mine stopped producing concentrate in July. They are presently engaged in sinking a new shaft which will not be completed until about January, 1968.

Diversified Mines, Lordsburg - 1966 receipts from the 85 Mine, the principal source of siliceous flux for El Paso Plant:

Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Zn	S	Al2O3
	Approx. Avg. Analysis								
60,847	.067	.6	2.17	65.6	6.0	4.0	.2	3.4	7.3

The 85 Mine has 80,000 tons of ore reserve (same grade as shipped). Another 75,000 tons may be developed above the 1950 level. The mine is under option to Ranchers Exploration and Development Corp., but option will probably not be exercised. Maximum production per month with present equipment is 5500 tons per month.

Duval Corp. Esperanza 1966 shipments:

	Dry Tons	Ag	Cu
		Approx. Avg. Analysis	
Conc. Hayden	29,203	2.05	25.72
" El Paso	48,880	2.2	26.35
Ppts. El Paso	3,736		78.63

WES, ~~SLB~~, BHW

Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.

February 6, 1967

FEB 9 1967

W.E.S.
FEB 10 1967

S. I. B.
FEB 10 1967

Mr. T. J. Woodside
Manager
EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION
Year Ending Dec. 31, 1966

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ores & Conc.	Tons Received		% of Group
From Arizona-New Mexico	19,818		17.79%
Colorado	21,994		19.74%
Other Areas	62,681		56.25%
		104,493	93.78%
Diversion Pb Conc. to E. Helena from Colo.		6,936	6.22%
		111,429	100.00%

Copper Department			
Custom Tonnage-Conc., Ppts. & Cu Ore			
From Arizona-New Mexico	258,532		68.59%
Colorado	1,547		.41%
Other Areas	13,698		3.64%
		273,777	72.64%
ASARCO-Mission Conc.	20,002		
Silver Bell Ppts.	3,395		
		23,397	6.21%
		297,174	78.85%
Diversion to Tacoma from Southwest-Colorado Cu Conc.	73,727		
Crude Ore	5,988		
		79,715	21.15%
		376,889	100.00%
Cu-bearing Flux		65,194	

HAYDEN PLANT	Tons Received		% of Group
Custom Tonnage-Conc. (Arizona origin)	66,564		21.67%
Ppts. " "	6,459		2.10%
ASARCO Mission-Silver Bell Conc.	234,166		76.23%
		307,189	100.00%
Copper Ore	40		
Cu-bearing Converter Flux	37,757		
Reverb Flux-Tailings	36,468		
		74,265	
Total Receipts Hayden 1966		381,454	

AMARILLO PLANT-Zinc Concentrates			
Southwest-Custom Tonnage	24,644		37.88%
ASARCO Mission	2,379		3.66%
		27,023	41.54%
Colorado		38,039	58.46%
		65,062	100.00%

COMMENTS ON SHIPPERS

The Anaconda Company Pilot Plant Concentrate - Hayden receipts January thru July, 1966:

				Approx. Avg. Analysis					
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Zn	S	Al2O3
681	.002	4.16	29.46	5.8	24.6	2.0	3.4	29.2	1.5

This pilot plant is still operating. Copper concentrate is being held for test performance in the mill separation of molly content.

Bagdad Copper Corporation 1966 deliveries to El Paso and Hayden:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	31,799	2.02	28.84-54.79
Precip. Hayden	6,459		80.14
" El Paso	984		82.58

Bagdad's Powder Copper Plant has been consuming more of this company's precipitate each month. Since October Hayden has received between 200-300 tons per month. With steady improvement it is expected soon that all precipitate will be used in that process.

Banner Mining Co., Lordsburg: Receipts El Paso for 1966:

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	Zn
6,254	.218	4.8	20.9	1.7

The Bonney Mine was officially closed November 30, 1966. Ore reserves were low and operating expenses too high. Production from August, 1936, through November, 1966, was 215,183 dry tons of copper concentrate as follows:

	Approx. Avg. Grade of crude ore Au	Ag	Cu
	.02	.757	2.56 ~~2.5~~

	Gold-oz.	Silver-oz.	Copper-pounds
Metal produced	33,531.72	1,575,191.47	114,833,849

Cyprus Mines Corp.-Old Dick-Copper Queen - Copper concentrates delivered to Hayden in 1966:

Dry Tons	Au	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	Zn	S
1,353	.005	1.55	21.71	3.3	22.3	15.57	30.4

The Old Dick Mine stopped producing concentrate in July. They are presently engaged in sinking a new shaft which will not be completed until about January, 1968.

Diversified Mines, Lordsburg - 1966 receipts from the 85 Mine, the principal source of siliceous flux for El Paso Plant:

Dry Tons	Au	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	CaO	Zn	S	Al2O3
60,847	.067	.6	2.17	65.6	6.0	4.0	.2	3.4	7.3

The 85 Mine has 80,000 tons of ore reserve (same grade as shipped). Another 75,000 tons may be developed above the 1950 level. The mine is under option to Ranchers Exploration and Development Corp., but option will probably not be exercised. Maximum production per month with present equipment is 5500 tons per month.

Duval Corp. Esperanza 1966 shipments:

	Dry Tons	Approx. Avg. Analysis Ag	Cu	
Conc. Hayden	29,203	2.05	25.72	9 lb. Cu per Ton ore
" El Paso	48,880	2.2	26.35	
Ppts. El Paso	3,736		78.63	

Duval Corp. Mineral Park production for 1966:

		Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc.	Hayden	390	3.99	21.54
	El Paso	66,029	5.5	22.35
	Tacoma	36,567	5.88	21.66
Ppts.	El Paso	3,220		71.71

Duval Esperanza expansion of 3500 tons per day mill capacity is expected in June, 1968. This would produce up to 8500 tons of concentrate per month. Tonnage of concentrates from Esperanza and Mineral Park mills has been down by 25% for the last 60 days due to necessity of repairing ball mills. This repair work will continue through February, 1967.

Grant County Mining Company, Duncan, Arizona, flux deliveries to El Paso during November and December, 1966:

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	SiO2
390	.101	4.27	.10	86.0

This product is from the Steeplerock District, New Mexico. We are experimenting with this producer hoping to obtain a better flux for El Paso converters. The economics of a successful operation are not yet determined.

Idarado Mining Co. - 1966 Receipts:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	9,098	1.949	40.2	72.0	3.2	2.1
East Helena	4,697	.413	45.4	70.4	3.5	3.0
Copper Conc.-Tacoma	8,176	.59	16.43	3.97	27.97	4.6
Zinc Conc.-Amarillo	29,270	.40	2.60	.83	1.03	58.8

Lack of miners is a problem at this property. The ore reserves are well maintained and production of concentrate in 1967 is expected to be same as last year.

Kennecott Copper Corporation - Chino Mines, Hurley, New Mexico, copper concentrate deliveries to El Paso June through October, 1966:

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu
15,161	.01	0.3	18.89

Little Hill Mines near Oracle, Arizona, flux deliveries to Hayden during 1966:

			Approx. Avg. Analysis				
	Dry Tons	Ag	Cu	SiO2	Fe	CaO	Al2O3
Little Hill Mine	16,292	-	.81	80.3	2.4	0.6	6.7

The mine product, while low in margin, is used to fortify other ore for proper flux mix.

McFarland & Hullinger from the Commercial Mine in Copper Basin - delivered to Hayden during 1966:

		Approx. Avg. Analysis		
Dry Tons	Cu	SiO2	Fe	Al2O3
17,549	2.06	71.6	2.9	9.6

This property is under lease from Phelps Dodge which runs from year to year. It supplies a satisfactory product when mixed with other ore.

McFarland & Hullinger - Tailings for reverb flux delivered to Hayden during 1966:

				Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Mammoth	23,849	.034	.062	.12	82.0	2.7	1.7	3.3
Tiger	12,619	.013	.035	.13	79.9	2.8	1.6	3.9

McFarland & Hullinger - Flux deliveries from the Owens Mine at Oracle Junction to Hayden during 1966:

		Approx. Avg. Analysis				
Dry Tons	Ag	Cu	SiO2	Fe	CaO	Al2O3
2,146	.09	1.40	68.2	3.2	1.5	11.3

This ore was purchased in an unsuccessful attempt to develop a new source of converter flux for Hayden.

McFarland & Hullinger - Keystone Mine, Crested Butte, Colo., production for 1966:

			Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.-El Paso	3,882	.020	67.7	45.4	4.3	5.8
East Helena	1,105	.016	70.8	45.5	4.9	8.2
Zinc Conc.-Amarillo	8,303	.006	[illegible].56	.48	1.05	50.6

Production was reduced during November and December at the Keystone Mine while sinking the main shaft to a lower level. Development work is progressing.

Ira L. Moseley shipped siliceous flux to El Paso from Burro Claim at Johnson Camp during 1966:

Dry Tons	Cu	Approx. Avg. Analysis SiO2	Fe	CaO	Al2O3
3,957	.84	69.7	4.1	3.8	7.2

The above tonnage of converter flux material was not satisfactory for El Paso and was discontinued in March, 1966.

New Jersey Zinc, Belden, Colorado - Lead concentrate and crude silver-copper ore shipments for 1966:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	3,850	.091	40.0	50.4	4.1	6.4
East Helena	1,134	.088	36.3	52.7	3.0	7.1
Crude Ore-Tacoma	5,988	.10	20.75	.70	4.31	3.7

New Jersey Zinc, Hanover Mill - Lead concentrates delivered to El Paso in 1966:

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
2,030	.052	22.9	56.1	2.4	9.7

Pima Mining Co. Shipments for 1966:

	Dry Tons	Approx. Avg. Analysis Ag	Cu	Zn
Conc.-El Paso	105,876	3.7	26.60	3.1
Tacoma	28,984	3.72	26.76	3.7
Hayden	3,045	4.00	30.53	2.4

I understand Pima shipped to Douglas about three months during 1966 tonnages in excess of our contract.

Shattuck Denn, Iron King - Production for 1966:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.	14,145	.860	38.5	33.5	2.1	6.9
Zinc Conc.	24,561	.081	1.87	1.10	.20	54.6

The Iron King Mine is now going to continue producing at the rate of 25,000 tons per month. It is estimated by the mine manager that the operation will last through June, 1968.

U. S. Smelting Co., Hanover Mill copper shipments to El Paso for 1966:

		Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Cu	Zn
Conc.	6,265	.161	4.5	26.28	8.1
Ppts.	288			48.24	

Concentrate and precipitate from this property have been produced under a lease. The main Continental Mine will not start up until about July, 1967.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
JHCourtright
RBMeen
LCTravis
MJWinkel

Mr. J. H. Courtright

J. H. C.

AUG 29 1966

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 26, 1966

MR. WES, SFV, RWK, WLK
READ AND RETURN
PREPARE ANSWERS HANDLE
FILE INITIALS

W.E.S.
SEP 6 1966

Mr. T. J. Woodside
Manager
EL PASO PLANT

S. V. F
SEP 7 1966

FIELD TRIP REPORT-REED F. WELCH
AUGUST 22-25, 1966

Earlier this week I spent two or three days in and around the Denver area on a field trip. While there are many attempts to produce Au-Ag ore in the front range area, these are mainly promotional. A few shippers, underfinanced and hardly worth mentioning, are accumulating some small trucklots of concentrate and selling it to us through the Globe Plant receiving yard. This accommodation at Globe is doing a good job for the small shipper; but without the assistance of promotional money, the enthusiasm drops and the operations fade into another combination of promotional names.

1. Cotter Corporation At Silver Plume this corporation has constructed and is operating a heavy-media plant on dumps of the old mines in that district. Considerable tonnage of dump material has been run through the plant; but at the time of my visit, it was difficult to determine which belt carried waste or ore. The selected product has been hauled to Canon City for further milling and concentrating at the plant owned by Cotter Corporation.

2. Homestake Mining Company The important activity in mining of interest to us at this time is being carried on by Homestake Mining Company at Creede. Mr. Rizzi, manager, and I had a long visit in his office last Monday at which time he advised work in the Bulldog Tunnel has followed ore for approximately one mile on the Puzzle Vein. The ore, however, is lensy with many swells and pinches in this length of ore showing.

The contemplated intersection of the Bulldog Vein and the Puzzle Vein was reached without changing the occurrence of ore, although at the intersection there was a slight change in strike of the Puzzle Vein. So far it looks as though the Puzzle Vein is the mineralizer and the Bulldog Vein may not be mineralized. This ore is mineable, but it is mostly oxidized. Because the ore occurs with a high percentage gangue barite, Homestake is thinking seriously of a mill that will make barite concentrate and yield a return.

The face of the Bulldog Tunnel is approaching an ore interception drilled from the surface in which sulfide ore was encountered. In the direction of the advance the surface is rising steeply and already the tunnel is picking up segments of sulfide which is high in marcasite and silver. This leads Mr. Rizzi to believe the Bulldog Tunnel should continue advancing in this direction and that tonnages of sulfide ore will be encountered at this level.

Homestake Mining Company (Cont.)

In addition to the Bulldog Tunnel work, Homestake has prepared a tunnel site 350 feet below the Bulldog Tunnel and is just now starting a new crosscut of 1500 feet to the Puzzle Vein at this level. Mr. Rizzi is very optimistic about finding considerable tonnages of sulfide ore that will allow Homestake to develop the mine for production and mill construction. At this time Homestake is examining other properties in the Creede district to determine total tonnages available for milling on a custom basis. Homestake is hoping to acquire the Equity Claims, above the Amethyst Mine, operated by Cox and Turnipseed. Shipments made by this producer January thru July, 1966, for El Paso delivery are as follows:

				Approx. Avg. Analysis				
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	S	Al2O3
424	.067	18.1	.10	73.7	2.2	2.0	1.1	7.5

3. Alpine Management Corporation This firm is financed by the McCulloch Oil Corporation of California. Mr. Frank McCarthy is resident manager of Alpine Management Corporation. They have built a 1,000 ton per day sink-float plant on the pretense of handling 600,000 tons of dump material. Samples sent to this office for assaying ran as follows:

Oz. per Ton			Percent	
Gold	Silver	Lead	Copper	Silica
-	16.3	2.8	0.4	61.0
-	66.6	12.0	7.0	

In recent conversation with Mr. McCarthy, he advised the concentrate from the heavy-media plant is run through a flotation mill and is making about one ton of flotation concentrate per day, assaying 60-80 oz. silver and 16% lead. This product also has a high content of barium sulphate. One railroad car has recently been shipped to Tooele where payment is not made for copper. Mr. McCarthy reports the concentrate will yield 5-6% copper and for this reason he wants to ship his next railroad car to El Paso.

Although Mr. McCarthy reports his milling plant water is clear before it encounters the main stream, the Fish and Game Commission shut his operation down. He is now thinking of drilling holes into the ground and pumping his tailing water into the gravel of the river valley. At this time Alpine Management Corporation has not done any work underground in the old Smuggler Mine and others in the district, but they may eventually do so.

4. Contract Engineering Company Alfred Hoyl of Rollinsville is operating a 100 ton per day mill at the Platoro Mine, located about 60 miles northwest of Antonito. According to Mr. Hoyl, at this time he has 15 barrels (55 gal.) containing approximately 1,000 pounds of concentrates in each barrel. This product should assay approximately 25 oz. gold and 900 oz. silver per ton. With the continued operation of the mill Mr. Hoyl is accumulating two barrels per day; and when he has 40 drums available, he will make a truckload shipment to El Paso. I have requested he call me before making trucking arrangements so I can give him final instructions.

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
KHSchultz
GHPlayter
LCTravis
MJWinkel
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 18, 1966

J. H. C.
AUG 19 1966

L. P. E.

Mr. T. J. Woodside
Manager
EL PASO PLANT

W.E.S. AUG 19 1966

AUG 19 1966

Aug 22
BIX W

MR. ~~LPE~~ ~~WES~~
READ AND RETURN
PREPARE ANSWERS ___ HANDLE ___
FILE ___ INITIALS ___

SOUTHWEST & COLORADO PRODUCTION
FIRST HALF 1966

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ores & Conc.	Tons Received		% of Group
From Arizona-New Mexico	10,945		23.29%
Colorado	14,327		30.48%
Other Areas	21,729		46.23%
		47,001	100.00%
Copper Department			
Custom Tonnage-Conc., Ppts. & Cu Ore			
From Arizona-New Mexico	127,648		76.89%
Colorado	111		.07%
Other Conc. & Cu Ore	6,402		3.85%
		134,161	80.81%
ASARCO-Mission Conc., Silver Bell Ppts.		9,827	5.92%
		143,988	
Diversion Cu Conc. to Tacoma from Southwest-Colorado		22,025	13.27%
		166,013	100.00%
Cu-bearing Flux		36,232	

HAYDEN PLANT

Custom Tonnage-Conc.(Arizona origin)	29,354		19.84%
Ppts. " "	3,937		2.66%
ASARCO Mission-Silver Bell	114,693		77.50%
		147,984	100.00%
Copper Ore	40		
Cu-bearing Converter Flux	18,141		
Reverb Flux-Tailings	17,571		
		35,752	
Total Receipts Hayden First Half		183,736	

AMARILLO PLANT-Zinc Concentrates	Tons Received		% of Group
Southwest-Custom Tonnage	13,582		39.13%
ASARCO Mission	2,323		6.69%
		15,905	45.82%
Colorado		18,806	54.18%
		34,711	100.00%

COMMENTS ON SHIPPERS

The Anaconda Company Pilot Plant Concentrate - Hayden receipts January thru June, 1966:

	Approx. Avg. Analysis								
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Zn	S	Al2O3
512	.002	4.05	29.78	6.0	24.9	1.9	3.2	29.4	2.0

This company is still producing concentrates from ore mined thru shaft and milled at the rate of 200 tons per day in the Banner (Mineral Hill) mill.

Bagdad Copper Corporation deliveries to Hayden and El Paso in first six months 1966:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	14,113	2.03	36.87-54.79
Precip. Hayden	3,937		82.93
" El Paso	984		82.58

All precipitates are now going to Hayden. A few tons have been consumed in the company's copper powder plant. Operation problems are experienced at the plant.
Future concentrate grade should drop to about 25-30%.

Banner Mining Co., Lordsburg: Receipts El Paso in first half 1966:

	Approx. Avg. Analysis			
Dry Tons	Au	Ag	Cu	Zn
3,461	.193	4.2	20.28	1.2

This company has had bad mine air which has held down production. Improvements now allow larger tonnages to be mined, and the volume of concentrates should increase the last half of this year.

Cyprus Mines Corp. - Old Dick - Copper Queen - Copper concentrates delivered to Hayden in first half 1966.

			Approx. Avg. Analysis				
Dry Tons	Au	Ag	Cu	SiO2	Fe	Zn	S
1,167	.005	1.55	22.12	3.1	22.4	15.48	30.3

The Old Dick Mine production of ore has been stopped while a new 2200 circular shaft is sunk. Mining of ore is expected to begin about January, 1968.

Diversified Mines, Lordsburg - first half of 1966 receipts from the 85 Mine, the principal source of siliceous flux for El Paso Plant:

				Approx. Avg. Analysis					
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Zn	S	Al2O3
32,275	.068	.7	2.16	66.2	5.9	4.4	.1	3.0	7.4

All this production is coming from the 85 Mine. Ore reserves have been increased. The management reports more production per month is available.

Duval Corp. Esperanza first half of 1966 shipments:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	10,037	2.14	26.04
El Paso	27,305	2.4	27.14
Precip. El Paso	1,674	-	76.51-83.81

8.7 lb cu/ton ore

Mineral Park production for first half of 1966:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	390	3.99	21.54
El Paso	39,969	5.1	21.74
Tacoma	12,772	5.35	20.69
Precip. El Paso	1,297	-	64.02-77.26

9.8 lb cu/ton ore

Duval is now shipping 5,000 tons of concentrates per month to Tacoma. Their Battle Mountain property will increase this tonnage by about 3,000 tons per month beginning January, 1967. Precipitates will be produced in October of this year for El Paso delivery. The amount of copper eventually expected from the Battle Mountain precipitate is 1,000,000 pounds per month after leach dumps are completed.

Idarado Mining Co. - first half 1966 receipts:

	Dry Tons	Au	Ag	Pb	Cu	Zn
			Approx. Avg. Analysis			
Lead Conc.-El Paso	6,492	1.088	27.3-50.9	71.9	3.0	2.1
Copper Conc.-Tacoma	3,716	.71	16.5-21.0	4.03	27.83	5.0
Zinc Conc.-Amarillo	13,827	.044	2.36	.80	.98	59.1

Ore reserves at this property have been increased by discovery of ore on the cross faults in the lower levels. Increased production is held back by lack of miners.

Little Hill Mines near Oracle, Arizona, flux deliveries to Hayden during first half of 1966:

	Dry Tons	Ag	Cu	SiO2	Fe	CaO	Al2O3
			Approx. Avg. Analysis				
Converter Flux	8,077	-	1.00	75.0	2.6	.8	8.7

This shipper is supplying about half of Hayden's requirement. Future production will be lower in copper and 80-93% silica. This flux is crushed at the mine to minus 2" and delivered by trucks.

McFarland & Hullinger from the Commercial Mine in Copper Basin - delivered to Hayden first half of 1966:

	Dry Tons	Cu	SiO2	Fe	Al2O3
		Approx. Avg. Analysis			
Converter Flux	8,562	1.99	72.8	2.9	8.9

This product is shipped under a lease from Phelps Dodge which is extended from year to year. The flux arrives at Hayden crushed to minus 2" mesh.

McFarland & Hullinger-Tailings for reverb flux delivered to Hayden first half of 1966:

	Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
				Approx. Avg. Analysis				
Mammoth (Jan-May)	14,611	.027	.56	.13	81.9	2.7	1.6	3.6
Tiger (June only)	2,960	.010	.32	.12	80.2	2.8	1.4	4.6

McFarland & Hullinger-Keystone Mine, Crested Butte, Colo., production for first half of 1966:

		Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.	2,558	.019	67.5	45.8	4.3	5.8
Zinc Conc.	4,835	.006	2.43	.42	1.02	50.7

The shaft at this property is now being sunk 150' to explore for more ore. Reserves must be increased to assure continued ore production.

Ira L. Moseley shipped siliceous flux to El Paso from Burro Claim at Johnson Camp during first three months of 1966:

		Approx. Avg. Analysis			
Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
3,957	.84	69.7	4.1	3.8	7.2

Shipments from this property were discontinued because the product is unsatisfactory as a flux.

New Jersey Zinc, Belden, Colorado - Lead concentrate and crude silver-copper ore shipments for first half of 1966:

		Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.-El Paso	2,816	.096	40.0	50.0	4.5	6.0
Crude Ore-Tacoma	4,000	.03-.30	17.8-29.4	.7	2.6-6.4	2.9

New Jersey Zinc, Hanover Mill: Lead concentrates delivered to El Paso in first half of 1966:

	Approx. Avg. Analysis				
Dry Tons	Au	Ag	Pb	Cu	Zn
1,063	.057	25.2	53.7-62.1	1.6	9.4

Pima Mining Co. Shipments for first six months of 1966:

		Approx. Avg. Analysis		
	Dry Tons	Ag	Cu	Zn
Conc.-El Paso	46,262	3.80	26.83	1.7
Tacoma	5,537	3.95	27.47	2.1
Hayden	3,045	4.00	30.53	2.4
Total	54,844			

The Pima Mine has expanded to 18,000 tons ore per day. Interests now estimate further expansion to 30,000 tons per day soon to be announced if approved by the board. It is estimated 22,000 tons of concentrate per month would be produced if expansion is authorized.

Shattuck Denn, Iron King - Production for first half of 1966:

	Dry Tons	Approx. Avg. Analysis Au	Ag	Pb	Cu	Zn
Lead Conc.	7,518	.818	36.5	33.7	2.1	7.4
Zinc Conc.	13,538	.081	1.83	1.14	.16	54.5

This property is now working with ore reserves to last about one year. A downward change of metal prices could step-up the date of terminating operations.

Silver Wing Mining Co., Silverton, Colorado, shipped copper concentrates to El Paso during January and February, 1966.

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu
51	.047	17.8	21.37

This small stock company is having financial trouble, but now is expecting to resume crude ore shipments.

U. S. Smelting Co., Hanover Mill copper shipments to El Paso for first half of 1966:

	Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	Zn
Conc.	3,029	.155	4.3	26.28	8.1
Precip.-Galassini Lease	70			55-61.6	

The Continental Mine project is moving along and is expected to begin production about January, 1968. It is expected the mine will gradually achieve the 3000 tons per day which is the estimated capacity of construction. It is hoped 6000 tons of copper concentrates will be produced. A contract for purchase of the concentrate has been submitted to U. S. Smelting Co.

Reed Welch

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
JHCourtright
RBMeen
LCTravis
MJWinkel

Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

August 3, 1967

Mr. T. J. Woodside
Manager
EL PASO PLANT

J.H.C.

JUL 14 1967

FIELD TRIP REPORT-REED F. WELCH
JULY 25-29, 1967

I made a short trip to the southwestern part of Colorado on July 25th and through the rest of that week.

1. Contract Engineering Company I called on Mr. Al Hoyl, who is operating as Contract Engineering Company at Platoro and is about ready to start up a small flotation plant for this season. He has everything shipshape, but seems to be in no hurry to start the mill in operation. The little plant is reportedly capable of handling 100 tons per day, which I think is probably 50% higher than the plant is capable of moving. The mill is painted up like a brand new house, machinery included. Since this is the time of year in which a milling operation should be running to capacity, the mill's idleness suggests to me that Mr. Hoyl does not seem to care much if the mill operates or not. Last season's work produced 15 dry tons which assayed as follows:

Oz. per Ton		Percent	
Gold	Silver	Lead	Copper
25.9	696.1	0.4	0.15

2. W. S. Moore Company While at Platoro I talked by telephone with Mr. George Etem of W. S. Moore Company, located at Summitville. Mr. Etem reported there is no further exploration work going on at the Summitville Mine by W. S. Moore Company, but diamond drilling previously performed by them has indicated sufficient tonnage to justify construction of a mill. However, Mr. Moore is somewhat reluctant to put additional money of his own into the operation at Summitville. His partner in this property, Union Pacific Railroad Company, is standing ready to match his funds for mill construction. If Union Pacific finances the project from here out, that company wants 70% of the operation; and Mr. Moore does not want to surrender any of his present interest for the additional money offered by Union Pacific. Mr. Etem reported it looks like Mr. Moore is not able to interest outside help to join him in mill construction.

3. Emperius Mining Company Upon my arrival at Creede, the Emperius Mining Company was loading out four railroad boxcars of lead concentrate marked for delivery to El Paso. This company had not been advised by D&RGW Railroad nor American Metal Climax that there was an embargo placed against shipments to El Paso. The four cars were moved to the smelter.

4. Equity Mines, Inc. The Equity Mine located north of the Emperius has applied for O.M.E. loan for funds with which to do silver exploration work. So far that loan has not been approved, and there is nothing at the present time in the way of mining being carried on at the Equity Mine.

5. King Solomon Mining Corporation The King Solomon Mine, run by Mr. Jerry Muir, is being reactivated in a small way. Mr. Muir is engaged in building a jig concentrator.

6. Homestake Mining Company This company is carrying on what is probably the most important silver development in Colorado on the Bullfrog claims. This exploration and development work is being carried on under the management of Mr. Tom Connelly who was moved to Creede from Lead, S. Dakota. Development in the upper adit has proceeded in excess of 8400 feet and is still continuing northerly. In addition to work in advancing the adit, a raise which is now approximately 100 feet high is being put up on one of the ore shoots. According to Mr. Bill Cox, with whom I visited in Lake City, silver assays in that particular raise run from 100-1000 oz. per ton. The ore coming from the raise is being carefully stockpiled and represents about 100,000 oz. of silver so far taken from the raise.

The lower adit which is 300 feet below the upper workings is progressing on a three-shift basis. It required 3000 feet of crosscutting to get to the Puzzle Vein, and from there they have drifted 600 feet along the vein or in the footwall. Because the vein structure at its intersection with the lower adit was so heavy and difficult to support, the current exploration heading is being run in the footwall and at regular intervals crosscuts are being placed into the vein.

The barite that was predominant in the upper adit on the Puzzle Vein is not of much consequence in the lower level and may not become an economic factor in mill planning. Ore encountered so far is encouraging enough to estimate that by early fall a mill can be designed. It is now believed that ore as indicated can sustain a 250-300 ton per day mill with perhaps 50 tons of that capacity being flexible to accommodate custom ore. Later this fall Homestake may become interested in evaluating the Equity Mine, either to acquire the property or to provide mill capacity for tonnage that the O.M.E. loan exploration project, if successful, could develop. Ore produced from the mine indicates that as the work progresses northerly along the Puzzle Vein in both adits, sulphide mineralization is becoming more predominant. The lower level is showing some lead and zinc.

7. Ute Ule Company At Lake City I visited Mr. Frank McCarthy, operator for Hughes Mining Company, Inc., now known as Ute Ule Company. Due to strike conditions at the smelters and the mine's not being able to ship the lead concentrate, Mr. McCarthy stopped mining and milling at this mine. Maintenance crew is employed on a one-shift basis driving the mill level adit along the vein. Mr. Cox, who is familiar with this property, and Mr. McCarthy are very optimistic about the Ute Ule being a successful ore producer; but Mr. Edward Hughes of Grand Junction does not have sufficient operating funds to stockpile his lead concentrate during the strike.

8. Central Mining Co., Inc. At Crested Butte I called on the Central Mining Company, Inc., who is operating the Elk Mountain Mill. Mr. Frank Dekan is Mill Superintendent. Each summer for the past several years this mill has changed hands resulting in a few tons of zinc and lead concentrate and an economic loss. The present work holds promise of being just as successful as the past operations have been. The ore reportedly is coming from the Standard Mine and was stockpiled under lessees several years ago. This mill is presently working on 1000 tons in the stockpile. Mr. Dekan has little control over operation of the mill, even though he is Superintendent, and I am sure does not have assay information adequate to assure proper mill work. Due to the poor metallurgy in the zinc product which indicates about 46-48% zinc, I encouraged Mr. Dekan to find an outlet with American Zinc Company who had been taking this product in the past. They were advised the smelter is on strike and lead would necessarily have to be accumulated for shipment at a latter date.

9. McFarland and Hullinger The Keystone Mine is working on a two-shift basis due to lack of ore in the mine. At the present rate of production it is estimated the mine will be out of ore by the end of August. Current exploration work is going on with advancing the 1670 drift. Stockpiling of lead concentrates during the strike is done at the railroad yard at Salida where they have accumulated about 150 tons of concentrates. I understand McFarland and Hullinger have applied for an O.M.E. exploration loan which will be spent in work above the 1670 level.

10. Idarado Mining Company At Ouray I missed seeing Mr. Hilander, General Manager, who had gone to Telluride that day. However, in discussing the mine operation problems with Messrs. George Forbes and Kenneth Tatman, there seems to be very little problem involved with this company except the stockpiling of copper and lead concentrates. On Friday, July 28th, Idarado Mining Company had accumulated 300 tons of copper concentrate and 500 tons of lead concentrate, which were being stocked at Telluride.

On July 27th Mr. Hilander met with the mine union and arrived at an agreement for a labor contract over a period of three years. The union was to vote on its acceptance on Sunday, July 30th, which I understand was accepted. The mine is working about to capacity and mining labor is the controlling factor in this case.

11. North Silver Milling Corporation North Silver Milling Corp. at Silverton has acquired the Pride of the West Mill and is attempting to treat custom ore originating at the Osceola Claim and the Flat Broke Claim in Cunningham Gulch. These two claims with others are owned by Mr. E. M. Barge, a geologist of some repute and also an instructor of geology in a California school who has taken a leave of absence from his academic work to produce some action on his mining claims. In so doing he has leased the property to Mr. David White. Mr. Barge operates in the name of 2-Bit, Inc.; and Mr. White, in the name of David Mining Corp. On the very steep north slope of Cunningham Gulch, White is opening up lead-zinc ore in limestone. He has shipped about 20,000 tons of crude ore to U. S. Smelting Refining and Mining Company at Midvale which assayed about 4.5% lead, 5-6% zinc, .75% copper, with .04-.1 oz. per ton gold and .5-1.0 silver.

An occasional shipment from the lessees is moved to the North Silver Milling Corporation property, concentrates of which are shipped to Amarillo and El Paso. Although the concentrates resulting from the local mill are satisfactory in grade, the shipper seems to lose money in shipping to that property in comparison to shipping to Midvale. The North Silver mill is now attempting to buy the ore from the lessees of the Osceola Mine on a schedule similar to terms provided by U. S. Smelting. Neither the Sr. or Jr. White have any confidence in the North Silver Mill. Consequently, they have a tendency to ship lower grade ore to the local mill than what is shipped to Midvale.

On a visit to mining claim operations, it was apparent some ore is definitely being developed and a good grade. On the Flat Broke Claim, massive sulphide running 30-35% lead-zinc is also being mined which will be shipped to Midvale. Because this is just a surface showing, Mr. Barge is doing his best to keep the lessees still functioning as he feels this will improve his property even though he gets very little royalty.

12. Dixilyn Corporation I have been advised by Fiorinis, owners of the United Mining Corp., that Dixilyn Corporation has acquired from them approximately 175-200 mining claims. These claims include the Old Hundred, Garry Owen, Beta Madre, Anti-Periodic, German Oak, etc., all located in the Cunningham Gulch. The claims lie on the north slope of Cunningham Gulch and west of the property owned by Mr. Barge, or the 2-Bit, Inc. While on a trip through Cunningham Gulch, Mr. Barge pointed out the area of interest to Dixilyn Corp., which he feels is not the best geological setting. I have been told that Boyles Bros. have taken a contract to complete approximately 4500 feet of adit and development work along the veins in the holdings of United Mining Corp. Mr. Bob Ward, formerly with Standard Metals Corp. and recently with Henrietta Mines, Inc., has joined the property owners, United Mining Corporation, to assist in that company's work while Boyles Bros. are performing under the contract.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
KDLoughridge
KHSchultz
LCTravis
MECoats
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

~~LPE, BFD, WES~~
Mr. J. H. Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
JAN 30 1967

January 27, 1967

W.E.S.
FEB 13 1967

L. P. E.
JAN 30 1967

Mr. T. J. Woodside
Manager
EL PASO PLANT

FIELD TRIP REPORT--REED F. WELCH
January 19, 1967

Last Thursday I made a trip to Duncan, Arizona, and Lordsburg, New Mexico.

1. Grant County Mining Company At Duncan I saw Mr. Douglas Utter, who is operating in the name of Grant County Mining Company. Douglas Utter is the grandson of the old gentleman Utter, locater of the Imperial and Jim Crow Claims which are situated in the Steeplerock Mining District, New Mexico.

Douglas Utter had previously made arrangements with me to ship trial carload lots of gold-silver siliceous ore from the outcrop of the Imperial vein to El Paso. The first five lots already settled assayed approximately as follows:

	Oz. per Ton		Percent:							
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	S	Al2O3	As	Sb
390	.101	4.27	.10	86.0	3.1	1.5	0.1	1.4	.10	.15

Such a product can be substituted for sand and quartzite being used as converter flux at our El Paso Copper Plant.

According to Utter the Imperial vein outcrop is sufficient to warrant our interest in this product as a tonnage potential, and I am arranging for a contract miner to meet with Utter early in February to assure continuity of shipments. Railroad loading facilities must be modified to accommodate this tonnage of one or two railroad cars per day, and Mr. Coltrin, Superintendent of Southern Pacific Railroad, has promised full cooperation in this as far as he can go.

2. Diversified Mines, Inc. This mining company has shipped over the past six months 28,500 tons of fluxing ore from the 85 Mine, south of Lordsburg.

Rumors have come to me that this property is under option to Ranchers Exploration and Development Corp. of Albuquerque, New Mexico, and that the potential operators of Diversified Mines were interested in building a mill with the assistance of G.S.A., Washington, D. C.

Since there had been no direct contact with Mr. Spencer, President of Diversified Mines, Inc., I made it a point to ask about the option.

Diversified Mines, Inc. (Cont.)

In telephone conversation with Mr. Spencer on January 26th he verified that Ranchers does have an option; but he is of the opinion that the option will not be exercised.

In anticipation of a mill being built, I made metallurgical calculations and compared the outcome with the direct shipping returns of similar product. Assuming the best metallurgy possible, a mill built for handling this product could not be amortized if concentrates were made. It is my conclusion that no matter who will be the operator of the mine a mill cannot be economically justified. Also, there would be a scarcity of water in the district.

Present ore reserves indicate about 80,000 tons blocked out; and this product is between the 1500, 1650 and 1800 level. The 1800 is the bottom level of the 85 Mine with lateral development work having been done by the previous operators. Headings on this level have been extended and are currently being run under the 1650 level with satisfactory assay of metals being encountered. Present production of 5200-5700 tons per month, all going to El Paso, actually brings pressure on the mine to keep development work well ahead of the above ore reserves.

The Emerald shaft through which all operation is carried out is sunk below 1950 feet; and in order to maintain continuity of production, this level must be started by the end of 1967. By projecting the same tonnage of ore reserves between the 1650 and 1800 level to the interval of 1800-1950 levels, this new work could develop 75,000 tons of additional ore. This potential and the ore reserves indicated above are all west of the Emerald shaft. The east side of the shaft is unproductive as far as commercial ore is concerned.

There are areas in the measured reserves that show copper assays up to 5-6%. This hi-grade now being mined is blended with the other lower grade ore in the stope in order to maintain as uniform grade as possible.

West of the Emerald shaft is situated the Jim Crow shaft which has been burned from about the 600 level to the collar. This has allowed a blockage in the shaft below the sixth level and above the 900 level. From the 900 to the 1650 level, the Jim Crow shaft is standing with timber in good condition. Because of mine inspector regulations and the Jim Crow shaft being blocked as a second way out, the inspector has limited Diversified Mines to ten men underground at a time, and this controls the maximum production that the operation can handle.

If a new operator should take over or the present owners want to increase tonnage, it would require opening the Jim Crow shaft and retimbering from the 600 level to the surface. At the present time Diversified Mines does not have a program in mind for this change.

3. Ira L. Moseley & Sons, Burro Pit, Johnson Camp I have authorized this shipper to begin producing fluxing ore from this property. The product previously shipped by Moseley from this pit contained an undesirable amount of alumina and was low in silica, but the copper content was maintained at a maximum available. This proved to be an unsatisfactory flux; and in starting this last operation up with Moseley, I required that he maintain a high silica content. Shipments received so far indicate Moseley is doing a good job in this endeavor. Depending on the success El Paso has with this product as a flux, we could obtain some several thousand tons from the Burro Pit. So far I have authorized Moseley to ship 4,000 tons on a trial basis.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
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TASnedden
RBMeen
JHCourtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

February 21, 1967

J.H.C.

FEB 24 1967

Mr. T. J. Woodside
Manager
EL PASO PLANT

Dear Sir:

I enclose corrected Page 4 of the Southwest-Colorado Production report for 1966, dated February 6, 1967.

The approximate average analysis of the gold assay has been changed under Idarado Mining Co., Zinc Concentrates-Amarillo. Please replace the original Page 4 with this copy.

Yours very truly,

REED F. WELCH

By Margie Hinton

Enclosure
cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
RBMeen
JHCourtright
LCTravis
MJWinkel

Duval Corp. Mineral Park production for 1966:

		Dry Tons	Approx. Avg. Analysis Ag	Cu
Conc.	Hayden	390	3.99	21.54
	El Paso	66,029	5.5	22.35
	Tacoma	36,567	5.88	21.66
Ppts.	El Paso	3,220		71.71

Duval Esperanza expansion of 3500 tons per day mill capacity is expected in June, 1968. This would produce up to 8500 tons of concentrate per month. Tonnage of concentrates from Esperanza and Mineral Park mills has been down by 25% for the last 60 days due to necessity of repairing ball mills. This repair work will continue through February, 1967.

Grant County Mining Company, Duncan, Arizona, flux deliveries to El Paso during November and December, 1966:

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu	SiO2
390	.101	4.27	.10	86.0

This product is from the Steeplerock District, New Mexico. We are experimenting with this producer hoping to obtain a better flux for El Paso converters. The economics of a successful operation are not yet determined.

Idarado Mining Co. - 1966 Receipts:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	9,098	1.949	40.2	72.0	3.2	2.1
East Helena	4,697	.413	45.4	70.4	3.5	3.0
Copper Conc.-Tacoma	8,176	.59	16.43	3.97	27.97	4.6
Zinc Conc.-Amarillo	29,270	.04	2.60	.83	1.03	58.8

Lack of miners is a problem at this property. The ore reserves are well maintained and production of concentrate in 1967 is expected to be same as last year.

Kennecott Copper Corporation - Chino Mines, Hurley, New Mexico, copper concentrate deliveries to El Paso June through October, 1966:

Dry Tons	Approx. Avg. Analysis Au	Ag	Cu
15,161	.01	0.3	18.89

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.

FEB 17 1967

February 16, 1967

Mr. R. M. McGeorge
Asst. to the Exec. Vice President
NEW YORK OFFICE

Dear Sir:

UNITED STATES SMELTING REFINING AND MINING CO.

Regarding comments in my recent Southwest & Colorado Production report of February 6, 1967, under U. S. Smelting Company, the reported start up date of the Continental Mine as July, 1967, is in error. This was confused with the Continental Materials Corp. mine, south of Tucson.

The actual start up date of United States Smelting Refining and Mining Co. will be after September, 1967, but no increase in copper concentrate is expected from U. S. Smelting's property until mid-1968.

Yours very truly,

ORIGINAL SIGNED BY
REED F. WELCH

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
TJWoodside
KHSchultz
MECoats
CPPollock
TASnedden
RBMeen
JHCourtright
LCTravis
MJWinkel

Mr. ~~J. H. Courtright~~ WES ~~EPE~~

J. H. C.
FEB 15 1966
L. P. F.
FEB 21 1966

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson, Arizona
February 7, 1966

Mr. T. J. Woodside
Manager
EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION
Year Ending Dec. 31, 1965

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

Lead Department-Ores & Conc.	Tons Received		% of Group
From Arizona-New Mexico	24,989		29.61%
Colorado	29,786		35.29%
Other Areas	29,628		35.10%
		84,403	100.00%
Copper Department			
Custom Tonnage-Conc. & Cu Ore			
From Arizona-New Mexico	201,853		68.12%
Colorado	562		.19%
Other Conc. & Cu Ore	8,911		3.00%
		211,326	71.31%
ASARCO-Mission Conc., Silver Bell Ppts.		39,631	13.37%
		250,957	
Diversion Cu Conc. to Tacoma from Southwest-Colorado		45,389	15.32%
		296,346	100.00%
Cu-bearing Flux		57,812	

HAYDEN PLANT

Custom Tonnage-Conc.(Arizona origin)	89,527		28.18%
ASARCO Mission-Silver Bell	228,224		71.82%
		317,751	100.00%
Copper Ore	51		
Cu-bearing Converter Flux	91,276		
Reverb Flux-Tailings	30,532		
		121,859	
Total Receipts Hayden 1965		439,610	

AMARILLO PLANT-Zinc Concentrates

Southwest-Custom Tonnage	29,430		39.78%
ASARCO-Deming	11,673		15.78%
		41,103	55.56%
Colorado		32,877	44.44%
		73,980	100.00%

COMMENTS ON SHIPPERS

The Anaconda Company Pilot Plant Concentrate - Hayden receipts August thru December, 1965:

	Approx. Avg. Analysis								
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Zn	S	Al2O3
511	.002	4.18	27.86	4.6	24.5	1.4	6.1	28.3	1.9

This represents test work on development ore from shaft in Twin Buttes area treated in the Mineral Hill mill. 200 tons of ore per day are mined for test work.

Bagdad Copper Corporation 1965 deliveries to El Paso and Hayden:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	35,634	1.88	21-45
Precip. El Paso	9,594	-	81.62

Construction of the copper powder plant is progressing and it is expected will be in operation June 1966. Since January 25, 1966, precipitates are moving to Hayden. Bagdad will start using this product in their own plant and precipitate deliveries to Asarco will decrease to accommodate the capacity of the new Chemcopper powder refinery at Bagdad. It is anticipated concentrate production will continue approximately at present rate.

Banner Mining Co., Lordsburg: 1965 Receipts El Paso

	Approx. Avg. Analysis			
Dry Tons	Au	Ag	Cu	Zn
5,038	.460	7.2	22.54	.5-4.7

Concentrate production should be increased. Gold content of concentrates from Oro vein range .33 oz. to .62 oz.

Cyprus Mines Corp.-Old Dick-Copper Queen- Copper concentrate delivered to Hayden in 1965:

	Approx. Avg. Analysis						
Dry Tons	Au	Ag	Cu	SiO2	Fe	Zn	S
10,060	.005	1.82	21.79	2.9	23.0	13.7	30.2

Beginning in December the Old Dick mill reduced operation to one shift basis. It is expected production for the next few months will be 200-250 tons per month which may continue through the first quarter 1966. Thereafter operation will be confined to sinking a new shaft to develop ore below the 950 level encountered by diamond drilling. Production will probably be discontinued for about two years.

Diversified Mines, Lordsburg- 1965 receipts from the 85 Mine, the principal source of siliceous flux for El Paso Plant:

	Approx. Avg. Analysis								
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Zn	S	Al2O3
31,213	.077	.7	2.01	67.1	6.0	2.8	.8	3.5	6.9

To bring up silica content to meet smelter requirements, about November 1965 Diversified Mines started mixing higher silica flux from the Emerald vein outcrop on the Henry Clay property with 85 Mine ore.

Duval Corp. Esperanza 1965 shipments:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	27,840	2.53	25.90
El Paso	47,242	2.61	26.28
Precip. El Paso	2,905	-	71.29-77.93

9.2 lbs/ton at 12000 tpd

Mineral Park production for 1965:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Conc. Hayden	406	4.14	21.15
Tacoma	17,697	5.94	19.71
El Paso	71,558	6.63	20.58
Precip. El Paso (June thru Dec.)	981	-	47.06-75.25

9.0 lb/ton @ 12000 tpd

This property experimented with autogenous mills the first half of 1965. Converting these mills to the use of balls resulted in an increased concentrate tonnage the last half of the year.

Idarado Mining Co. - 1965 Receipts:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	11,891	1.079	29.4	72.4	2.8	2.5
Copper Conc.-Tacoma	5,189	1.03	17.96	3.43	28.14	5.0
Zinc Conc.-Amarillo	22,391	.057	3.14	.78	.91	58.7

Little Hill Mines near Oracle, Arizona, Flux deliveries to Hayden during 1965.

	Dry Tons	Ag	Approx. Avg. Analysis Cu	SiO2	Fe	CaO	Al2O3
Little Hill Mine	49,401	-	.16-1.42	81.8	1.95	.5	5.5
Copper Rose	1,393	.53	.74-1.00	66.8	5.8	.7	11.0
McFarland & Hullinger Del Oro	5,083	-	.37	84.0	2.0	.4	5.8

Because of low copper content, shipments from Del Oro were stopped April, 1965. Copper Rose was activated by Dave McGee but proved disappointing, and was stopped after trial shipment. Little Hill product is still satisfactory flux and is crushed at the mine ready for the converters.

McFarland & Hullinger from the Commercial Mine in Copper Basin - delivered to Hayden March thru December, 1965:

Dry Tons	Cu	Approx. Avg. Analysis SiO2	Fe	Al2O3
34,391	1.67-2.47	60.5-76.4	3.5	5.8-16.7

This tonnage was purchased to complement the Little Hill and Del Oro stockpiles at Hayden which results in suitable flux, producing black margins. November and December tonnages have come from a limited section with higher silica content and satisfactory copper assay. This product has all been crushed at the mine ready for converter use.

McFarland & Hullinger-Keystone Mine, Crested Butte, Colo., production for 1965:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.	5,640	.020	67.5	43.8	5.3	6.6
Zinc Conc.	8,625	.005	3.14	.53	1.12	50.3

Ira L. Moseley shipped siliceous flux to El Paso from Burro Claim at Johnson Camp.

Dry Tons	Cu	Approx. Avg. Analysis SiO2	Fe	CaO	Al2O3
26,480	.82	65.8	4.1	2.7	10.5

Shipments were discontinued during month of December, to be started after reverb repair.

New Jersey Zinc, Belden, Colorado - Lead concentrate and crude silver-copper ore shipments for 1965:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.-El Paso	6,479	.113	34.8	47.5	3.1	6.8
Crude Ore-Tacoma	10,640	.04-.41	14-34	.6	1.9-6.5	2.9

This property produced noticeably less tonnage in 1965--product going to El Paso 650 tons less than in 1964; crude to Tacoma 10,496 tons less than previous year.

New Jersey Zinc, Hanover Mill: Lead concentrates delivered to El Paso in 1965.

Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
1,474	.048	22.8	62.3	1.7	7.5

Pima Mining Co. Shipments for 1965:

	Dry Tons	Approx. Avg. Analysis Ag	Cu	Zn
Conc.-El Paso	43,805	3.80	26.15	4.0
Tacoma	19,626	3.67	25.90	3.6
Hayden	5,522	3.79	27.33	5.4
Total	68,953			

This concentrate was produced while the mill was expanding from 6,000 to 18,000 tons crude ore per day. Expansion will be completed about 1st of April. Daily tonnage milled February, 1966, is 12,000 tons.

Shattuck Denn, Iron King - Production for 1965:

	Dry Tons	Au	Approx. Avg. Analysis Ag	Pb	Cu	Zn
Lead Conc.	15,830	.889	36.85	33.6	2.2	8.4
Zinc Conc.	29,369	.077	1.78	1.19	.16	55.2

Concentrate tonnage shipped in 1965 is about the same as 1964. Heads were lower in assay value. This came from 333,000 tons of mined ore which is a record production.

Silver Wing Mining Co., Silverton, Colorado, shipped copper concentrates to El Paso January thru June, 1965.

	Approx. Avg. Analysis		
Dry Tons	Au	Ag	Cu
461	.059	19.6	26.4

This mine did not operate the last half of 1965. Resumption of milling is contemplated treating silver-copper ore containing some lead.

U. S. Smelting Co., Hanover Mill copper shipments to El Paso for 1965:

		Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Cu	Zn
Conc.	4,892	.107	2.4	27.88	7.5
Precip.-Galassini Lease	102			53.65	

1965 production is equivalent to about 114 tons of copper per month. The new concentrating plant is expected to start operation by mid-1967 to produce 7,000 tons concentrates per month.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
JHCourtright
RBMeen
KDLoughridge
MJWinkel

~~WGH~~, ~~JEK~~, ~~RHE~~, ~~WES~~, ~~RKK~~, ~~SVF~~ Mr. J. H. Courtright

J. H. C.

APR 5 1966

J. E. K.

APR 07 1966

W. E. S.

APR 14 1966

R. K. K.

APR 14 1966

S. V. F.

APR 19 1966

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

March 31, 1966

Mr. T. J. Woodside
Manager
EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
MARCH 22-23, 1966

1. Diversified Mines, Inc. On March 5th Robert Kirchman of Grants, New Mexico, President of Diversified Mines, Inc., and Mrs. Kirchman with two other gentlemen met with a fatal airplane accident while attempting to take off from the Mexican airport 140 miles southwest of Chihuahua.

Because Kirchman's interest in the Diversified Mines was operator of the 85 Mine, I made a trip to Lordsburg on March 22nd to see what effect this would have on the production of fluxing ores used at El Paso. Mr. Richard C. Keifer, Office Manager at the 85 Mine, advised that Mr. Jack Spencer, Kirchman's partner in this operation as well as the uranium mine lease operation, had taken full control and production is proceeding without interruption. The Kirchmans had three teenage children and the partnership arrangement between Spencer and Kirchman was well planned to meet such eventualities. The partnership had $500,000 insurance on each partner and in case of death of either partner that partner's family would be the beneficiary of the policy. It also gave full ownership of the partnership business to the surviving partner.

According to Mr. Keifer who showed me the ore reserves, the 85 Mine operation has 10,770 tons of broken ore assaying 2.53% Cu on the 1500 level and 5,210 tons of ore on the 1650 level assaying 2.7% Cu. Since this ore is not quite satisfactory as far as SiO_2 content is concerned, the management is operating an open cut on the outcrop of the Emerald Vein, such material being almost barren. Surface tonnage added to the underground ore amounts to about one car of surface material to nine or ten cars underground. Diversified Mines is working 48 men, 40 of which are rotated underground on a three-shift basis. The third shift is used with some question to the management. Air conditions are not satisfactory underground and until this is improved the mine inspector allows only a given number of men underground, necessitating the third shift.

Mr. Galassini, who was formerly a lessee contractor for mining in the 85 Mine, has been given a contract to mine ore. This ore is comingled with Diversified Mine ore, instead of being kept separate. Galassini's lease ore was almost invariably a better grade than the company ore. The excuse given was that he was in a better ore grade

Diversified Mines, Inc. (Cont.)

section of the mine. Mr. Galassini's new agreement with Diversified Mines calls for a contract based on the average grade ore return to him during the period when he was operating as a lessee. I believe this contract mining system is a weakness in their management and will eventually lead to modifying the mining contract terms. It takes away the incentive to keep the value up in the ore he mines.

Development of the mine is going forward on the 1250 level to the east expecting better grade ore at the intersection of the Emerald and Henry Clay veins. At the time of my previous visit this development ore was mixed with ore going to El Paso which I promptly objected to. I was advised this last trip that similar broken development ore was still being rejected. Unless things turn for the worse the 85 Mine operation by Diversified Mines should be able to continue shipping without interruption at least for the immediate future.

2. John H. Trigg Co. This operator has obtained a lease on the Thompson claims, formerly operated by Copper Leaching Company, and the Phelps Dodge claim known as Copper Mountain. These two properties are about one mile apart. Mr. Trigg received financing from the First National Bank, Chicago, to acquire the lease for $618,000 and to build precipitating cells on each property. The ore to be leached required mining and moving into the canyon, and water had to be developed.

Mr. T. J. Montgomery, who is operating the properties for Trigg, received $70,000 of the $618,000 paid for the lease. Mr. Montgomery remained managing operator for Mr. Trigg and has interested Trigg in two or three outlying properties. This has helped dissipate operating capital from the leaching properties. A rather slow effort on Trigg's part in getting started and the need for a considerable amount of drilling to indicate ore to mine, coupled with bad weather, has found Mr. Trigg's operating capital depleted and project behind schedule.

In the search for new financing Mr. Trigg has employed Mr. Lucian T. Zell, Corporate Financing Company, Dallas, Texas. Mr. Zell contacted our New York ore buying department concerning refinancing in the amount of $4,000,000. In telephone conversation with Mr. Zell prior to my trip to the Tyrone District he advised Mr. Trigg has $3,000,000 charged against the mine operation. It will take approximately $1,600,000 to $1,700,000 to pay off the Chicago Bank which I assume has not received any payment in liquidation of the loan.

Production of copper precipitates has just started to come in from the Thompson property leaching plant, amounting to approximately 2 tons per day with about 64% Cu. It will require two more months to complete the leaching plant now under construction at the Copper

John H. Trigg Co. (Cont.)

Mountain claim. When this property is put into production, Mr. Montgomery believes the two plants will produce 10 tons of copper precipitate per day. Ore is still being mined and moved into the canyon on the Thompson property which might aggregate 500,000 tons at this time.

Eighteen men are employed on the two properties which Mr. Montgomery thinks is the minimum with which he can operate. The lease on the Thompson claim runs for a period of 15 years with option privilege of the lessee to renew for another 15 years. The two-year lease on the Copper Mountain claims expires on May 6, 1966. In order to obtain an extension of time, advance notice must be given to Phelps Dodge 30 days prior to the expiration date. While I was in the Phelps Dodge office at Tyrone Mr. Trigg telephoned Mr. Kelly advising he had placed in the mail that day a written request for the lease to be extended. Without going into details of the economics of this operation in this report and since returning from my New Mexico trip, I telephoned Mr. Zell advising him American Smelting and Refining Company could not refinance Mr. Trigg's leaching operation.

3. Phelps Dodge Corporation at Tyrone Patten and Strong of Silver City is under contract doing underground work in the main mine area on the 400 level. This consists of raising on drill holes for the purpose of checking drill hole assays and accumulating samples from 5 to 10 tons each. These samples, depending on the nature of the country rock, are composited with other drill hole samples and shipped to Morenci where they are treated in the Phelps Dodge LPF pilot plant. According to Mr. Kelly this is to gain knowledge of how the LPF process would work on the Tyrone ores and does not necessarily mean Phelps Dodge has intentions of putting the property into operation at this time. Sample checks of drilled hole assays seem to be satisfactory.

In addition to this work Phelps Dodge has just given a contract to Boyles Brothers to core drill another known mineral-bearing area from the surface to about 400 feet in depth. This drilling will be done with a bit developing a 6 inch core which also will be sent to Morenci for pilot test work in the LPF plant.

4. New Jersey Zinc Company According to rumor this company is employing two drills on property southeast and adjacent to Phelps Dodge's Tyrone claims. No knowledge of success in finding minerals is available. Mr. Craig, Manager of Hanover Unit, was not in Silver City at the time of my visit, but the Office Manager advised the Oswaldo ore under lease to New Jersey is contributing considerable tonnage of ore for the Empire Mill. The Lynchburg property at Magdalena, still worked under lease, is producing one railroad car of ore per day. This product is treated at the Empire Mill and assays about equal amounts of Pb and Zn content.

5. American Zinc, Lead and Smelting Company at the Keaney property is still operating on very low-grade Zn, according to Jerry Faust. From inferred statements the operation must be losing money. Occasional blobs of better-grade Zn ore are encountered, but the over-all tonnage indicates a grade of (3%-4%?) Zn. Jerry Faust reports this operation has the lowest wage scale in the district. The contract for labor is soon up for negotiation and he expects some difficulty in arriving at a satisfactory wage scale.

6. United States Smelting Refining & Mining Company In visiting with Gayle Cudney, Manager of the Bayard Mill, he reported the contractors of the No. 3 shaft in the Continental Mine project have encountered some difficulty. The shaft is to be sunk about 1500 feet which will place the operating level under the ore horizon. At about 1200 feet the shaft encountered broken country rock with a considerable amount of water. This is the reason for the shaft sinking project being behind schedule.

The railroad extension, amounting to a little less than 4000 feet, to the operating shaft area is nearly completed and all power lines and transformer stations have been installed. Construction of the mill has not started. Water for operation of the mill is in abundance in the mine and the excess of water above the needs of the mill will be used by Kennecott in its leaching operation.

Mr. Benton Boyd, General Manager of Western Operations, Salt Lake City, Utah, visited in my office on March 28th and advised the Continental ore will assay about 1.5% Zn and 1.5%-2% Cu. According to Earl Strong the Continental Mine ore now being mined by Patten and Strong and treated in the Bull Frog Mill assays 1.25% Zn. Mr. Boyd advised the Continental project expansion should be producing concentrate by the middle of 1967 as follows:

		Oz. per Ton		Percent:			
	Dry Tons	Au	Ag	Pb	Cu	Zn	Fe
Copper	6,000	.10	2.4		28	7.5	
Zinc	600	.02-.04	2-3	1.0	1.25	53.0	8.0

The Princess Mine product and some ore encountered in the Continental expansion are being treated in the Bull Frog Mill with satisfactory metallurgical results. Princess production results in about 1200 tons of Zn concentrate per month of the above analysis, which is under contract to National Zinc and smelted at Bartlesville. The new product from Continental Mine is not under contract and it is possible to purchase the Zn and Cu concentrate on satisfactory terms.

Recipients of this report from previous correspondence understand U. S. Smelting owns Mueller Brass Co. Because of the scarcity of

United States Smelting Refining & Mining Company (Cont.)

copper at the present time the President of U. S. Smelting, Mr. Jack Wilder, and Mr. Martin Horwitz, Chairman of the Board, are very anxious to be able to buy additional Cu from ASARCO especially when this operation begins. Terms to be offered for potential Zn and Cu concentrates have not been discussed with Mr. Boyd.

As a point of interest, U. S. Smelting at Midvale has been doing test work on the oxidized ore of the Burgin shaft in Utah. Preliminary tests indicate some favorable results. It seems Kennecott wants to build its own mill and has asked U. S. Smelting to give them the metallurgical procedure in the Midvale Mill. This request was denied.

Ore reserves in the mine at Lark operated by U. S. Smelting are essentially as good as ever and this property still has a substantial future.

The operation of the Tooele Smelter in joint arrangement with U. S. Smelting and International Smelting Company is working out satisfactorily for U. S. Smelting since they are producing about 75% of the product that goes to the smelter. The smelter is old and obsolete and it is doubtful that U. S. Smelting or International Smelting will ever modernize the plant.

The East Chicago, Indiana, Pb refinery operated by U. S. Smelting is producing 3500 tons of Pb per month.

7. United States Lime & Mining Corporation Mr. E. M. Riebold has been in touch with me by telephone mentioning he has a copper discovery near the Eureka Ranch, Hanson Wash, not very far from Aravaipa, Arizona.

While in Silver City I stopped at this company's office and investigated this report. One diamond drill hole has been put down 510 feet where it was stopped. The second hole has been deepened to 753 feet where I was advised it would be stopped. Examination of the core of both holes indicated typical granite with small amount of chlorite showing, with very little bit of alteration of feldspar, completely lacking in iron or box work or even stains of Cu and Fe. The ground mass is dense and tight and no doubt inexperience in this company's personnel could have mistaken the chloritic minerals for Cu stain.

8. Kerr-McGee It has been reported an ore discovery has been made by Kerr-McGee in the Silver City area. This company has acquired claims adjacent to the U. S. Smelting Refining & Mining Company's Continental claims and has drilled several holes within about 1/4 mile of one of the new shafts of Continental Mine. According to Mr.

Jasper Lebre - Said get north of Stock, ± 1/2-3/4 mile from U.S.S. and ± 2,000' deep, minimum.

Kerr-McGee (Cont.)

Boyd drilling the Kerr-McGee ground did penetrate some mineralization in one hole. Several subsequent holes trying to extend the mineral showing have failed to enlarge upon the original discovery.

9. Cyprus Mines Corporation-Johnson Camp Cyprus Mines has acquired new property aggregating approximately 99 claims. Since the middle of 1964 Cyprus has been drilling these claims and it is reported some large tonnages of low-grade Cu-Zn in sediments have been intercepted with the drill. No worthwhile amount of information is available on this property at the present time.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
KHSchultz
GHPlayter
KDLoughridge
MJWinkel
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

~~LPE~~, ~~WES~~, ~~RKK~~ ~~SVF~~ Mr. J. H. Courtright
~~DBB~~,

S. V. F.

NOV 26 1965

J. H. C.

NOV 22 1965

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 22, 1965

L. P. E.

NOV 29 1965

W.E.S.

NOV 26 1965

Mr. T. J. Woodside, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
NOVEMBER 16-18, 1965

1. U.S. Smelting Company. On November 16th by arrangement I met Mr. Benton Boyd, General Manager of Western Operations of U.S. Smelting Company. We discussed progress in development of the New Mexico property from which we will purchase the copper concentrates. This program calls for sinking three shafts, two of which have been completed--one to 850 feet, the other 1250 feet in depth. Sinking of third shaft, to be 1550 feet deep used for production, is still in progress. Laterals are being driven toward the ore body from the two completed shafts.

It is expected mill construction will start by March, 1966, capacity 3,000 tons per day, and that concentrates will be produced by Mid-1967 with full production copper concentrates 7,000 tons per month, which should be attained before the end of 1967.

The new orebody is identical with the Continental Mine product. Metallurgical tests indicate zinc concentrates can also be produced. Accordingly a zinc flotation section will be incorporated in the mill design. Mr. Boyd indicates the Bullfrog mill will probably be shut down and the zinc ore now handled in that mill will be treated in the new plant.

2. Federal Resources Corporation. In a visit to Federal Resources offices in Salt Lake City, I contacted Mr. Donald V. Peters, Vice President, and Mr. Anderson, in charge of mining. In spite of uneconomical experience of running the Camp Bird mill on dump material for the past two or three months, this firm is still trying to make concentrates from dump ore accumulated before the mill began operation. This ore comes from Hidden Treasure Tunnel development work. The altered wall rock which becomes mud upon exposure to the air contains an excessive amount of moisture preventing satisfactory flow through the crushing department. I examined five different daily mill reports which indicated head assays in the following ranges:

Au	Ag	Pb	Zn	Cu
.01	.8 - 2.0	.8 - 1.5	.7 - .95	about .05

Federal Resources Corporation, Cont.

Concentrates produced from this material assay as follows:

	Au	Ag	Pb	Zn	Cu
Pb Conc.	.3 - .7	75 - 97	39 - 51	6 - 9	.3 - .6
Zn Conc.	.08 - .14	33 - 40	4 - 8	44 - 52	.3

I was told some of the zinc concentrate produced in this mill operation has been as low as 30% zinc. The operator thought he might recirculate through the mill, but has been discouraged on this thought.

It is my opinion in talking with Messrs. Peters and Anderson that the zinc concentrate accumulated at this time will assay less than the range given above. In spite of low mill head, Federal Resources has accumulated about a railroad car each of lead concentrate and zinc concentrate which I authorized them to ship. A freight guarantee letter is being issued and it is expected these products will be coming to El Paso and Amarillo within the next two weeks. I have discussed contract terms with these two gentlemen and agreed with them for the present to ship under the old Camp Bird contract. The lead concentrate terms are satisfactory for the product, but terms for zinc will be modified to meet the present conditions.

In my field notes July 7-10, 1965, I reported activities of Federal Resources at the old Simons mine in Western Nevada, 26 miles east of Mina. Drifting from that 1000 foot shaft to the approximate position of the old ore body has encountered water. In attempting to diamond drill into the ore zone from the new shaft level, the drill encountered water pressure which would indicate a 250 foot column. Drilling and advance of the face has been stopped in preparation of installing a larger pump capacity. Upon completion of this work drifting will be advanced by grouting through diamond drill holes ahead of the new work.

3. Atlas Minerals Corporation. I had a visit with Mr. Rex L. Jones of Atlas Minerals Corporation in Salt Lake City who advised me that copper concentrate from the Moab mill should materialize in January, 1966. Metallurgical test work indicates the product will assay about 1 oz. Ag and 20% Cu. Contract terms for purchase on a two-year basis for El Paso delivery are awaiting Mr. Kibbe's signature.

This company examined the Zontelli Copper Mine, White Mesa area, Arizona, and may be interested in that operation under very different terms than proposed by Mr. Simmons of Zontelli Western Mining Company. Mr. Jones advised that practically all the machinery installed by Zontelli has been repossessed. The plastic water line, 6" and 4" in diameter, that extends for 6 or 7 miles from the well to the mine was punctured by the Indians for the convenience of water on the reservation.

Atlas Minerals Corporation, Cont.

Atlas Minerals is operating a mercury mine in California and is interested in looking at other mercury properties.

4. New Park Mining Co. Steele McIntyre, Superintendent at the Mammoth Mine, Eureka, Utah, advised me they are presently doing some diamond drilling below the 2400 foot level. Drilling is in a fissure zone to the southwest of the shaft projected to intercept the Dagmar formation in the proximity of the fissure. So far the hole has intercepted about 50 feet of massive pyrite with an occasional spotty occurrence of silver ore. The Dagmar formation is favorable for ore replacement in this district. However, because of the prepondenance of pyrite, I am pessimistic about finding large amounts of lead-silver ore in the deeper levels of the Mammoth Mine

On the 2400 foot level in the same fissure zone oxidized ore has been drifted along and a raise of 100 feet on the ore has been completed. Samples have been sent to Selby for smelter evaluation and Mr. McIntyre will provide me with additional information on this ore as well as stockpiled ore accumulated on the surface. Mr. McIntyre thinks he could produce 75 tons per day with favorable freight and treatment rates.

In addition to development on the 2400 foot level, New Park is driving a crosscut northwesterly on the 2100 foot level west of the shaft. The objective of this work is to connect with the Grand Central 2100 foot level workings to provide better ventilation in the lower levels of the Mammoth Mine. In this work to the northwest some siliceous ore has been encountered assaying about .25 oz. Au, 5 ozs. Ag. Twenty men are presently employed at the Mammoth Mine.

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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
NOV 22 1965

November 22, 1965

Mr. T. J. Woodside, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
NOVEMBER 16-18, 1965

1. U.S. Smelting Company. On November 16th by arrangement I met Mr. Benton Boyd, General Manager of Western Operations of U.S. Smelting Company. We discussed progress in development of the New Mexico property from which we will purchase the copper concentrates. This program calls for sinking three shafts, two of which have been completed--one to 850 feet, the other 1250 feet in depth. Sinking of third shaft, to be 1550 feet deep used for production, is still in progress. Laterals are being driven toward the ore body from the two completed shafts.

It is expected mill construction will start by March, 1966, capacity 3,000 tons per day, and that concentrates will be produced by Mid-1967 with full production copper concentrates 7,000 tons per month, which should be attained before the end of 1967.

The new orebody is identical with the Continental Mine product. Metallurgical tests indicate zinc concentrates can also be produced. Accordingly a zinc flotation section will be incorporated in the mill design. Mr. Boyd indicates the Bullfrog mill will probably be shut down and the zinc ore now handled in that mill will be treated in the new plant.

2. Federal Resources Corporation. In a visit to Federal Resources offices in Salt Lake City, I contacted Mr. Donald V. Peters, Vice President, and Mr. Anderson, in charge of mining. In spite of uneconomical experience of running the Camp Bird mill on dump material for the past two or three months, this firm is still trying to make concentrates from dump ore accumulated before the mill began operation. This ore comes from Hidden Treasure Tunnel development work. The altered wall rock which becomes mud upon exposure to the air contains an excessive amount of moisture preventing satisfactory flow through the crushing department. I examined five different daily mill reports which indicated head assays in the following ranges:

Au	Ag	Pb	Zn	Cu
.01	.8 - 2.0	.8 - 1.5	.7 - .95	about .05

Federal Resources Corporation, Cont.

Concentrates produced from this material assay as follows:

	Au	Ag	Pb	Zn	Cu
Pb Conc.	.3 - .7	75 - 97	39 - 51	6 - 9	.3 - .6
Zn Conc.	.08 - .14	33 - 40	4 - 8	44 - 52	.3

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SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

S. I. B.
SEP 29 1965

September 28, 1965

W.E.S.
OCT 19 1965

J. H. C.
SEP 29 1965

Mr. T. J. Woodside, Manager
EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
SEPTEMBER 1965

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We will not know the potential of this source of siliceous flux until some excavation has been completed. The tonnage of high-silica flux could be a few thousand tons but I expect it will be on the short side.

2. John H. Trigg: There has been considerable interest in the copper leaching operation at Tyrone,New Mexico, recently taken over by John H. Trigg. I visited the Burro Mountain area on September 23rd to inspect this project.

Mr. Trigg has under construction two large leaching plants, one at the Copper Leaching area on the Thompson property, the other at Copper Mountain owned by Phelps Dodge. I understand these plants in part follow the design of the Yerington installation, including the cells. However, there has been some modification in layout of the Trigg plant which was designed by Richard Wagner, a young architect formerly living in Scottsdale, who is Trigg's son-in-law. A Phoenix firm is doing a good job on the construction. Because the cells and location are somewhat unorthodox compared with the type generally used for leaching in the Southwest, I suggested they might hold up construction of the Copper Mountain plant until they have experience with leaching operation on the Thompson property. Areas on the Phelps Dodge property have been stripped for the concrete work to begin and for office and supply buildings to be erected. I understand each leaching plant will cost approximately $30,000.

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Preparations for leaching are well under way with large tonnages mined and stocked in the canyon at the Copper Leaching area and at Copper Mountain. It is difficult to estimate the copper content in the stockpile, as there has been no regular sampling procedure.

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The information given to me by Mr. Montgomery regarding the Mirabel property is not substantiated by Mr. Entwistle's report of October 1962 which indicates the possibility of 200,000 tons at the most over the entire area.

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Banner Mining Co., Con't.

the basalt flow. Without knowing the depth of this hole, I am led to believe the basalt is 2500-3000 feet thick in this area. This exploratory hole crossed through the Bonney vein a few hundred feet below the 16th level which is 1810 feet below the shaft collar. At this point there was ore in the Bonney structure. The hole was continued below this point a few hundred feet where it intersected sediments.

9. American Zinc Company has located claims immediately west and adjacent to Banner Mining property at Lordsburg and is diamond drilling for projection of the Banner Mine structure westward. These claims cover 12 square miles in area west and north of Banner and taking in the dry lake area to the north across the highway and railroad right of way. The drill rig at present is on high ground with an angle hole attempting to crosscut vein projection.

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SOUTHWESTERN ORE PURCHASING OFFICE
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EL PASO PLANT

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In talking with Allan Bowman some time ago about this property he advised Banner had sunk a vertical hole from a lower level in anticipation of finding the vein intersection at some depth below

Banner Mining Co., Con't.

the basalt flow. Without knowing the depth of this hole, I am led to believe the basalt is 2500-3000 feet thick in this area. This exploratory hole crossed through the Bonney vein a few hundred feet below the 16th level which is 1810 feet below the shaft collar. At this point there was ore in the Bonney structure. The hole was continued below this point a few hundred feet where it intersected sediments.

9. American Zinc Company has located claims immediately west and adjacent to Banner Mining property at Lordsburg and is diamond drilling for projection of the Banner Mine structure westward. These claims cover 12 square miles in area west and north of Banner and taking in the dry lake area to the north across the highway and railroad right of way. The drill rig at present is on high ground with an angle hole attempting to crosscut vein projection.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
KDLoughridge
MJWinkel
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

RKK, TDS, WES, LPE, TCO, SIB
JEK, DBB, BTD, SVP
8/10/65

Mr. J. H. Courtright

L. P. F.

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

AUG 27 1965 J. H. C.
W.E.S. AUG 9 1965
AUG 9 1965 T. C. O.
S. I. B. AUG 11 1965
AUG 16 1965

August 5, 1965

Mr. T. J. Woodside, Manager

EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION
FIRST HALF 1965

ORIGIN OF RECEIPTS
EL PASO, HAYDEN & AMARILLO

EL PASO PLANT

	Tons Received		% of Group
Lead Department-Ores & Conc.			
From Arizona-New Mexico	13,968		32.07%
Colorado	13,798		31.68%
Other Areas	15,793		36.25%
		43,559	100.00%

Analysis of 1964 receipts of lead ores and concentrates showed 32.9% coming from Arizona-New Mexico, 55.4% from Colorado, and 11.7% from other areas. From the figures above it will be noted there is substantial increase in tonnage from "Other Areas" and reduction in intake from Colorado. This first half has seen increase in concentrate shipments from Eagle Picher and St. Joseph Lead from Missouri-Oklahoma area.

Copper Department			
Custom Tonnage-Conc & Cu Ore			
From Arizona-New Mexico	100,896		64.74%
Colorado	461		.29%
Other Conc & Cu Ore	3,792		2.44%
		105,149	67.47%
ASARCO-Mission Conc, Silver Bell Ppts		27,017	17.33%
		132,166	
Diversion Cu Conc to Tacoma from Southwest-Colorado		23,681	15.20%
		155,847	100.00%
Cu-bearing Flux		22,154	

HAYDEN PLANT			
Custom Tonnage-Conc.(Arizona origin)	35,902		21.54%
ASARCO Mission-Silver Bell	130,757		78.46%
		166,659	100.00%
Copper Ore	31		
Cu-bearing Converter flux	58,480		
Reverb Flux-Tailings	17,947		
		76,458	
Total Receipts Hayden First Half		243,177	

AMARILLO PLANT-Zinc Concentrates		Tons Received	% of Group
Southwest-	Custom tonnage	15,031	36.68%
	ASARCO-Deming	9,073	22.14%
		24,104	58.82%
Colorado		16,875	41.18%
		40,979	100.00%

In 1964 approximately 60% of zinc concentrate receipts accounted for in this report originated in Colorado as compared with 41% in the first half of this year, reflecting loss of tonnage in the Colorado area.

COMMENTS ON SHIPPERS

A Z Minerals Corp. because of worked-out ore reserves has abandoned the operation at Mexican Hat, Utah. The copper circuit of the Mexican Hat mill has been moved to Moab where Atlas Minerals Corp. will be treating some uranium ore containing copper. A new contract has been submitted for the Moab copper production for delivery to El Paso Plant. End production from copper ores accumulated at Mexican Hat, received at Hayden in the first half of 1965:

	Approx. Average Analysis						
Tons	Ag	Cu	SiO2	Fe	CaO	Zn	S
2493	0.6	6.6-17.0	22	18	1.5	2	23

Bagdad Copper Corporation deliveries to El Paso and Hayden in first six months 1965:

	Tons	Ag	Cu
Conc. Hayden	18,709	1.8	22-40
Precip. El Paso	5,498		82

It is expected concentrate production will continue at about the present rate. Precipitates will be shipped to El Paso for the remainder of this year and through the first quarter of 1966. Beginning about April 1966 it is anticipated Bagdad will start using precipitates in the new powder copper plant and deliveries to El Paso will decrease to accommodate capacity of the new plant.

Hanner Mining Co., Lordsburg: Receipts El Paso in first half 1965

	Approx. Avg. Analysis			
Tons	Au	Ag	Cu	Zn
2350	.45	7.1	22	3

Production should be maintained through the year at approximately the same rate. Development work at the mine has increased ore reserves, especially in new fissures tangential to the Bonney vein. This new ore has increased the gold content of the concentrates, ranging from .36 oz. to .56 oz.

Cyprus Mines Corp.-Old Dick-Copper Queen: Copper concentrate deliveries to Hayden Plant in the first half 1965:

	Approx. Avg. Analysis		
Dry Tons	Ag	Cu	Zn
5516	1.7	22.4	12.4

The purchase agreement has been extended by letter to expire September 30, 1965, at which time it was expected the operation would cease. The latest advice, however, is that Cyprus Mines will continue this operation to exhaustion of ore supply.

Diversified Mines at the 85 Mine, Lordsburg, the principal source of siliceous flux for El Paso Plant at the present time, in first six months 1965 delivered:

	Approx. Average Analysis						
Dry Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
11,862	.06	0.8	1.75	70	6	2	6

This producer has failed to meet forecast of production. Ore value is less than anticipated and the operation is not financially independent. Phillips Petroleum Co. is no longer interested in Diversified Mines operation.

Duval Corp. Esperanza shipments January through June 1965:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Hayden Conc.	4,595	2.4	25.4 } 8.2 lb Cu/ton ore
El Paso Conc.	31,372	2.5	26.2 }
Precip.	1,396		75

Mineral Park production for first half 1965:

		Approx. Avg. Analysis	
	Dry Tons	Ag	Cu
Tacoma Conc.	6,495	5.5	19
El Paso Conc.	30,566	5.8	21
Precip.	46		47

Esperanza and Mineral Park production has not been as high as expected. Esperanza has been in some very hard, low grade ore. Mill repairs last month also reduced output of concentrates. The Mineral Park operation started with a series of interruptions from winter weather. Storm stoppages, together with autogenous mill breakdowns and experimentation resulted in some disappointment in tonnage output. Moisture content of the Mineral Park concentrate has been excessive and so far efforts to remedy this condition have not always been effective.

Emperius Mining Co., Creede: Zinc shipments to Amarillo Plant stopped in April when tonnage was taken by American Metal Climax. Lead concentrates continue to move to El Paso under a 7-year contract with American Metal Climax. Receipts in first half 1965:

		Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Zinc Conc. Jan-April	1,677	.02	5	1.3	0.3	56.8
Lead Conc-Emperius Min.	1,395	.13	45	43	8.5	7.7
American Metal	371	.13	53	42	9.0	8.0

Idarado Mining Co. - Receipts in first half 1965 -

		Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Pb	Cu	Zn
El Paso-Lead Conc	5,462	1.20	34	72	3	2
Tacoma-Copper Conc	2,995	1.0	18	3	29	4
Amarillo-Zinc Conc	11,165	.06	3	.8	.8	58.5

Little Hill Mine - Flux deliveries to Hayden during first half 1965:

		Approx. Avg. Analysis				
	Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
Little Hill Mines	37,770	.6-1.3	80	2	.5	6.8
McFarland & Hullinger Del Oro	5,083	.37	84	2	.4	5.8

Del Oro flux delivery was stopped early in April. Little Hill Mines flux is now crushed at the property.

McFarland & Hullinger - Commercial Mine: Lease was obtained and shipments of copper fluxing ore started in March at the Commercial Mine in Copper Basin owned by Phelps Dodge Corporation. Purchase offer is for 30,000 tons; receipts at Hayden March through June -

	Approx. Avg. Analysis				
Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
14,643	1.89	62	3.7	1	16

McFarland & Hullinger, Keystone Mine production first half 1965:

		Approx. Avg. Analysis				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.	2,633	.02	67	43	6	7
Zinc Conc.	4,033	.005	3	.5	1	50.4

This shipper plans to increase expenditure of development money at the Keystone Mine which may result in a new shaft from the surface.

Ira L. Moseley is shipping siliceous flux to El Paso from the Burro claim at Johnson Camp. Receipts February through June -

		Approx. Avg. Analysis			
Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
10,292	0.77	65	4.5	3	11

Tonnage for the first half came from stockpile. Beginning July 1st Mr. Moseley will resume mining and expects to increase deliveries to El Paso about 1,000 tons monthly. The newly mined tonnage will assay about 0.9 - 1.0% Cu.

New Jersey Zinc, Belden, Colorado: Lead concentrate and crude silver-copper ore shipments Jan.-June 1965 -

			Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Pb	Cu	Zn
El Paso-Lead Conc.	3,247	.11	38	49	3.8	7.2
Tacoma-Crude Ore	6,723	.06-.41	14-34		2.5-6.5	3.0

June receipts at Tacoma Plant of pyritic ore from Eagle Mine were considerably lower grade than tonnage shipped previously.

New Jersey Zinc, Hanover Mill, lead concentrates delivered to El Paso in first half 1965 - 700 tons averaging about

Au	Ag	Pb	Cu
.05	23	61	1.8

Pima Mining Co. Shipments for the first half 1965:

		Approx. Avg. Analysis		
	Dry Tons	Ag	Cu	Zn
El Paso	23,323	4.0	25.6	4.0
Tacoma	11,314	4.0	25.6	4.5
Hayden	646	3.8	28.1	6.4
	35,283			

As anticipated during the expansion program, production has been reduced to about 5880 tons monthly which will continue through the balance of this year. Construction for mill expansion is progressing on schedule. The railroad spur to the filter plant has been in use since June 14, 1965.

Shattuck Denn-Iron King: Production for the first half 1965 -

			Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.	7,968	.99	41.0	33.5	2	8.6
Zinc Conc.	14,996	.08	1.8	1.2	.2	55.4

Ore tonnage has been increased to the straining point of Iron King Mine. Economics of the operation varies from month to month, none of which seems promising for profit.

Silver Wing Mining Co. in the first half of 1965 shipped copper concentrates to El Paso, totaling:

	Approx. Avg. Analysis		
Dry Tons	Au	Ag	Cu
461	.06	20	26

Silver Wing recently sold half interest in the Pride of the West mill to Northwood Inc. treating ore from Osceola Mine. The copper milling ore in Silver Wing Mine is exhausted. Silver Wing Mining Co. hopes to develop lead-zinc ore through exploration work now under way.

U. S. Smelting Co. - Hanover Mill copper shipments to El Paso for first half 1965:

		Approx. Avg. Analysis			
	Dry Tons	Au	Ag	Cu	Zn
Conc.	2,260	.11	2	28	7
Precip.	17			53	

It is expected copper production from the present mill will continue at about the same rate until the new orebody is developed and the new concentrating plant starts operation, probably some time in the first quarter of 1967. The present purchase agreement has been extended until such time as a new contract is negotiated for production from the new mill which will be 6000 - 7500 tons of concentrates per month.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
MECoats
CPPollock
TASnedden
JHCourtright
RBMeen
KDLoughridge
Hayden

~~WES~~, ~~BKK~~, ~~SVF~~ ~~JBS~~ Mr. J.H.Courtright

J. H. C.
JUL 30 1965

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 28, 1965

Mr. T. J. Woodside, Manager

W.E.S.
JUL 30 1965

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
COLORADO - JULY 19-23, 1965

Last week I spent time in Denver and then drove through the mining districts, winding up at Telluride. In a visit with Messrs. Coats and Miles at Globe Plant I learned there is very little activity coming to their attention. There is some talk about renewed mining activity but very little production has materialized in the Front Range area.

1. Pan American Petroleum Co. with office in Security Building, Denver, has been doing some exploration in Alaska. I called Mr. Russell Bryant, Jr., (Tel. 292-5050) local manager, to advise Asarco would like to provide an outlet if production results from present exploration work. Mr. Russell was reluctant to discuss the exploration project but advised his company has had some success in a silver-lead property located 450 miles south of Anchorage. I gave him addresses of our New York office and of Southwestern Ore Purchasing Office so that he may request purchase terms when the project justifies such inquiry.

2. Homestake Mining Co., 1331 Glenarm Place, Denver (Tel. 255-0376) is doing exploration by diamond drilling and adit work at the Bulldog Mountain property west of the Emperius Mine structure. Bulldog Mountain claims are owned by Bulldog Mountain, Inc., controlled by Manning W. Cox of San Francisco and Aspen. Humphreys Engineering explored this property by drilling two or three years ago.

In Homestake Mining Denver office I talked with Ted M. Ruzzi who is manager and in charge of the Bulldog Mountain project. Bud Ames is superintendent at the property. Mr. Ruzzi asked our interest in obtaining a 200 pound sample for metallurgical test work and I told him I would advise him at a later date.

While at Golden I visited Mr. Crabtree at the Colorado School of Mines Research Foundation. Mr. Crabtree advised me he has a contract with Homestake Mining to make mill tests on Bulldog Mountain ore.

While at Creede I visited Bud Ames, drove to the adit level and observed the pile of ore accumulated. This is silver with a small amount of fine-grain galena with quartz and barite gangue.

Homestake Mining Co., Con't.

The adit has been driven as a crosscut westerly 750 feet, where it intersects the Puzzle vein which strikes North 10-15° West. Homestake has drifted along the Puzzle vein 2300 feet. This structure impinges in strike length on the Bulldog Mountain vein where projection to 2800 feet should bring the two structures together.

The last 750 feet of the drift has been showing ore 4-7 feet wide which may average about 30 oz. Ag. This work is being pressed in a northwesterly direction to the possible intersection. Similar structures in the Emperius Mine have been very productive.

Mr. Ruzzi was in Creede when I visited the property and again asked our interest in performing test work on a sample. I think such metallurgical tests would be valuable information for us and will discuss this with Mr. Weiss to determine if his department can conduct the tests.

3. Squire Mining Co., Barrett Property, Magdalena, N. M. Mr. R. L. Squire advised me they have drilled the Clarence Barrett property west of Magdalena, New Mexico, and some of the results obtained indicate commercial quantity of Ag-Pb ore. I asked Mr. Squire to provide us with samples or core assays so that we might evaluate the anticipated production.

Mr. Squire reports they have under lease the mineral rights of the Ortiz Grant, New Mexico. Mr. Behunin is working the placer deposit and making some gold recovery. Mr. Squire thinks Behunin is under-financed. He reports our exploration men have been in the area and talked with Mr. Behunin. I suggested that Mr. Squire discuss with Mr. Courtright interest our Exploration Department may have in the Ortiz Grant area.

The copper-lead deposit known as Copper Spur in northwestern Colorado is now under the control of Mr. Hughes of Denver. Messrs. Squire and Stepelton attempted to interest their partner, Mr. Porter, in financing development of this property; but he was not interested. Squire Mining Company has located claims in the area adjacent to the Copper Spur.

4. Standard Metals Corp. has moved its office from Moab, Utah, to the Petroleum Club Building, Denver (Tel. 263-6221). Boris Gresov is President and Chairman of the Board with office in New York; A. C. Melting, Vice President in charge of mining, is in the Denver office. William Waldeck, Executive Vice President, has an office in Grand Junction. Ed Larson, formerly Chief Clerk at Silverton, has been moved to the Denver Office. T. W. Newell is Resident Manager at Silverton; Gordon Bruchner,

Standard Metals Corp., Con't.

Mine Superintendent; Aldo Bonavido, Mill Superintendent.

I obtained the following information on production for June, 1965:

	Tons	Au	Ag	Pb	Cu	Zn
Crude Ore Milled	15,000	.0183	1.65	2.8	0.28	7.0
Lead Conc.	520	.36	28.25	62.0	5.1	8.2
Zinc Conc.	1,700	.02	3.2	3.66	0.63	56.3

The zinc product was shipped to Anaconda, Montana; the lead, to Tooele, Utah.

Return from sale of concentrates	$490,545
Less Freight and Treatment	239,572
Net at Silverton	$250,973

Standard Metals production is purchased by United States Smelting Co. on terms of Asarco offer. The zinc concentrate shipped to Anaconda is liquidated on the basis of Amarillo delivery with excess freight charge for account of United States Smelting Co. From the net at Silverton indicated above, mining and milling costs must be deducted which apparently leaves a very small margin of profit, and decrease in metal price could make operation uneconomic.

Ore reserves in the Sunnyside Mine are in excess of 1.5 million tons positive ore, with total 2.9 million tons including probable and inferred. Average width is 20 feet with swells up to 40 feet wide. Vein walls stand without sloughing for dilution and offer cheap mining method. In spite of these favorable conditions, Standard Metals within the next two years expects to increase mill capacity to approximately 1,000 tons per day which would allow continued operation with better profit margin and sustain the property with drop in metal prices. Some thought has been given to installing sink-float at the tunnel to increase the grade of mill feed, but economics of installation at this time is hardly justified.

In Standard Metals Denver office I talked with J. M. Ruby who advised that company is still very much interested in construction and operation of the Imperial smelter.

Standard Metals holds some property above the Keystone Mine at Crested Butte which is not large enough for company operation. They are investigating claims north of Crested Butte in the vicinity of the Daisy Mine, possibly the Daisy Mine, which belongs to Combined Metals Co. Either or both of these properties

Standard Metals Corp., Con't.

may not be of interest for operation by Standard Metals and inquiry was made about the success of Keystone Mine operation leased to McFarland & Hullinger.

Tom Newell of Standard Metals advised me they are interested in taking over the Antler Mine, near Yucca, Arizona, owned by Yucca Mining & Milling Co. Yucca stockholders in the past have asked too much to interest exploration, but the Antler Mine is now receiving serious consideration by Standard Metals. I understand the property is now under control of Tom Newell. To resume production a new mill will be required at Yucca.

5. Cascade Mining Corp. There is very little activity at Idaho Springs with the exception of leasing operation at the Cascade Mine by the Wolcott brothers. In May and June El Paso Plant received 414 tons from this operation, assaying:

Ag	Pb	Cu	Zn
24.8	.6	.1	1.5

This tonnage was pulled from stopes left by Humphreys Engineering operation and, according to Mr. Peek, represents some caving of vein walls up to 40 feet in width, all of which was shipped. Preparation is now complete for breaking new ore below the Cascade tunnel level. This will require hoisting, but the ore will be higher grade than previous production. Demand for finances to maintain operation suggests that return from shipments is not sufficient to keep the miners well paid and dissatisfaction between lessor and lessees is apparent.

6. Cotter Corporation at Canon City plans to erect a sink-float plant to handle ores and dump material from various mines in the Silver Plume area. This product would then be concentrated in the Cotter mill at Canon City. Since Cotter Corp. lost its contract for yellow cake, the company is concentrating attention on custom lead-zinc ores tributary to the Canon City mill. I advised Mr. Marcott he might find considerable tonnage for concentrating at the Cascade Mine. The Canon City mill is about 50 tons per day capacity. Some lead concentrate from this operation has been shipped to El Paso

1965	Dry Tons	Au	Ag	Pb	Cu	Zn
February	34	.05	65.7	43.2	6.3	8.3
June	122	.027	51.8	48.1	1.8	12.0

Current zinc production contains some copper; and because of payment for that metal at Amarillo, Mr. Marcott will ship the zinc concentrates to our plant.

7. Reed Johnson, Bonanza Route via Villa Grove, has reactivated No. 2 tunnel of the Rawley Mine and hopes to receive finances soon to assist him in reactivating the No. 12 tunnel. Heretofore Mr. Johnson has shipped his production to Midvale and more recently to Cotter Corporation mill at Canon City. Ore from No. 2 tunnel is now hauled to the mill built in the 1950's by Superior Mining Co. The irregular mill operation produces some lead and zinc concentrates; but because of the small quantity of each and need for finances, Johnson has been mixing the two products and sending bulk concentrates to Tooele. United States Smelting Co. has been accepting the Rawley Mine product even though the smelter is closed by strike. On receipt of bill of lading they have been advancing 70% of the value on the basis of Johnson's assays. I advised Mr. Johnson we could not make advances on this basis, but would send percentage of value on receipt of shipment and sampling at our plant. He reports concentrate assays:

	Ag	Pb	Cu	Zn	Fe
Zinc Conc.	5.5	3.4	0.85	51.0	5.0
Lead Conc.	27.0	48.6	3.05	12.5	8.6

8. Silver Wing Mining Co. Mr. Christie, Manager of Silver Wing, has sold 50% interest in the Pride of the West mill to Northwood Inc. There is a small amount of copper ore remaining in Silver Wing Mine which does not justify mining and the company is embarking upon a small amount of exploration on lead-zinc intercepts with the hope of producing ore for treatment in the mill. It is hoped this ore will be available in about three months.

9. Northwood Inc. At present the Pride of the West mill is treating ore from the Osceola Mine held by Northwood Inc. Mr. Wigglesworth, Mill Superintendent, indicates Osceola Mine product is not very satisfactory for economic operation. Ore from surface cuts is being treated in the mill. Assays are reported as follows:

	Au	Ag	Pb	Cu	Zn
Heads	.03	1.37	3.2	0.5	3.2
Non-sulphide			1.0		.2
Lead Conc	.40	22.8	51.8	8.4	5.8
Zinc Conc	.01	8.1	18.0	1.2	39.6

The zinc product is hardly marketable and must be sold to United States Smelting.

Northwood Inc., Con't.

Former operators of the Osceola Mine went broke but produced satisfactory concentrates, assaying:

	Au	Ag	Pb	Cu	Zn	Fe
Lead Conc	.38	15.7	48.2	8.2	4.9	12.0
Zinc Conc	.03	2.32	1.8	1.6	56.8	3.6

This indicates the Osceola sulphide ore can be concentrated for marketable products. Mr. Wigglesworth doubts, however, if the ore can be produced in sufficient quantity to realize good metallurgical recovery. The superintendent at Osceola Mine was formerly with Standard Metals Corp.

10. Joe Cox, Equity Mine, Creede This property, up the canyon above Emperius Mine, is operated by Lesley Turnipseed and Joe Cox, producing silver ore. A sample recently submitted to El Paso assays:

Au	Ag	Cu	SiO2	Fe	CaO	Alumina
.08	24	1.0	76.8	3.0	0.8	0.7

A carload of this ore is being shipped to El Paso Plant.

11. Emperius Mining Co. Mr. Hayden in the Emperius mine office at Creede reports that purchase terms for zinc concentrates going to Blackwell are a big improvement in return to the mine compared with shipment to Amarillo. The only objection to the present arrangement, he indicates, is in dealing with a third party. More time is now required for liquidation of concentrates.

12. Idarado Mining Co. has been doing well. Production is down somewhat in July for vacation periods. Scarcity of miners is still a handicap to the operation. Ore reserves are being increased. Cross faulting, formerly not expected to be productive, is now giving impetus to discovery of ore above and below the conglomerate, making sizeable deposits of good ore in the red beds (Cutler formation). Concentrate production will be back to normal after July vacations.

At Telluride I visited with Kenneth Tatman, Idarado Mill Superintendent, who has few complaints. There were some comments on dry weight comparisons. This problem will be reviewed for further discussion. Idarado is hopeful that umpires on cadmium in the future can be determined with less delay.

13. John Barrett, Keno Mine: I have had correspondence with Mr. Reinhardt, Consulting Engineer of Grand Junction, regarding the Keno Mine which is just north of Red Mountain at Ouray. These claims were acquired by John Barrett of New Jersey during the uranium rush. Barrett knows little about mining but has been successful in obtaining finances from Joseph Desloge, President, Killark Electrical Manufacturing Co., 3940 Eston Ave., St. Louis, Missouri. The property is pretty well equipped with compressors and mining machinery. Barrett is looking forward to getting motorized trammers.

The Keno adit has been advanced 750 feet. In this development work Barrett expects to obtain enrichment of the ore, although he has been in sulphides almost the entire length of the adit. Reports from Mr. Reinhardt indicate 30,000 tons of ore developed in a vein 3.5 feet wide which can be concentrated to products assaying:

	Ag	Pb	Cu	Zn
Lead Conc	50	50	12	
Zinc Conc				48

Ore observed in the bins appears to be very low grade and I am surprised at the optimistic report on concentrate assays.

To the east and approximately 700 feet higher in elevation along the same vein Reinhardt recommended that Barrett do some surface work. This has opened up a small high grade occurrence of Ag-Pb oxidized ore. From this showing Barrett has stockpiled 10-12 tons assaying 200-400 oz. Ag. He feels this surface work was a waste of time and is hopeful of finding high grade somewhere in the face of the Keno adit.

14. Federal Resources Corp., Camp Bird Mr. Bailey, Superintendent at Camp Bird, was underground at the time of my visit. I didn't contact him later inasmuch as negotiations for concentrate contract renewal will be conducted in the Salt Lake City Office.

Camp Bird is preparing the mountain side for a new tailings pond disposal since the old site is almost filled. The mill is expected to start operation next month, but Federal Resources has not yet obtained a mill superintendent. Their former mill man is on a foreign job in Iran and will not be available for several months. The mill will probably be started with the assistance of a consulting metallurgist.

At Silverton I met Mr. Prosser of Denver who advised Federal Resources has an agreement on the Dora Mine at Silverton. This was confirmed in a telephone conversation with Mr. Stalheim after returning to my office.

15. Carl Dismant, Bachelor Mine: For the past two years Dismant has been reactivating the Bachelor mine and mill. Last year he milled ore from the Seniorita Mine operated by Willreed Mining Co. and attempted to concentrate the Bachelor ore.

The first shipment of concentrates from Seniorita Mine did not pay costs; and, at present, there is no activity at the Seniorita or Bachelor properties.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
KDLoughridge
MECoats
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

~~WES~~, ~~JDS~~, ~~SIB~~, ~~RKK~~, JEK, ~~SVF~~ ~~LPE~~ Mr. J.H. Courtright

JEK 8/3/65 ~~JRW~~

see note on page 4 W.E.S.

L. P. F.

AUG 27 1965

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

S. I. B. J. H. C.

AUG 27 1965 14 1965

July 13, 1965

Mr. T. J. Woodside, Manager

W.E.S. J. R. W.

EL PASO PLANT

JUL 27 1965 JUL 27 1965

FIELD TRIP REPORT - REED F. WELCH
SALT LAKE CITY - JULY 7-10, 1965

1. G. M. Wallace & Co. On my trip last week to Salt Lake City I contacted Mr. P. K. Richardson, consultant for G. M. Wallace & Co. with office 30 Kensington Ave. (Telephone 486-0094). This firm has the outlet agency for the Simpson Cone, originally designed for Warehouser Co. to handle waste products of the timber industry in the Northwest. This cone has been introduced to the copper precipitation industry and is working successfully with installation at Bingham Canyon. I understand Santa Rita, New Mexico, expects to install these cones at that operation. Use in copper precipitation indicates each cone can produce 10 to 20 tons of precipitates daily assaying 85-90% Cu from water containing 10 pounds Cu per 1,000 gallons.

Because of the success of the Simpson Cone in producing copper at reduced cost, this equipment is being installed at the Rio Tinto Mine, Mountain City, Nevada. G. M. Wallace has taken over this old mine, formerly operated by Anaconda Company in the name of Mountain City Copper Co. Ray Kunkel is operating engineer at Rio Tinto project; Jack Simpson, Supt. Anaconda is cooperating with present operator, supplying complete set of maps and assay information on the old mine to assist in the copper leaching venture. Mr. Richardson advises he has not discussed sale of the precipitates to Anaconda, but that firm will want the privilege of quoting on the production for delivery to Anaconda. Some independent brokers have contacted Wallace for sale of the precipitates, but no sales agreement has been negotiated as yet.

The old mine is filled with water which has risen and dropped from season to season with variable water level. The square set stopes in the mine were backfilled with pyrite and chalcopyrite ore reportedly assaying 2-4% Cu. It is expected some copper will come from water in the underground workings which will amount to about 250 g.p.m. The principal source of copper will come from the mill tailings pond of 1.5 million tons containing 1.5% Cu, much of which has been oxidized and is available for leaching.

It is expected production of precipitates will begin about September, 1965, at a rate of 400 to 450 tons per month and

G. M. Wallace & Co., Con't.

should continue for 5 to 7 years. This production has been offered to Asarco for Tacoma delivery but, because of lack of sulphur at that plant, has been referred for purchase at El Paso. Freight rates from Mountain Home, Idaho, and Elko, Nevada, rail shipping points, have been requested for movement to El Paso. However, it is apparent that delivery to Tacoma is more advantageous for Asarco outlet. Because of Anaconda Company's interest in the mine and in smelting the precipitates, outlet at Anaconda will be competitive. Because of high freight rates to the southwest, I believe we must offer Tacoma delivery to be competitive on this production.

2. Cardiff Industries, Inc. Mr. J. J. Beeson of Salt Lake City tells me he has completed shipment to Tacoma of 17 carloads of copper ore from the Cardiff Mine. This ore shoot was developed and mined out on a lens of 50 foot length. It has been raised on for 35 feet where the ore pinched. Underhand stoping has just about exhausted this lens of ore. Mr. Beeson estimates there will be one more carload for shipment. The stope may be subleased for cleanup purposes.

3. Mount Wheeler Mining Co., Mt. Wheeler, Nevada, under management of Jim Williams, is practically dormant at the present time. Sorted ore from the vein has been accumulated at the adit portal, left there to interest new financing.

Mt. Wheeler has been engaged in exploration work at Chloride Point on Lion Hill, Ophir, Utah, where Jim Williams has drilled an area 200 feet wide 600 feet long in the north-south direction of the anticlinal axis. So far the drilling program proved geological structure only, and no ore. Subsequent underground work is nearing its objective with no ore encountered to date.

4. United States Smelting Co. is progressing with development of the Continental Mine orebody at Bayard. Best estimate of the time new production will be forthcoming is the first quarter of 1967, which is indefinite. The two shafts are being sunk and the mine must be developed and a mill constructed.

It is expected sufficient water for mill operation will be available from underground openings in the old and the new mine. All copper concentrates produced in the Bayard area by United States Smelting will come from the new mill. It has not yet been decided whether to continue the lease of the old mine section to Strong and Patton.

Mr. Benton Boyd, Vice President, was out of the city at the

United States Smelting Co., Con't.

time of my visit. In his absence I talked with his assistant, Mr. Robert C. Weagel, reviewing the outlet potential for copper concentrates. I understand United States Smelting prefers outlet at El Paso and expects to ship future production at Bayard to that plant. The present contract expires July 31st and I advised Mr. Weagel that by letter agreement we would extend the present terms from August 1, 1965, to December 31, 1966, after which we will negotiate a new contract to cover the entire production from the new Bayard mill.

At present United States Smelting at Bingham is on strike. The underground miners at this operation earn something less than $20 per day and are asking $5 per day increase to equal pay of Kennecott open pit miners.

5. Atlas Minerals Corp. has discontinued operation of A Z Minerals mill at Mexican Hat, Utah, and the section producing copper concentrates as a by-product from uranium ores has been moved to Moab. At Moab, Atlas Minerals is purchasing uranium ore from a number of properties, some of which carry copper. It is anticipated copper concentrates from the Moab mill will be about the same grade and tonnage as the Mexican Hat production. Concentrates from Mexican Hat received at Hayden in 1964 through May, 1965, assay:

Dry tons	Ag-oz.	Cu-%	SiO2-%	Fe-%	S-%	Zn-%
5087	.5 - 1.6	11 - 17	15 - 24	13 - 22	24 - 30	2 - 7

The Moab installation is now served by rail siding and Atlas Minerals expects to load copper concentrates at Emkay. The Traffic Department has been requested to obtain rates from this station to Tacoma and El Paso.

I advised Messrs. A. P. Kibbe, President, and Rex L. Jones, Assistant, that our Tacoma Plant very likely will be the most favorable outlet for this production and, if so, a contract will be prepared for delivery to that plant.

6. Federal Resources Corp. Nels W. Stalheim, President; Donald V. Peters, Vice President; Floyd Odlum, Chairman of the Board; 1370 South Third West (telephone HU4-4382). Mine manager in the Salt Lake City area is Bill Henderson, formerly with Hecla Mining Company and more recently with Kennecott at the Burgin Shaft.

Federal Resources has acquired all of the Camp Bird property at Camp Bird, Colorado. Mr. Baily is superintendent

at Camp Bird. At Camp Bird Federal Resources has acquired also the Mongohela (sp?) claims endlining the Hidden Treasure tunnel. Development from the Treasure tunnel level has extended into the newly acquired property and opened up high-grade ore 9 to 15 inches wide for 650 feet along the drift. Ore accumulated from development work and some work in raising above this level has been stockpiled and will be milled in the Camp Bird Mill. Because of excessive dilution in this development work the stockpiled ore will assay about $8 per ton. It has not been decided how much dilution mining of the vein will permit but this is being resolved and it appears they will keep the stopes to the narrowest width possible to produce ore of about $26 per ton value on present metal prices.

Although Federal Resources has a few thousand tons of ore stockpiled and expects to start milling about the middle of August, they have not as yet obtained a mill superintendent and consequently no metallurgical tests have been performed on the ore to determine grade of concentrates. Under the circumstances, before discussing purchase terms, I requested that Mr. Stalheim give me assay information on the vein ore so that we may apply reasonable metallurgical recovery for estimating concentrate grade. This information is to be forwarded to me this week.

Mr. Stalheim told me American Zinc Company has called him weekly wanting to know when the Camp Bird mill would be producing zinc. I am sure very competitive terms will be required to purchase this production. I advised Mr. Stalheim I would submit the best terms possible for both products for a package agreement.

Mr. Stalheim is considering the possibility of installing a heavy media plant underground to eliminate waste in the newly mined ore and to rework the old stope fills.

Federal Resources has been actively engaged in other areas. The mill built at the Minnie Moore Mine at Bellevue, Idaho, to handle custom ore has been disappointing in that very little custom tonnage has been developed. There has been some activity in this area with Federal Resources producing small tonnage from the Silver Queen mine, worked through the Minnie Moore. To supplement mill feed, Federal Resources took over a leasing operation that employed a heavy media separation plant on dump material at the Triumph Mine at Hailey. The heavy media plant product is trucked to the mill at Bellevue where it is concentrated and lead product delivered by truck to Bunker Hill Co.

In Nevada Federal Resources has sunk a 1,000 foot shaft on the old Simons mine 26 miles east of Mina with the expectation of developing Ag-Pb-Cu-Zn ore. Federal is now engaged in

this is in Cedar mtns

Federal Resources, Con't.

crosscutting about 700 feet to the ore, after which a mill must be constructed if they are successful in developing ore.

In another project in Idaho, Rederal Resources spent $2.5 million and then abandoned the exploration.

7. Kennecott Copper Corp.-Burgin Shaft. The operating shaft, contracted to Centennial Development Co. for sinking 1500 feet reached 1320 feet. After fighting hot water for a discouraging time Kennecott decided to leave the shaft at 1320 and started work on the 1200 level. Crosscut from the old development shaft on the 1050 level is almost complete. Air connection from this working to the Burgin #1 shaft and Apex shaft has improved conditions in the mine. Connection with the new shaft at a later date will effect further improvement in ventilation.

The underground winze put down on the high grade section of the ore body has been stopped because of hot water, reportedly 140°. Ore in this winze 15 to 25 feet wide has strike length in excess of 300 feet and assays 70% Pb or better.

First quarter 1965 production from the Burgin shaft shipped to Bunker Hill, which represents average grade of the ore body, is reported as follows:

Dry Tons	Net Value after Freight & Smelting	Royalty*
5,502.81	$ 204,821.18	$ 15,860.28

*Royalty 15% net smelter return less mining cost $ 18.01 wet ton.

Royalty distribution to various company interests is as follows on first quarter production.

	Percentage Interest	First Quarter Royalty	Per Ton Ore
Chief Consolidated	66-2/3%	$ 10,573.52	$ 1.92
Tintic Standard	10-2/3%	1,691.76	.31
Eureka Standard	6-2/3%	1,057.35	.19
Eureka Lily	4-2/3%	740.15	.13
Southern Standard	11-1/3%	1,797.50	.33
		15,860.28	2.88

Value to the operator on this production is approximately $19.11 per ton ore after freight to Bunker Hill, smelting, royalty and mining.

8. New Park Mining Co. at Mammoth, Utah, has run a drift southwest along a fissure zone on the 2400 and 2600 levels. The objective on the 2600 level was to intersect ore-bearing fissures with Ophir formation (Cambrian). A short distance from this objective, faults and water-bearing fissures developed excessive water, resulting in abandonment of this level. The 2400 level was then run into the fissure zone but funds for complete exploration were exhausted.

Boyles Bros. is now diamond drilling one hole on the 2400 level to the objective. If ore is encountered by this single hole it will be only by accident.

Drifting along the fissure zone on the 2400 level has developed an estimated 11,250 tons, indicated by car samples, assaying:

Au-oz	Ag-oz	Pb-%
0.05	15	8

Car samples along the bedding in these workings show:

	Au-oz	Ag-oz	Pb-%	Cu-%
	0.14	14.16	12.8	0.2
The fissure ore assays	0.13	15.07	4.6	0.35

The following analysis is reported for this product:

Insol-%	S-%	CaO-%	Zn-%
71.55	0.3	3.9	0.8

At present there is no production at the Mammoth Mine. Purchase terms offered by International Smelting with $20 per ton treatment charge make it impossible to move the product. New Park Mining is now engaged in making application to Security Exchange Commission for sale of treasury stock to obtain money for exploration and development. To date this has not been approved.

REED F. WELCH

cc: RLHennebach
CNWaterman
ALHatch
WGRouillard
REShinkoskey
SMLane
KDLoughridge
CENelson
CPPollock
TASnedden
JHCourtright

cc: RLHennebach
ALHatch
CHNelson
WGRouillard
TASnedden
JFFrost
RFWelch
JHCourtright
ALLabbe
JNLambe
AALawson
Trip File

W.E.S.
JUL 30 1965

SELBY PLANT

MR. WES AKK
READ AND RETURN
PREPARE ANSWERS ..... HANDLE .....
FILE ..... INITIALS .....

July 1, 1965

Mr. J. T. Roy, Manager
Present

J. H. C.
JUL 7 1965

TRIP - JUNE 21 to 25, 1965

Dear Sir:

Following is report of trip to Northern Nevada taken by Glenn Haycraft and the writer during the above period.

JUNE 21, 1965

Telephoned Mr. Charles Dorman who is opening a property south of Battle Mountain, Nevada, and had advised he was building a mill for producing concentrates. Mr. Dorman advised that he was having difficulty raising the necessary capital and would not be in production for awhile.

Tried to call Mr. H. B. Chessher, who is the owner of the Zaca Mine, now leased by Claude B. Lovestedt, and who is also familiar with most of the mining operations in Nevada, but unfortunately he was out of town.

JUNE 22, 1965

THE GOLDFIELD CORPORATION - GETCHELL MINE DIVISION

Met Mr. James V. Stanford, Manager, who with Mr. T. Galloway, Mill Superintendent, took us through the mill. They are treating about 1200 tons per day. Due to the high arsenic content, the ore all must be roasted through a fluid-solid roaster before cyaniding. The ore is mined by open pit with primary crushing to minus 3/8" and then through a rod mill to about 10 mesh. This product goes to the roaster, the discharge is cooled and goes to a ball mill and ground to about 40 mesh. The gases from the roaster first go to roto-clones and then to Western Precipitation Co. electrostatic precipitator. Gases then pass through scrubbing towers and thence to stack. They claim all arsenic is removed from stack gases. The impure arsenic dust is presently being stockpiled in a well fenced-in area. They said some consideration is being given to refining this dust for marketing.

Cyanide is added at the ball mill and the product passes through several agitating tanks and is in the circuit about nine hours. From there the solution is clarified by vacuum filters and goes to deaerating tank where zinc is added for precipitation of gold. Precipitates are pressed and melted down in Rockwell furnaces, fired by diesel oil. At the present time they are keeping the molten metal in the furnace an additional period of time in an effort to fume off excess zinc and arsenic, in an effort to produce better bars. There is no fume collection from the melting furnaces. They are still interested in any suggestions we may have for cleaning up their bullion.

Also met Mr. Ray Osborne, Office Manager, who advised that lately, settlements have been arriving about ten days after shipment, which is satisfactory.

This property is located about 21 miles north and east of Golconda, Nevada, about 14 miles on surfaced road and seven miles of good gravel road.

MIDAS GOLD COMPANY, MIDAS, NEVADA

Made inquiries regarding this company, from which a shipment was recently made. Indications were that they were not working at this time but were waiting to see results from the first shipment.

HUGH HULLINGER, BATTLE MOUNTAIN, NEVADA

Tried to contact Mr. Hullinger, who has in the past shipped various material to Selby. He was not in town but was told that he is now mining turquoise.

CARLIN GOLD MINING, CARLIN, NEVADA

This property is located about twenty miles north of Carlin, Nevada.

Mr. Roland W. Merwin, Manager, was very cordial and together with Mr. Paul Stucker, Mill Superintendent, took us through the mill and out to the open pit operations.

Stripping is contracted, but mining is done by Carlin Gold. They can mine up to 4800 tons in an eight-hour day and have a large stock pile ahead of the crushing plant. The crushing plant, consisting of a large jaw crusher, and a Symens Cône Crusher, is closed circuit with a screen of about one inch, handles 2,000 tons per eight-hour day. This product goes to fine ore feed bins with a capacity of over 2,000 tons. This product then goes to a large ball mill where ore is crushed to about 35 mesh. Cyanide is added at the crusher and the product passes through a series of agitating tanks and settling tanks, being in process about sixteen hours. The solution is then clarified, deaerated and zinc added for precipitation. Precipitates are pressed and then melted in a Rockwell furnace, lined with Carbofrax and poured into bars. There is no dust collection from these furnaces.

The mill is a beautiful piece of construction with everything fully automated and operated from control panels. At the present time there are two men in the crushing side for one shift a day but they believe this can be cut to one man. In the mill side, there are three men a shift but eventually they believe two men can handle this. There is a fairly good sized maintenance crew for the shovels and trucks required for mining, and what appeared to be adequate shops for repairs. The men principally live in Carlin and the company runs a bus from Carlin to the mine with no expense to the men. In an election the men voted in favor of organizing under the Operating Engineers and they are in the process of negotiating an agreement. The total number of men is about 60.

Bechtel Corporation of San Francisco designed and built the mill, and had it going in less than a year after the contract for design was let.

Mr. Roland W. Merwin, the manager, was formerly with ASARCO at the Neptune Unit in Nicaragua.

In their laboratory they have the very latest equipment including Heusser Neweigh Pulp Balance, and atomic absorption spectrophotometer. They use

this for their control samples for gold and can obtain an assay for gold in less than 30 minutes, with several hundred per day. All tests have shown this piece of equipment to be very accurate.

I asked regarding shipment of bullion to Selby and was told that their New York office insisted the gold be shipped to the U.S. Mint.

JUNE 22, 1965

A. H. HUBER, ELKO, NEVADA

Mr. Huber had previously submitted assays on a property north of Elko that looked promising. He said that the heavy rains this year had prevented any work, but he hoped to have a leaser working on this property before long and would let me know when they might have a shipment.

Mr. Huber also owns an SiO_2 property near Montello being operated by Jim Reid and said there is a mine containing bismuth near by. I tried to contact Mr. Reid while in Montello but he was out of town.

JUNE 23, 1965

MARK M. ENGLEDOW - GOLD NOTE AND 86 MINE, MONTELLO, NEVADA

This property consists of three patented claims and four unpatented claims in the same area as the Delno and Cleveland Mines, about 40 miles north of Montello. While these properties were originally underground operations, in some places by use of bulldozers they have been able to expose the veins for open pit work. However, this is only a temporary situation since the veins pitch steeply into the hill, and will eventually have to be mined by usual underground methods. At the present time only Mr. Engledow and his son, with possibly one or two other men, are working and I do not anticipate very much from this property.

KAY KIMBER

This man previously shipped from one of the above claims but is no longer working at this property.

NORMAN LUDWIG

Mr. Ludwig also worked with the Engledows but has now taken a lease on the old Jackson Mine and may have some shipments. Mr. Ludwig was out of town so I could not contact.

ALA & DAZ - DELMO MINE

John Ala is still working for the Southern Pacific during the week, but is working at getting the mine in shape on week ends. He was out of town while we were in Montello. I was told that he is considering putting in a mill but since there is no water in that area, this does not sound very practical.

HAL JENSEN, ELY, NEVADA

Talked with Mr. Jensen, who has previously shipped to Selby, and he suggested we stop at the Tybo Mine out of Tonopah, which is now owned by the Carson Land Company of Hughson, California, and managed by Robert Jensen, brother of Hal Jensen (see Tybo Mine).

Mr. Hal Jensen said that a rail rate has been established from East Ely, Nevada to Salt Lake City of $4.50 per ton on all valuations. This rate was established at the instigation of Silver King Mines, out of Ely. He said that some ore or concentrates were being shipped by Silver King Mines to Tooele but there was not much other activity in the Ely area.

RUBY HILL MINE, EUREKA, NEVADA

We had originally planned to go by Eureka to see what we could find out about this property, but due to limited time, decided it would be better to go directly toward Tonopah and visit the Tybo Mine.

We received rather conflicting reports on the Ruby Hill. Mr. Merwin of Carlin Gold, which is Newmont Mining Company and who have an interest in Ruby Hill, said he had heard that while they have the water beaten in the Fad Shaft, their development work had not been too successful. While they had hit some good ore, they had also hit a massive body of straight iron pyrite. Hal Jensen also said he had heard that things were not looking too good. However, a copy of the Nevada Mining Association News Letter showed that they had hit ore assaying 44 ounces of silver, 35% lead, 13.4% zinc and 8.5% copper.

JUNE 24, 1965

TYBO MINE, TONOPAH, NEVADA

This property is located about 62 miles east of Tonopah and about 8 miles north of the highway. This is a very old mine first operated in the 1870's, at which time there was a smelter on the site. Slag from the old dump was shipped to Selby during the war by Hall Bros. During the late 20's and 30's deeper work went into sulphides and lead and zinc concentrates were produced, the lead concentrates going to Selby. The Jensen Brothers took this over a few years ago and claim to have put about $20,000 into the mine but were unable to make a go of it and have leased it to the Carson Land Company with Robert Jensen as Manager.

From the present shaft there are three levels open, the upper two in oxidized ore and the third level in sulphides. Mr. Jensen believes he can produce an oxide ore assaying about 0.10 oz. gold, 5 - 6 oz. silver and 5 - 6% lead, at the rate of 500 to 600 tons per month. He believes the sulphide ore will run about .06 oz. gold, 20 oz. silver, 9% lead and 9% zinc. This ore will run around 45% SiO_2.

We took some samples of ore, which has been recently mined, and I told Mr. Jensen that possibly we could offer terms that would permit shipment of this ore. They would prefer if possible to put in a mill to concentrate the sulphide ore, but in the meantime would like to have something coming in to offset their expenses. At the present time there are two miners and a hoistman working at the mine and they are taking out 20 to 30 tons per day. The hoistman, Byron Young, 487 East 4th North, Orem, Utah, also has some claims and said he might send some samples.

While at the Tybo we met Mr. V. J. Barndt who owned several leases in the same area. I had dealings with Mr. Barndt several years ago and I believe he made one or two shipments.

EAST TYBO MINE

Adjoining the Tybo property is the East Tybo Mine operated by Ronald Allison. We tried to go to the mine but it wasn't being worked that day and the road was chained off. Mr. Jensen said they have small veins of high grade ore which are being trucked to Tooele, but no large ore body blocked out. Possibly if the Tybo starts shipping, we might get some of this ore also.

DAVID PRUETT - CORDILLERA CO., TONOPAH, NEVADA

Tried to find Mr. Pruett in Tonopah but there was no answer at his phone, and inquiries failed to reveal just where his mine is. Mr. Jensen suggested I contact Mr. Leonard (Felix) Traynor, Nevada State Mine Inspector, who is usually at the Tonopah Club, but apparently he was out of town, for we were unable to find him.

Since I had arranged to guarantee freight on a carload of ore from Mr. Pruett, I left a note for him to let me know when he planned shipment.

J. S. WISDOM, GOLDFIELD, NEVADA

Mr. Wisdom runs an assay office in Goldfield and prospects on the side. He has ideas of smelting various ores around Goldfield and shipping bullion, but so far his smelting has consisted of melting some ores down in a crucible, for a very impure bullion. He had some slag from an old dump near Lida, Nevada, which he claims will assay 84 oz. silver, 2 - 3% lead and 2 - 3% copper. We took a sample of the slag he had from this dump.

We also took a sample from some crushed ore he said was from the Leadvale Mine, out of Goldfield. Will have both samples assayed and report results to him.

JEANNE HOLT - BLUE DICK MINE, GOLDFIELD, NEVADA

Mrs. Holt had sent in a sample of a good grade of concentrates and telephoned in April that she would make a shipment soon. Mr. Wisdom advised that she had had a heart attack and was in a hospital in Las Vegas. He said that a man was working at the mine but had had trouble with the mill. He said there would probably not be anything from this property until Mr. Holt was out of the hospital. He said that they had good ore to mill.

FEDERAL RESOURCES CORP SIMON MINE, MINA, NEVADA

Inquiries in Mina revealed that a shaft about 1100 feet has been sunk in good ground next to the ore body and they are now ready to start drifting to check the ore body. No work will be done on a mill until they have developed the amount of ore available.

W. L. TOWE, HAWTHORNE, NEVADA

Called Mr. Towe and he said he was awaiting results on the small shipment of ore delivered at Selby the week of June 14th. If this turns out all right he believes he can ship more.

JUNE 25, 1965

PHIL HEATER, SR., FALLON, NEVADA

Mr. Heater has been operating the old Summit King Mine, out of Fallon, which he bought for taxes about four years ago. He has a small mill to which he hauls the ore and claims he can easily obtain all the $20 ore he wants. However, with the size of his mill it is not economic for him to continue operating and at present he is doing carpenter work in Yerrington. He said he would probably start up again next winter.

CLAUDE LOVESTEDT - ZACA MINE, MARKLEVILLE, CALIFORNIA

This mine is right next to California Highway 89 between Markleville and U.S. Highway 395. The mine is on one side and the mill on the other side of the highway. When we were there the mill was down due to repairs to the Diesel Electric plant, but it was just about repaired and Mr. Lovestedt said he would have some more concentrates next week. At the present time, this mine is being worked from an adit in the side of the mountain but Mr. Lovestedt says examinations indicate a large, relatively low grade gold ore body which could be mined by open pit methods. He says there is a good mill site available with plenty of water.

A copy of a geologic report was given to me to send to our Mining Department to see if they might be interested. He said that Mountain Copper Company had sent someone out to look, and that Bear Creek Mining (Exploration subsidiary for Kennecott) were to have some men there to examine it.

The Zaca Mine is owned by H. B. Chessher of Reno but leased by Lovestedt who also has adjoining claims.

Mr. Lovestedt also has a claim over the Nevada line which is a lead ore. We brought a sample back and if good enough, he will ship direct. If too low grade, he will mill the ore and ship concentrates.

GENERAL

The outlook for appreciable quantities of low grade fluxing ore is not too favorable unless we can work something out with the Tybo Mines. The location of this makes it difficult since they have about a 130 mile haul from the mine to Ming, plus the rail freight to Selby. It is estimated the total freight will be $14 to $16 per ton, so the ore will have to hold to a fair value.

I do not look for too much from the Montello area, although I still have hopes of getting our loan back from Ala & Daz.

Shipments from the Midas Gold Mining Co. will depend on results of the first shipment.

We drove a total of 1,741 miles with good weather most of the time, with some showers Thursday and Friday. Nevada has had a lot of rain and everything is green.

Yours very truly,

George H. Playter

GEORGE H. PLAYTER

GHP/sa

J. A. Snedden
Tucson Ariz
9-3.6

U. S. MINING DEPT.

MAY 14 1965

TUCSON

MR. RKK
READ AND RETURN SELBY PLANT
PREPARE ANSWERS May 11, 1965
HANDLE
INITIALS

Roger: Playter thinks we should have a look at Queen of Sheba. They want an advance for the smelting Dept.

MAY 21 1965

J. H. C.
JUN 16 1965

RKK
8-3-65 (handled

Mr. J. T. Roy, Manager
Selby Plant

Dear Sir:

ORE BUYING TRIP

On Sunday, May 2, 1965, I flew to Las Vegas, Nevada, rented a car and spent Monday and Tuesday visiting properties in that area.

MOHAWK MINE - Valley Wells Station, San Bernardino, California

On Monday, May 3rd, I called at this mine but did not find the Heinecke Brothers there. A Mr. Emerson Ray, whom I had met several years ago when he was connected with this mine, was out there looking for old records where the cabin had been dismantled. Mr. Ray said he was interested in obtaining some portions of this property, and if he was successful might have some ore to ship. However, Mr. Ray is not a miner and I do not expect anything from him.

On Tuesday, May 4th, when returning from Death Valley, I stopped again and found Messrs. Herman and George Heinecke working in the mine. They are doing some development work at the present time, but believe they have a good sized ore body outlined and expect to start shipments within the next few weeks. They advise their samplings all show only 6% to 8% lead with some silver, about 0.5% Cu and some zinc. Even if they are successful in obtaining the new freight rates from Cima, it will be a marginal operation and they asked if the terms offered which called for a treatment charge of $1.00 per ton on values up to $12.00, could be extended to $20.00, before adding 50% of excess. I agreed that I would make this change, at least until such time as a few shipments had been received. They expect to be able to ship about two 70-ton cars per week when they get started.

The Mohawk Mine is located just off Highway 91 which is now a freeway from Las Vegas to Baker, California. The old road from the highway is now fenced off, due to the freeway, so it is necessary to go to the Cima overpass and turn right about one-quarter mile to the Valley Springs road. Turn right on old black top road, parallel to the freeway about five or six miles to the mine.

Heinecke Brothers operate an open pit mine in Idaho and ship lead-silver concentrates to Midvale, but due to weather conditions can only operate about four months out of the year. They have considerable open pit equipment and are looking for an operation in the desert that can be operated the year around. The Mohawk is not amenable to open pitting so it will be an underground operation. I was quite impressed with these men and told them if I had any inquiries regarding a possible open pit operation, I would refer the inquiry to them.

RUBY S MINING ASSOCIATES - Mr. Terry Trout, Baker, California.

I made several inquiries in Baker as to the above, but was unable to find anyone who had heard of either.

MONTE CRISTO MINING CORP. - Jubilee Mine, Death Valley, California

To reach this mine, take the Salsbury Pass road off California 127, about two miles north of Shoshone. Follow this road over Jubilee Pass to the old Ashford Mill (Ruins). Shortly before reaching the Ashford Mill there is a water tank for radiators, and just south of this tank is a road to the right leading to the mine. The road leads to a very deep canyon and the mine is on top of one side of the canyon, which is reached by an aerial tram. The hoist is on the other side of the canyon, and all ore is brought down in a bucket that holds about 1,000 pounds. The day I was there, May 3rd, the hoistman said the ore was lower grade, about 30%, but that they were cleaning out ore that had been left by previous miners, and expected to be in a good body within a few days.

On May 4th I talked with Mr. Walter Rosenthal on the telephone, and he said that eventually they hope to run a drift that will make the ore more accessible and could then possibly afford to ship a lower grade ore.

PACIFIC INDUSTRIAL MINING CORP. - Rob Roy Mine, Tecopa, California

I had had a telephone call from Mr. Chez regarding possible shipment of ores or concentrates, but had no address. Mr. Rosenthal said he had been with Mr. Chez that afternoon and discussed this property. It is located south of Shoshone, out from Tecopa. The ore contains considerable zinc and it will be necessary for them to mill it before it can be shipped. Mr. Rosenthal said he doubted if a clean zinc concentrate could be produced, and this product would probably have to go to International at Tooele, so some payment would be received for the zinc. He said it is possible we might be able to get the lead concentrates if the mill goes into operation. Mr. Rosenthal said he would have Mr. Chez get in touch with me.

Mr. Rosenthal also said he has several thousand tons of tailings in the Goodsprings, Nevada area, and at the present time working on a process for concentrating these as a possible flux for International. He said the values might not be too high but they would contain appreciable lime. I asked Mr. Rosenthal to let me know what he produced as we might be interested.

GENERAL MINING CORPORATION - Queen of Sheba Mine, Death Valley, California.

To reach this property, take the gravel road that turns off the Salsbury Pass road at Ashford Mill. Follow this road for about ten or twelve miles to a green clump of trees with a large water tank and a pump. Road to the left goes to the mine, about 3.7 miles straight up on a very rocky road.

This property is being worked by open pit methods. Roads have been built up the side of the hill and Traxcavotrs and trucks are used for mining and hauling. At the time I was there they were in a good rich body of ore and were hand sorting the better grade for direct shipment to Selby. They have a mill consisting of jaw-crusher, rod mill and tables, but according to a Mr. Grubaugh, who had been hired as a consultant to get the operation going, everything was in very bad shape.

This operation is financed by a Mr. Tom Hill, a young man from Dallas, Texas, who knows nothing about mining. From what I heard he is in about $130,000 to date, most of which has been put up by his father. His father has now told him that there isn't any more money until something starts coming from the mine. Hence the hand sorting of ore for shipment.

I was told Mr. Hill was in Las Vegas and I tried all Tuesday afternoon and evening to reach him, as well as Wednesday morning, but apparently he was at the mine. I feel there is a chance he might want to ship some lower grade ore to tide him over, and left a message for him in Las Vegas.

The consultant I met seemed very capable and possibly he can get it straightened out. They seem to have good ore if they can just get it through the mill. He claimed they could easily average 6% to 7% heads for the mill.

This whole deal could blow up on short notice, but with the work done in building a road, laying a pipeline for four miles, etc., probably some one else will take it up.

WM. E. SMITH - Las Vegas, Nevada.

Tried to telephone Mr. Smith, but a Mr. Robert Geer, who is an old friend of Bob McGeorge's, answered the 'phone. He said Mr. Smith was at the mine which is located south of Cima. He said he is gradually accumulating some concentrates in his garage, which, if they are like a sample submitted, will assay about eighty ounces of silver per ton.

Mr. Geer said that due to an illness, he is no longer able to mine, but he still has some leases which he feels could stand development. He has a copper property, and a lead property near Cima, both of which he feels have good possibilities. I gave him the name and address of Heincke Brothers and suggested he have them look the properties over.

TONOPAH CHEMICAL SILVER CO. - Tonopah, Nevada.

We have had a shipment of precipitates from this company since September 1963. At the time of shipment we received an assignment to Don Sada, Las Vegas, for payment of the proceeds. Since Tonopah Chemical Silver Company does not have a gold license, we have been unable to handle this material and despite many letters to Mr. Gillice who shipped it, we have been unable to get permission to handle.

Recently, the Internal Revenue Service telephoned regarding the shipment, apparently looking for the values to cover past taxes of either Mr. Gillice or the Tonopah Chemical Silver Company. I telephoned Mr. Sada regarding this, advising that the IRS was interested and that ASARCO did not want to get involved in any suits covering this shipment. Mr. Sada said he would consult his lawyers to see what could be done to protect his loan.

GENERAL

I believe the trip was well worth while and that mining is picking up. As stated above, I was quite impressed with the Heinecke Brothers. They do the work themselves and have the necessary equipment. If the Mohawk does not pan out they will probably find something else for they seem determined to find something in a more favorable climate than Idaho.

The weather was good with some showers around Baker, and cool weather in Death Valley.

Very truly yours,

GEORGE H. PLATTER

GHP:es

cc: RLHennebach
ALHatch
CENelson
WGRouillard
TASnedden
JFTrost
RFWelch
BKShedd
JNLambe
AALawson
Trip File
Extra

Mr. J.H. Courtright

J. H. C.

JUL 30 1965

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 28, 1965

Mr. T. J. Woodside, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
COLORADO - JULY 19-23, 1965

Last week I spent time in Denver and then drove through the mining districts, winding up at Telluride. In a visit with Messrs. Coats and Miles at Globe Plant I learned there is very little activity coming to their attention. There is some talk about renewed mining activity but very little production has materialized in the Front Range area.

1. Pan American Petroleum Co. with office in Security Building, Denver, has been doing some exploration in Alaska. I called Mr. Russell Bryant, Jr., (Tel. 292-5050) local manager, to advise Asarco would like to provide an outlet if production results from present exploration work. Mr. Russell was reluctant to discuss the exploration project but advised his company has had some success in a silver-lead property located 450 miles south of Anchorage. I gave him addresses of our New York office and of Southwestern Ore Purchasing Office so that he may request purchase terms when the project justifies such inquiry.

2. Homestake Mining Co., 1331 Glenarm Place, Denver (Tel. 255-0376) is doing exploration by diamond drilling and adit work at the Bulldog Mountain property west of the Emperius Mine structure. Bulldog Mountain claims are owned by Bulldog Mountain, Inc., controlled by Manning W. Cox of San Francisco and Aspen. Humphreys Engineering explored this property by drilling two or three years ago.

In Homestake Mining Denver office I talked with Ted M. Ruzzi who is manager and in charge of the Bulldog Mountain project. Bud Ames is superintendent at the property. Mr. Ruzzi asked our interest in obtaining a 200 pound sample for metallurgical test work and I told him I would advise him at a later date.

While at Golden I visited Mr. Crabtree at the Colorado School of Mines Research Foundation. Mr. Crabtree advised me he has a contract with Homestake Mining to make mill tests on Bulldog Mountain ore.

While at Creede I visited Bud Ames, drove to the adit level and observed the pile of ore accumulated. This is silver with a small amount of fine-grain galena with quartz and barite gangue.

Homestake Mining Co., Con't.

The adit has been driven as a crosscut westerly 750 feet, where it intersects the Puzzle vein which strikes North 10-15° West. Homestake has drifted along the Puzzle vein 2300 feet. This structure impinges in strike length on the Bulldog Mountain vein where projection to 2800 feet should bring the two structures together.

The last 750 feet of the drift has been showing ore 4-7 feet wide which may average about 30 oz. Ag. This work is being pressed in a northwesterly direction to the possible intersection. Similar structures in the Emperius Mine have been very productive.

Mr. Ruzzi was in Creede when I visited the property and again asked our interest in performing test work on a sample. I think such metallurgical tests would be valuable information for us and will discuss this with Mr. Weiss to determine if his department can conduct the tests.

3. Squire Mining Co., Barrett Property, Magdalena, N. M. Mr. R. L. Squire advised me they have drilled the Clarence Barrett property west of Magdalena, New Mexico, and some of the results obtained indicate commercial quantity of Ag-Pb ore. I asked Mr. Squire to provide us with samples or core assays so that we might evaluate the anticipated production.

Mr. Squire reports they have under lease the mineral rights of the Ortiz Grant, New Mexico. Mr. Behunin is working the placer deposit and making some gold recovery. Mr. Squire thinks Behunin is under-financed. He reports our exploration men have been in the area and talked with Mr. Behunin. I suggested that Mr. Squire discuss with Mr. Courtright interest our Exploration Department may have in the Ortiz Grant area.

The copper-lead deposit known as Copper Spur in northwestern Colorado is now under the control of Mr. Hughes of Denver. Messrs. Squire and Stepelton attempted to interest their partner, Mr. Porter, in financing development of this property; but he was not interested. Squire Mining Company has located claims in the area adjacent to the Copper Spur.

4. Standard Metals Corp. has moved its office from Moab, Utah, to the Petroleum Club Building, Denver (Tel. 263-6221). Boris Gresov is President and Chairman of the Board with office in New York; A. C. Melting, Vice President in charge of mining, is in the Denver office. William Waldeck, Executive Vice President, has an office in Grand Junction. Ed Larson, formerly Chief Clerk at Silverton, has been moved to the Denver Office. T. W. Newell is Resident Manager at Silverton; Gordon Bruchner,

Standard Metals Corp., Con't.

Mine Superintendent; Aldo Bonavido, Mill Superintendent.

I obtained the following information on production for June, 1965:

	Tons	Au	Ag	Pb	Cu	Zn
Crude Ore Milled	15,000	.0183	1.65	2.8	0.28	7.0
Lead Conc.	520	.36	28.25	62.0	5.1	8.2
Zinc Conc.	1,700	.02	3.2	3.66	0.63	56.3

The zinc product was shipped to Anaconda, Montana; the lead, to Tooele, Utah.

Return from sale of concentrates	$490,545
Less Freight and Treatment	239,572
Net at Silverton	$250,973

Standard Metals production is purchased by United States Smelting Co. on terms of Asarco offer. The zinc concentrate shipped to Anaconda is liquidated on the basis of Amarillo delivery with excess freight charge for account of United States Smelting Co. From the net at Silverton indicated above, mining and milling costs must be deducted which apparently leaves a very small margin of profit, and decrease in metal price could make operation uneconomic.

Ore reserves in the Sunnyside Mine are in excess of 1.5 million tons positive ore, with total 2.9 million tons including probable and inferred. Average width is 20 feet with swells up to 40 feet wide. Vein walls stand without sloughing for dilution and offer cheap mining method. In spite of these favorable conditions, Standard Metals within the next two years expects to increase mill capacity to approximately 1,000 tons per day which would allow continued operation with better profit margin and sustain the property with drop in metal prices. Some thought has been given to installing sink-float at the tunnel to increase the grade of mill feed, but economics of installation at this time is hardly justified.

In Standard Metals Denver office I talked with J. M. Ruby who advised that company is still very much interested in construction and operation of the Imperial smelter.

Standard Metals holds some property above the Keystone Mine at Crested Butte which is not large enough for company operation. They are investigating claims north of Crested Butte in the vicinity of the Daisy Mine, possibly the Daisy Mine, which belongs to Combined Metals Co. Either or both of these properties

Standard Metals Corp., Con't.

may not be of interest for operation by Standard Metals and inquiry was made about the success of Keystone Mine operation leased to McFarland & Hullinger.

Tom Newell of Standard Metals advised me they are interested in taking over the Antler Mine, near Yucca, Arizona, owned by Yucca Mining & Milling Co. Yucca stockholders in the past have asked too much to interest exploration, but the Antler Mine is now receiving serious consideration by Standard Metals. I understand the property is now under control of Tom Newell. To resume production a new mill will be required at Yucca.

5. Cascade Mining Corp. There is very little activity at Idaho Springs with the exception of leasing operation at the Cascade Mine by the Wolcott brothers. In May and June El Paso Plant received 414 tons from this operation, assaying:

Ag	Pb	Cu	Zn
24.8	.6	.1	1.5

This tonnage was pulled from stopes left by Humphreys Engineering operation and, according to Mr. Peek, represents some caving of vein walls up to 40 feet in width, all of which was shipped. Preparation is now complete for breaking new ore below the Cascade tunnel level. This will require hoisting, but the ore will be higher grade than previous production. Demand for finances to maintain operation suggests that return from shipments is not sufficient to keep the miners well paid and dissatisfaction between lessor and lessees is apparent.

6. Cotter Corporation at Canon City plans to erect a sink-float plant to handle ores and dump material from various mines in the Silver Plume area. This product would then be concentrated in the Cotter mill at Canon City. Since Cotter Corp. lost its contract for yellow cake, the company is concentrating attention on custom lead-zinc ores tributary to the Canon City mill. I advised Mr. Marcott he might find considerable tonnage for concentrating at the Cascade Mine. The Canon City mill is about 50 tons per day capacity. Some lead concentrate from this operation has been shipped to El Paso

1965	Dry Tons	Au	Ag	Pb	Cu	Zn
February	34	.05	65.7	43.2	6.3	8.3
June	122	.027	51.8	48.1	1.8	12.0

Current zinc production contains some copper; and because of payment for that metal at Amarillo, Mr. Marcott will ship the zinc concentrates to our plant.

7. Reed Johnson, Bonanza Route via Villa Grove, has reactivated No. 2 tunnel of the Rawley Mine and hopes to receive finances soon to assist him in reactivating the No. 12 tunnel. Heretofore Mr. Johnson has shipped his production to Midvale and more recently to Cotter Corporation mill at Canon City. Ore from No. 2 tunnel is now hauled to the mill built in the 1950's by Superior Mining Co. The irregular mill operation produces some lead and zinc concentrates; but because of the small quantity of each and need for finances, Johnson has been mixing the two products and sending bulk concentrates to Tooele. United States Smelting Co. has been accepting the Rawley Mine product even though the smelter is closed by strike. On receipt of bill of lading they have been advancing 70% of the value on the basis of Johnson's assays. I advised Mr. Johnson we could not make advances on this basis, but would send percentage of value on receipt of shipment and sampling at our plant. He reports concentrate assays:

	Ag	Pb	Cu	Zn	Fe
Zinc Conc.	5.5	3.4	0.85	51.0	5.0
Lead Conc.	27.0	48.6	3.05	12.5	8.6

8. Silver Wing Mining Co. Mr. Christie, Manager of Silver Wing, has sold 50% interest in the Pride of the West mill to Northwood Inc. There is a small amount of copper ore remaining in Silver Wing Mine which does not justify mining and the company is embarking upon a small amount of exploration on lead-zinc intercepts with the hope of producing ore for treatment in the mill. It is hoped this ore will be available in about three months.

9. Northwood Inc. At present the Pride of the West mill is treating ore from the Osceola Mine held by Northwood Inc. Mr. Wigglesworth, Mill Superintendent, indicates Osceola Mine product is not very satisfactory for economic operation. Ore from surface cuts is being treated in the mill. Assays are reported as follows:

	Au	Ag	Pb	Cu	Zn
Heads	.03	1.37	3.2	0.5	3.2
Non-sulphide			1.0		.2
Lead Conc	.40	22.8	51.8	8.4	5.8
Zinc Conc	.01	8.1	18.0	1.2	39.6

The zinc product is hardly marketable and must be sold to United States Smelting.

Northwood Inc., Con't.

Former operators of the Osceola Mine went broke but produced satisfactory concentrates, assaying:

	Au	Ag	Pb	Cu	Zn	Fe
Lead Conc	.38	15.7	48.2	8.2	4.9	12.0
Zinc Conc	.03	2.32	1.8	1.6	56.8	3.6

This indicates the Osceola sulphide ore can be concentrated for marketable products. Mr. Wigglesworth doubts, however, if the ore can be produced in sufficient quantity to realize good metallurgical recovery. The superintendent at Osceola Mine was formerly with Standard Metals Corp.

10. Joe Cox, Equity Mine, Creede This property, up the canyon above Emperius Mine, is operated by Lesley Turnipseed and Joe Cox, producing silver ore. A sample recently submitted to El Paso assays:

Au	Ag	Cu	SiO2	Fe	CaO	Alumina
.08	24	1.0	76.8	3.0	0.8	0.7

A carload of this ore is being shipped to El Paso Plant.

11. Emperius Mining Co. Mr. Hayden in the Emperius mine office at Creede reports that purchase terms for zinc concentrates going to Blackwell are a big improvement in return to the mine compared with shipment to Amarillo. The only objection to the present arrangement, he indicates, is in dealing with a third party. More time is now required for liquidation of concentrates.

12. Idarado Mining Co. has been doing well. Production is down somewhat in July for vacation periods. Scarcity of miners is still a handicap to the operation. Ore reserves are being increased. Cross faulting, formerly not expected to be productive, is now giving impetus to discovery of ore above and below the conglomerate, making sizeable deposits of good ore in the red beds (Cutler formation). Concentrate production will be back to normal after July vacations.

At Telluride I visited with Kenneth Tatman, Idarado Mill Superintendent, who has few complaints. There were some comments on dry weight comparisons. This problem will be reviewed for further discussion. Idarado is hopeful that umpires on cadmium in the future can be determined with less delay.

13. John Barrett, Keno Mine: I have had correspondence with Mr. Reinhardt, Consulting Engineer of Grand Junction, regarding the Keno Mine which is just north of Red Mountain at Ouray. These claims were acquired by John Barrett of New Jersey during the uranium rush. Barrett knows little about mining but has been successful in obtaining finances from Joseph Desloge, President, Killark Electrical Manufacturing Co., 3940 Eston Ave., St. Louis, Missouri. The property is pretty well equipped with compressors and mining machinery. Barrett is looking forward to getting motorized trammers.

The Keno adit has been advanced 750 feet. In this development work Barrett expects to obtain enrichment of the ore, although he has been in sulphides almost the entire length of the adit. Reports from Mr. Reinhardt indicate 30,000 tons of ore developed in a vein 3.5 feet wide which can be concentrated to products assaying:

	Ag	Pb	Cu	Zn
Lead Conc	50	50	12	
Zinc Conc				48

Ore observed in the bins appears to be very low grade and I am surprised at the optimistic report on concentrate assays.

To the east and approximately 700 feet higher in elevation along the same vein Reinhardt recommended that Barrett do some surface work. This has opened up a small high grade occurrence of Ag-Pb oxidized ore. From this showing Barrett has stockpiled 10-12 tons assaying 200-400 oz. Ag. He feels this surface work was a waste of time and is hopeful of finding high grade somewhere in the face of the Keno adit.

14. Federal Resources Corp., Camp Bird Mr. Bailey, Superintendent at Camp Bird, was underground at the time of my visit. I didn't contact him later inasmuch as negotiations for concentrate contract renewal will be conducted in the Salt Lake City Office.

Camp Bird is preparing the mountain side for a new tailings pond disposal since the old site is almost filled. The mill is expected to start operation next month, but Federal Resources has not yet obtained a mill superintendent. Their former mill man is on a foreign job in Iran and will not be available for several months. The mill will probably be started with the assistance of a consulting metallurgist.

At Silverton I met Mr. Prosser of Denver who advised Federal Resources has an agreement on the Dora Mine at Silverton. This was confirmed in a telephone conversation with Mr. Stalheim after returning to my office.

15. Carl Dismant, Bachelor Mine: For the past two years Dismant has been reactivating the Bachelor mine and mill. Last year he milled ore from the Seniorita Mine operated by Willreed Mining Co. and attempted to concentrate the Bachelor ore.

The first shipment of concentrates from Seniorita Mine did not pay costs; and, at present, there is no activity at the Seniorita or Bachelor properties.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
KDLoughridge
MECoats
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

Mr. J.H. Courtright-1

MR. ~~WES, RKE, SUP, JDS~~ JER

READ AND RETURN

PREPARE ANSWERS ..... HANDLE

FILE ..... INITIALS

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 30, 1965

J. H. C.

MAY 3 1965

Mr. T. J. Woodside, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
APRIL 1965

1. Padre Kino Mine, Carl Self: On April 20th I made a trip to Yuma to determine the tonnage potential of the Padre Kino Mine (formerly known as the Saxon, later as Dives) renamed in 1963 by Carl Self, present owner. This property is in the vicinity of the Clip Mine.

The old workings in the Padre Kino consist of two shafts, each 40 to 50 feet deep, with a small amount of drifting to the north. About 10 feet below the collar of one shaft the drift extends 30 feet to the face of ore. In this drift samples taken by Mr. Self averaging 8 to 9 feet wide, assayed by Jacobs in Tucson, show 21-50 ounces Ag per ton, 8 to 9% Pb.

On the surface there is a breccia zone 10 to 15 feet wide between walls that indicates some mineral content with some barite gangue material. Although Mr. Self reports continuity of the vein extending to the north from the shaft area, it is badly eroded and I did not trace it much beyond 100 to 200 feet.

It is quite obvious Mr. Self is far from being in a position to start shipments. He is now of the opinion he would be better off to lease the Padre Kino property.

2. Lyman Wall for the past few years has made occasional shipments of lead concentrates from claims in the Castle Dome district. At the time of my visit Mr. Wall and three workmen were engaged in mining, crushing, screening and tabling the product with the expectation of sending another trucklot to El Paso in the near future.

3. Castle Dome Mining Co. In the same area, Mr. T.D.Buder, a young man without mining experience, has assembled a contraption he calls a mill for retabling tailings from a previous operation. The equipment was assembled with the assistance of Lyman Wall and resembles Mr. Wall's mill. Neither installation will operate for more than short duration between breakdowns. Mechanically the plant is impossible; metallurgically it is a failure.

Mr. Buder reports Castle Dome Mining has spent $50,000 and realized nothing in return. Some financing has been supplied by Mr. Buder's brother in Fort Worth, Texas, with interests in oil. Buder has become discouraged and is leaving the operation to three men with pointed beards who know nothing about mining. I

Castle Dome Mining Co.,Con't.

understand Mr. Buder expects to move to Lake City, Colorado, where he hopes to open up a lead-zinc mine. He still holds an interest in Castle Dome Mining and thinks it will pay off. His interest in the property was brought about through Philip Kennedy and brother who obtained 5% royalty from Buder, half of which was later assigned to Mr. A.Park Smoot of Salt Lake City. Two or three small trucklots of lead concentrates have been delivered to El Paso and 5% royalty has been deducted from settlement and held at the smelter. Mr. Buder's attorney is William Waldeck of Grand Junction who has advised Buder to dissolve the partnership, which will bring a halt to the operation.

4. Magic Mine, Wilkinson & Walsh: This property in the Harquahala Mountains, about 12 miles southeast of Salome, has been acquired on a purchase contract from D.D. Seely by Messrs. J.R. Wilkinson and H.L. Walsh who are living at the property mining gold-silver ore. They are accumulating a small tonnage daily in preparation for shipment to El Paso, loading on the railroad at Wenden. Present mining is no more than scabbing remnants left from previous operations. Mr. Walsh reports they will be doing some development work now that the mine is in pretty good shape.

5. Commercial Mine, Skull Valley. McFarland and Hullinger have obtained a lease from Phelps Dodge Corporation on this property in Copper Basin east of Skull Valley. McFarland and Hullinger have been supplying silica from Little Hill-Del Oro, which is satisfactory flux for Hayden but contains higher silica than is desirable. To reduce the silica in this and flux from Little Hill Mines we are purchasing the Commercial Mine product assaying 1.7 to 2.0% Cu. This ore mixed with high-silica flux has proven satisfactory at Hayden and we have agreed to accept 30,000 tons of Commercial Mine production. To eliminate congestion in the crushing department at Hayden, shipper is presently engaged in installing a crusher and will deliver minus 2-inch product to suit our convenience.

6. Shattuck Denn-Iron King Mine, Humboldt. This property is producing maximum tonnage the working facilities can accommodate. March production was 31,563 tons of crude ore, the highest production the mine has accomplished. The mine management is diligently proceeding with development work on the lower levels and shaft sinking, now about 2800 feet below the collar. Current ore production is being drawn from the 23rd level. The increased rate of production requires a new level to be ready for mining every 9 months. The 24th level is being pushed forward and will be ready for production when required. The 25th level has not yet been started from the shaft.

Ore produced in April is about 20% lower in metal content than previous production. This may be the result of broken condition in the mine or caving of stope walls. Mr. Sundeen, Manager at Iron King, is worried about the drop in values and is doing his best to alert all sublevel mine control to be sure the dilution is not the result of improper drilling and blasting. It is doubtful if April production will break even economically because of dilution.

Shattuck Denn, Iron King-Con't

Iron King is having trouble getting rail equipment for loading. Railroad car shortage is being experienced also at Kingman and Skull Valley. Use of solid-bottom equipment for shipment of Duval-Mineral Park concentrates to Tacoma is drawing off cars normally going to other shippers.

7. Bagdad Copper Corporation. While in Prescott on April 22 I visited Roxie Webb, a Director of Bagdad Copper. He reports the directors are enthusiastic with the way Bagdad is progressing and David Lincoln is important in directing the business.

In letter dated February 2, 1965, Bagdad Copper Corporation advised us the copper powder plant will be constructed at Bagdad. According to Mr. Webb, the capacity of this plant will be 10 tons per day of powder copper which will require approximately 350 tons per month of precipitates. With success of the 10-ton plant it is very likely Bagdad Copper will expand capacity for full consumption of the precipitate production, but there is no immediate prospect of losing more than about 350 tons per month of Bagdad precipitates.

Forecast for 1965 concentrate production at Bagdad is about 24.67 million pounds of copper.

Fry Mountain Mine, LeRoy Boyd & John Lembesis: On April 28th I made a flying trip to Hesperia, California, to examine a property known as Fry Mountain. In 1956 two small lots of sorted ore from Fry Mountain were shipped to Hayden --total 35 tons assaying 3.3 to 4.2% Cu with 83% SiO_2, 2.5% Fe, 2.6% Al_2O_3.

Mr. LeRoy Boyd of Fullerton has a lease on Fry Mountain property and has interested Mr. John Lembesis of Buena Park, California. The property is located in the Fry Mountains about 20 miles northwest of Hesperia. These men are not acquainted with mine interpretation and Mr. Lembesis could not properly describe the ore occurrence to me, but in continued search for source of copper fluxing ore I was interested in the possibility of this source as a substitute for flux now moving to Hayden.

I found the claims lie on a low ridge. The copper occurs in a quartzite horizon that forms a dip slope. The quartzite has been badly fractured and mineralized slightly with chalcopyrite and oxidized copper minerals for 4 to 5 feet in depth. Because most of the mineral is associated with the fracturing, any ore shipments will require careful hand sorting which would not be economical. The tonnage potential is too limited to attract our attention as a source of fluxing ore.

REED F. WELCH

cc: RLHennebach
ALHatch
CNWaterman
WGRouillard
KDLoughridge
EEGroff
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

WES, ~~LPE~~ ~~RKK~~, ~~SIB~~ S.I.B. NOV 30 1964

Mr. J.H. Courtright

L.P.E. NOV 10 1964

J.H.C. NOV 9 1964

W.E.S. NOV 25 1964

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 5, 1964

Mr. T. J. Woodside, Manager
EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION-9 MONTHS 1964
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Reports-Excluding Intraplant)

Lead Department	Tons Received-Nine Months 1964		
	Domestic	Foreign	Total
January	13,981	8,811	22,792
February	15,817	10,365	26,182
March	14,849	6,249	21,098
April	14,187	6,345	20,532
May	14,219	3,697	17,915
June	17,189	7,247	24,436
July	13,247	10,920	24,167
August	14,607	2,158	16,765
September	12,563	5,344	17,907
Total Nine Months	130,659	61,136	191,795
Copper Department			
January	22,060	-	22,060
February	30,617	164	30,781
March	23,745	144	23,889
April	25,384	588	25,972
May	15,093	327	15,420
June	20,902	352	21,254
July	20,639	735	21,374
August	21,580	433	22,013
September	20,642	399	21,041
Total Nine Months	200,662	3,142	203,804

Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	Total 9 Months		On Hand-Tons	
	Received	Smelted	1-1-64	10-1-64
Concentrates	107,314	116,067	25,479	15,564
Residue	66,236	64,955	1,766	5,406
Dust	12,301	14,234	4,195	1,934
Siliceous Pb Ore	4,149	3,884	161	288
Pyrite	-	-	826	826
Total 9 Months	190,000	199,140	32,427	24,018

El Paso Plant Receipts & Stocks, Con't.

Copper Department	Total 9 Months Received	Total 9 Months Smelted	On Hand-Tons 1-1-64	On Hand-Tons 10-1-64
Concentrates	155,109	159,338	9,820	5,918
Precipitates	12,848	11,926	894	1,355
Residue	12,628	13,240	3,504	3,193
Matte-Speiss	3	125	89	-
Scrap	1,276	1,405	92	16
Reverb Flux	230	469	66	83
Converter "	18,800	35,432	29,959	13,495
Total 9 Months	200,894	221,935	44,424	24,060

Siliceous Flux: Converter flux stocks have decreased approximately 16,500 tons since the first of the year. The Henry Clay-85 Mines at Lordsburg, principal source of flux in recent years, have been under development for the past 9 to 10 months with very little tonnage shipped. The 85-mine producer hopes to resume shipments in the near future, and with supplementary tonnages, should meet El Paso requirements in 1965. La Gloria Mine in Chihuahua has attempted to increase shipments of siliceous copper ore, but shortage of rail equipment in Mexico will not permit maximum production.

HAYDEN PLANT

Summary of Monthly Receipts (203 Report)

	Concentrates Asarco	Concentrates Custom	Concentrates Total	Flux	Total Receipts
January	13,091	6,680	19,771	5,312	25,083
February	16,302	4,599	20,901	8,163	29,064
March	17,251	6,263	23,514	5,528	29,042
April	19,412	8,810	28,222	8,574	36,796
May	22,665	6,646	29,311	6,753	36,064
June	18,198	6,326	24,524	6,955	31,479
July	18,355	5,535	23,890	6,546	30,436
August	16,904	5,965	22,869	5,987	28,856
September	18,092	7,902	25,994	7,066	33,060
Total 9 Months	160,270	58,726	218,996	60,884	279,880

Receipts & Stocks from 15-day Reports
(Estimated Tonnages)

	Total 9 Months Received	Total 9 Months Smelted	On Hand-Tons 1-1-64	On Hand-Tons 10-1-64
Concentrates	219,002	219,877	4,021	3,146
Reverb Flux	29,457	32,214	10,332	7,570
Converter "	31,374	34,170	14,624	12,036
Total 9 Months	279,833	286,261	28,977	22,752

Hayden Plant Flux: Requirements for converter flux are being taken care of by tonnage from Little Hill-Del Oro operations, augmented by some tonnage from miscellaneous shippers (about 2600 tons in nine months of 1964). Reverberatory flux continues to be supplied from Mammoth tailings.

TACOMA PLANT-Receipts Southwest-Colorado-

		Tons Rec'd.-9 Months	
Concentrates:	Idarado Mining Co.	5,367	
	Pima Mining Co.	12,698	
			18,065
Crude Ore:	New Jersey Zinc-Eagle Mine		18,292
Total 9 Months from Southwest & Colorado			36,357

ZINC CONCENTRATES

Summary Receipts Amarillo
Southwest & Colorado

	Tons Conc. Rec'd.		
January	6,348	July	6,220
February	6,605	August	7,219
March	6,462	September	5,982
April	6,358	Total 9 months	58,129
May	6,548		
June	6,387		
Total First Half	38,708		

COMMENTS ON SHIPPERS

Bagdad Copper Corporation: Receipts for the first 9 months 1964:

	Dry Tons	Ag-oz	Cu-%
Concentrates(Hayden)	31,054	1.4-2.2	24.6 - 34.8
Precipitates(El Paso)	7,250		80 - 83

The new 3-year contract recently concluded covers up to 4,000 tons concentrates, 850 tons precipitates per month. No change in production rate is anticipated at this time.

Banner Mining Company at Lordsburg deliveries through third quarter 1964 - 4726 tons with approximate average assays: Cu 26.6%, Au .23 oz, Ag 6.8 oz.

Cyprus Mines Corp.-Old Dick-Copper Queen: Copper concentrate shipments for 9 months of 1964 -

Dry Tons	Ag-oz	Cu-%	Zn-%
13,115	1.9	22.0	12 - 14

For the remainder of this operation--probably up to mid 1965-- it is anticipated copper concentrate production will be about 1100 tons per month with mill operation on 5-day week.

360
3240,000 Tons ore

52000 conc = 14000 Tons cu
= 28,000,000 lbs
= 8.6 lbs cu/Ton ore

Production Report
9 Months 1964

Duval Corporation-Esperanza: Production for 9 months 1964 -

		Dry Tons	Ag-oz	Cu-%
Concentrates	El Paso	42,336	2.7	25 - 29
	Hayden	10,567	2.7	26 - 29
Precipitates	El Paso	1,916		71 - 84

Emperius Mining Co., Creede, Colorado: Receipts for 9 months 1964-

	Dry Tons	Approx. Average Assays				
		Au	Ag	Pb	Cu	Zn
Lead Conc	3,104	.11	75.5	40	8.2	9.0
Zinc Conc	3,540	.02	6.9	1.2	.3	56.0

Emperius concentrates will continue moving to El Paso and Amarillo plants at approximately the same rate through April 1965. Thereafter this production will be purchased by a competitor.

Idarado Mining Co., Ouray, Colorado: Production through third quarter 1964:

	Dry Tons	Approx. Average Assays				
		Au	Ag	Pb	Cu	Zn
Lead Conc-El Paso	8,782	1.12	38.4	69.1	2.7	3.3
Copper " -Tacoma	5,367	1.26	23.6	3.2	27.3	6.8
Zinc "-Amarillo	16,493	.06	2.8	.9	.9	58.0

A new five-year contract has recently been concluded with Idarado Mining Company and it is anticipated concentrates will continue to move to our plants at approximately the present rate.

McFarland & Hullinger-Keystone Mine, Crested Butte, Colo. shipments for the first nine months of 1964 -

	Dry Tons	Approx.Avg. Assays				
		Au	Ag	Pb	Cu	Zn
Lead Conc	4,228	.02	83.0	32.9	8.3	8.0
Zinc Conc	5,652	.005	4.8	.5	1.9	48.0

New Jersey Zinc Co.,Belden, Colo., during 9 months of 1964 delivered following tonnages:

	Dry Tons	Approx. Average Assays				
		Au	Ag	Pb	Cu	Zn
Lead Conc-El Paso	5,399	.105	35.7	46.5	3.0	9.0
Crude Ore-Tacoma	18,292	.14	19.6	.9	3.8	3.5

New Jersey Zinc
Hanover Mill Lead production received at El Paso-9 months 1964

Dry Tons	Approx. Average Assays				
	Au	Ag	Pb	Cu	Zn
1,222	.07	27.0	59.0	1.7	9.0

Pima Mining Company: Production first 9 months 1964 received at El Paso, Tacoma and Hayden plants:

	Dry Tons	Ag-oz	Cu-%	Zn-%
El Paso	68,505	4.5	24 - 27	6.3
Tacoma	12,698	4.7	25 - 27	5.9
Hayden	1,846	4.3	26.7	6.7

Beginning in March 1964 Pima production in excess of 8500 tons per month has been shipped to Inspiration Copper Co. at Miami.

Rico Argentine Mining Co., Rico, Colorado: Receipts 9 months 1964:

		Approx. Average Assays				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	551	.02	26.8	66.5	-	5.2
Zinc Conc	928	.01	5.4	4.9	.5	49.6

Our purchase contract with Rico Argentine has been running on notice since the end of June. Rico Argentine has not as yet given notice of termination but has advised that a contract for future production has been signed with a competitor.

Shattuck Denn-Iron King: Production for 9 months 1964 -

		Approximate Average Assays				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	11,522	1.14	48.6	35.7	2.8	9.7
Zinc Conc	22,936	.08	2.4	1.6	.3	55.0

It is expected Iron King production will continue at about the same rate.

Standard Metals Corporation, Silverton, Colo. Receipts through third quarter 1964 -

		Approx. Average Assays				
	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	3,884	.172	23.4	65.9	3.4	7.0
Zinc Conc	8,580	.02	4.6	4.9	.8	55.0

Effective Novmeber 1964 Standard Metals production is under contract with United States Smelting Co. Concentrates may continue to move to El Paso and Amarillo for the next few weeks during construction of loading facilities at Ridgway.

United States Smelting Co., Bayard. Copper concentrate delivered to El Paso in first 9 months 1964: 4,266 tons assaying 25-30% Cu with approximately .10 oz Au, 1.7 Oz Ag, 7.6% Zn.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
WLMiles,Jr.
CPPollock
TASnedden
JHCourtright
RBMeen
KDLoughridge
EEGroff

Mr. J.H.Courtright

S. I. B.

OCT 5 1964

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

July 30,1964

W.E.S.

SEP 17 1964

~~RKK~~ ~~DS~~
MR. ~~WES~~, ~~SIB~~, ~~SIL~~, JEK,
READ AND RETURN
PREPARE ANSWERS ____ HANDLE ____
FILE ____ INITIALS ____

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

EKK

SOUTHWEST & COLORADO PRODUCTION-FIRST HALF
RECEIPTS EL PASO,HAYDEN,AMARILLO

J.H.C.

SEP 16 1964

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Reports-Excluding Intraplant)

Lead Department	Tons Received-First Half 1964		
	Domestic	Foreign	Total
January	13,981	8,811	22,792
February	15,817	10,365	26,182
March	14,849	6,249	21,098
April	14,187	6,345	20,532
May	14,219	3,697	17,915
June	17,189	7,247	24,436
Total first half	90,242	42,714	132,956
Copper Department			
January	22,060	-	22,060
February	30,617	164	30,781
March	23,745	144	23,889
April	25,384	588	25,972
May	15,093	327	15,420
June	20,902	352	21,254
Total first half	137,801	1,575	139,376

Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	Total 1st Half		On Hand-Tons	
	Received	Smelted	1-1-64	7-1-64
Concentrates	73,886	81,894	25,479	16,731
Residue	46,615	45,365	1,766	4,575
Dust	8,196	9,870	4,195	2,296
Siliceous Pb Ore	2,689	2,384	161	373
Pyrite	-	-	826	826
Total first half	131,386	139,513	32,427	25,101
Copper Department				
Concentrates	107,188	112,869	9,820	4,553
Precipitates	8,845	8,564	894	743
Residue	6,699	9,253	3,504	907
Matte-Speiss	3	125	89	-
Scrap	889	1,057	92	-
Reverb Flux	164	403	66	-
Converter "	13,785	24,595	29,959	19,169
Total first half	137,573	156,866	44,424	25,486

El Paso Plant Flux: Since Henry Clay Mines, Inc. gave up operation at the 85 and Henry Clay mines at Lordsburg flux stocks have been reduced about 10,800 tons since January 1st. Diversified Mines expects to start shipments from the 85 Mine the latter part of July or early August and will supply some fluxing ore to El Paso

HAYDEN PLANT

Summary of Monthly Receipts (203 Report)

	Concentrates				Total
	Asarco	Custom	Total	Flux	Receipts
January	13,091	6,680	19,771	5,312	25,083
February	16,302	4,599	20,901	8,163	29,064
March	17,251	6,263	23,514	5,528	29,042
April	19,412	8,810	28,222	8,574	36,796
May	22,665	6,646	29,311	6,753	36,064
June	18,198	6,326	24,524	6,955	31,479
Total 1st Half	106,919	39,324	146,243	41,285	187,528

Receipts & Stocks from 15-day Reports
(Estimated Tonnages)

	Total -1st Half		On Hand - Tons	
	Received	Smelted	1-1-64	7-1-64
Concentrates	146,247	146,862	4,021	3,406
Reverb Flux	17,463	17,598	10,332	10,192
Converter "	23,759	23,421	14,624	15,170
Total 1st Half	187,469	187,881	28,977	28,768

Siliceous Flux: Little Hill and Del Oro operations continue to supply converter flux for Hayden Plant --21,197 tons delivered in the first half 1964. Tailings from Tiger and Mammoth dumps were delivered at a rate of about 3,000 tons monthly during the first half for reverb flux. Some tailings were used also with success in the converters. Since the Kennecott strike shutdown Christmas tailings have been trucked to Hayden to meet lime flux requirements.

TACOMA PLANT-Receipts Southwest-Colorado

		Tons Received-1st Half	
Concentrates:	Idarado Mining Co.	3,536	
	Pima Mining Co.	8,306	
			11,842
Crude:	New Jersey Zinc Co. Eagle Mine		11,973
Total First Half			23,815

ZINC CONCENTRATES

Summary Receipts Amarillo-Southwest & Colorado

	Tons Conc.Rec'd		Tons Conc Rec'd
January	6,348	April	6,358
February	6,605	May	6,548
March	6,462	June	6,387
Total First Quarter	19,415	Total Half	38,708

COMMENTS ON SHIPPERS

A Z Minerals Corp., Mexican Hat, Utah, is shipping copper concentrates to Hayden delivered by rail and by truck when manganese back haul is required. Receipts for the first half of 1964 - 1397 tons assaying 13-17% Cu with about 1.4 oz Ag, 4.5% Zn. In June 10 tons of 53% Cu precipitates were delivered to Hayden. This copper production is by-product from milling uranium ore.

Bagdad Copper Corp. - Receipts during first half 1964:

	Tons	Ag-oz	Cu-%
Concentrate(Hayden)	21,854	1.8	24.5-27.5
Precipitate(ElPaso)	4,801	-	81.7

A new contract proposal has been submitted to replace the agreement expiring at the end of August, still under consideration by Bagdad.

Banner Mining Co.: Lordsburg production for the first half 1964 - 2964 tons assaying 23-29% Cu with about .24 oz Au, 6.5 oz Ag per ton. Successful development of lower levels assures continued production at the Bonney Mine.

Cyprus Mines Corp.,Old Dick-Copper Queen copper concentrate production for the first half 1964 - 9465 tons assaying approximately 21.7% Cu , 1.9 oz Ag, 14% Zn. Purchase agreement for copper concentrates from Old Dick-Copper Queen property has been extended a year to July 1965, which is the anticipated life of this operation.

Duval Corporation-Esperanza production for first 6 months 1964:

	Tons	Ag-oz	Cu-%
Concentrates-El Paso	30,932	2.8	25 - 28.9
Hayden	6,453	2.4	27 - 29.6
Precipitate-El Paso	1,635		83.5

Esperanza production will continue at the same rate, tonnage and grade.

Emperius Mining Co.,Creede, Colo. Receipts for first half 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.	2,216	.112	78.8	39.0	8.4	9.3
Zinc "	2,541	.018	6.6	1.2	.3	55.2

Expiration date of the Emperius contract is November 30,1964; however, agreement could be extended for the 6-month mine shutdown in 1963. Competitors' bids for Emperius production may be difficult to overcome.

Idarado Mining Co. Receipts during the first half of 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc -El Paso	6,052	1.11	39.5	68.6	2.7	3.6
Copper " -Tacoma	3,536	.99	23.0	2.7	27.5	7.1
Zinc Conc -Amarillo	11,303	.05	2.8	0.9	1.0	56.0

Negotiations are under way with Idarado for a new five year contract effective July 1st to replace the present agreement.

Little Hill Mines-Del Oro flux receipts for the first half 1964:

	Tons	Cu	SiO_2	Fe	CaO	Al_2O_3
Little Hill	15,259	.52-.85	70 - 75	2.5	0.9	10
Del Oro	5,938	.31-.39	82	1.8	.4	6

Tailings from Tiger and Mammoth dumps trucked to Hayden by McFarland & Hullinger to meet reverb flux requirements for the first half of 1964 - 17,466 tons assaying:

Au	Ag	Cu	SiO_2	Fe	CaO	Al_2O_3
.01-.045	.32-.75	.12-.2	80	2.5	1.8	3.8

McFarland & Hullinger-Keystone Mine, Crested Butte. Shipments for the first six months of 1964 -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	2,682	.02	86.0	33.6	8.3	8.3
Zinc "	3,901		5.4	3.5	2.1	47.0

I understand development work in the mine is increasing the ore potential and life of the operation.

E.W. McFarland, leasing our Hardshell Mine at Patagonia is shipping lead ore to El Paso. Receipts for the first half 1964 -

Tons	Ag-oz	Pb -%
1,213	3 - 25	15 - 30

New Jersey Zinc at Belden, Colo. during first half 1964 delivered to El Paso and Tacoma plants:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc-El Paso	3,320	.111	35.5	48.6	2.3	8.3
Crude Ore - Tacoma	11,973	.16	20.3	1.1	3.7	3.8

Hanover Mill lead concentrates received first half 1964:

Tons	Au	Ag	Pb	Cu	Zn
797	.08	32.7	58.2	1.6	9.7

Pima Mining Company receipts at El Paso and Tacoma during first half 1964:

	Tons	Ag-oz	Cu-%	Zn-%
El Paso	48,042	5.0	26.0	6.5
Tacoma (1-1/2 months rec.)	8,306	4.7	26.1	6.9

Production in excess of 8500 tons average monthly has been shipped to Inspiration Copper Corporation at Miami on toll basis.

Rico Argentine Mining Co. Lead-zinc production for the first six months of 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	345	.02	29.6	66.2	-	5.3
Zinc "	523	.01	5.6	3.9	.5	49.5

A new contract is being prepared to replace the agreement expiring June 30, 1964.

Shattuck Denn Mining Corp. Iron King production for the first six months 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	7,636	1.09	46.3	34.9	2.9	9.4
Zinc "	14,944	.085	2.5	1.6	.3	55.1

D.M. Kentro resigned as manager of this property effective July 15th and E.R. Tomkinson, Mine Superintendent, was retired. Mr. Curtis Sundeen, present manager, will produce about the same grade and tonnage of concentrates.

Silver Wing Mining Co. at Silverton, Colo. is shipping copper concentrate production to El Paso - receipts for first half 1964:

Tons	Au-oz	Ag-oz	Cu-%
434	.03-.09	14 - 17	21.5-27.1

Exploration and development work is under way at this property with anticipated increased production.

Standard Metals Corp at Silverton, Colo.: Production first half 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	2,747	.175	22.8	65.2	3.1	7.8
Zinc "	5,496	.02	4.6	4.6	.9	54.2

United States Smelting Company has exercised its option to take production from the Sunnyside Mine on original expiration date of our purchase agreement for this output, October 31, 1964, and does not recognize the one year extension provided in letter agreement of February 5, 1964. Standard Metals is optimistic about development in Asarco property and if production results we would purchase that tonnage.

United States Smelting Co., Hanover Mill production for the first six months of 1964:

	Tons	Au	Ag	Cu	Zn
Concentrates	2,626	.110	1.6	27 - 31	6.8
Precipitates	36			57 - 80	

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
WLMiles, Jr.
KDLoughridge
EEGroff
CPPollock
TASnedden
JHCourtright
RBMeen

~~LPK~~, ~~SEB~~, WES, ~~SVF~~
~~TEK~~, ~~JRW~~

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
W.E.S. JUN 17 1964
L. P. F. JUN 22 1964
JUN 25 1964
S. I. B. J. R. W.
JUN 26 1964 JUN 23 1964

June 16, 1964

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT - REED F. WELCH
SILVER CITY AREA - June 11, 1964

On June 11th I met you in Silver City and we visited operations in the area:

1. Harris Production Corporation. J. Wylie Harris and associates, operating in the name Harris Production Corporation, in the past year obtained leases from Phelps Dodge and R.P.Thompson in the Tyrone area to operate a leaching plant for production of copper precipitates. Harris has the Copper Mountain, Liberty Bell, Black Eagle, Gray Eagle and other claims. He has spent approximately $100,000 in putting together an unworkable leaching plant. His problem is principally the result of acquiring second-hand "junk" that is inadequate to handle the ore for leaching. He has constructed cement vats and built a flimsy crushing plant that is not sturdy enough to stay in operation.

Harris Production Corp. has shipped a few trucklots of precipitates to El Paso, the first lot handled in the name F.W.Head & J.W. Harris. This product assays 50-70% Cu. At the present time Harris is leaching dumps and scattering the available water in too many places for good copper recovery and return of water.

Harris Production Corp. has drilled and blasted surface cuts on the Copper Mountain claim that may be of importance to El Paso Plant for fluxing material. The ore showing is a minimum of 200 feet along a 50-foot bench that will extend up the mountain 100 to 200 feet. Three samples from this location supplied by Harris assayed at El Paso average:

Ag	Cu	SiO_2	CaO	Al_2O_3
0.16	2.0	64.8	0.5	9.5

The ore mineral is principally chrysocolla with less than 2 to 3 feet of capping. This appears to be a product that could be used to advantage at El Paso for flux if the economics of the operation will justify. In order to try this product in the converters we asked Mr. Harris to ship up to 1,000 tons, after which we will evaluate the economics of shipment as flux.

2. Copper Leaching Co., organized and financed by D.W. Foster and others is attempting to produce copper precipitates on other claims of the R.P. Thompson property at Tyrone. One truckoad of about 4 tons delivered to El Paso last week assays approximately 74% Cu.

This property has a showing of copper ore exposed in cuts 200 to 300 feet wide and several hundred feet long, reportedly assaying 1% Cu. Water is pumped over the mountain at a rate of about 50 g.p.m, which is inadequate to support a leaching plant of any consequence. These people are attempting to increase water volume.

Copper Leaching Co., Con't.

Foster is using A.J. Zinkl of Prescott as engineer. A small reservoir catchment basin has been constructed to pick up copper-bearing water under ore dumps made by bulldozing the side of the mountain where the ore occurs. There are six precipitation cells 4x4x6 feet made of wood.

The operation is carried on three shift basis with one man per shift. At the time of our visit Floyd Brown was overseeing the operation. Three or four tons of precipitates have accumulated since last week's delivery to the smelter. It is apparent the plant is out of proportion for the ore deposit with insufficient water and insufficient precipitating space. It is possible these dumps carry so much alumina-bearing mineral they will mud up and prevent satisfactory circulation of solutions for good extraction of copper.

3. United States Smelting Company recently announced expansion in the Fierro area for increased copper production. Mr. G.E. Cudney, local manager, advised that by July 15th they will start sinking two new shafts to develop ore explored by diamond drill. These shafts-- one two-compartment 1300 feet deep and a four-compartment 1500 feet-- will develop ore similar to the Continental Mine for milling in a new 2,000 ton capacity mill to be constructed. Railroad extension will be provided with new spur and rail connections. It is expected this new ore body will produce approximately 5,000 tons of 28% Cu concentrates per month beginning early in 1966.

4. New Jersey Zinc Co., Hanover. In Mr. Craig's absence from the office we talked with the accountant and met Mr. Hanna, Mr. Craig's assistant. He offered to take us through the mill which we did not have time to do. New Jersey Zinc is producing lead-zinc ore from the Linchburg Mine under lease to Mr. Galassini, and zinc from their Empire Mine and from the Oswaldo leased from Kennecott. The zinc production is for New Jersey Zinc consumption.

5. American Zinc Co., successor to American-Peru Mining Co., employs about 125 men, now producing about 30% of their Deming mill capacity. Present zinc price 13.5¢ is barely sufficient to keep the operation in the black. Because of excess mill capacity Mr. Faust expressed interest in lead-zinc milling ore that may be available for concentration. The Deming plant is handling milling ores from the Duquesne area.

American Zinc Company has shown interest in the Silver Wing property in Colorado, particularly the Fredericka claims. Mr. Faust indicated he would like to see some drilling on this group from surface and from the Silver Wing adit. He thinks American Zinc eventually will conclude an agreement with Mr. Christie of Silver Wing Mining Corp.

6. Continental Mine: Patten & Strong, lessees, are now optimistic about continuing production at this property. Mr. Strong previously told me the ore would be depleted probably some time this summer. Strong and Patten are now sinking a winze and are within a short distance of intercept with 2.5% Cu indicated in recent drilling program. This new ore will keep the mine going for some time as a steady producer. Continental Mine ore is treated in United States Smelting Co. Bullfrog mill, producing about 500 tons per month copper concentrates.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KDLoughridge
EEGroff
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

W.E.S. Mr. J.H.Courtright -1

J. H. C. JUN 16 1964

L. P. E. JUN 15 1964 SOUTHWESTERN ORE PURCHASING OFFICE ~~WES~~ RKK ~~JDS~~

Tucson Arizona

JUN 17 1964 J. R. W. MR. ~~WES~~, ~~SWC~~, ~~JEK~~, ~~FEW~~

JUN 19 1964 June 10, 1964 S. I. B. READ AND RETURN

Mr. B. D. Roberts, Manager JUN 17 1964 PREPARE ANSWERS ____ HANDLE ____

EL PASO PLANT FILE ✓ INITIALS ✓

FIELD TRIP REPORT - REED F. WELCH
SOUTHERN COLORADO-JUNE 2-6,1964

1. Standard Metals Corporation, Silverton, is milling 550-560 tons per day on production coming from the American tunnel. At this time Standard Metals is doing no work across the canyon in the Shenandoah Dives or Asarco properties. For the month of May mill heads assay:

Au	Ag	Pb	Cu	Zn
.008	1.48	2.874	0.218	4.64

Concentrates are trucked to Bernalillo for loading on the railroad, the zinc going to Amarillo, lead to El Paso. Asarco's assistance in obtaining favorable freight rates from Bernalillo to the smelters has helped Standard Metals in reducing delivery costs. This, together with modification in contract terms has enabled the mine to meet increasing costs and had a great deal to do with the decision to keep the mine in operation. Broken ore is now accumulating in the stopes which affords the mill steady operation.

I visited Mr. McCormick at Moab for the first time since Standard Metals started shipping to us. He spoke favorably of the consideration given by the smelting company and reflected that the modification in purchase terms was sufficient inducement for the directors to continue in operation. Previously it had been a foregone conclusion the operation would be shut down.

For the months of April and May the mine realized a small profit--approximately $30,000 for May. Standard Metals has about $750,000 invested in the operation at Silverton.

The Standard Metals uranium mill at Moab is working on very much curtailed basis because of phase-out of the uranium purchase program. Uranium ore reserves represent millions of dollars profit if sale of the product could be assured. If the uranium business is finalized in the next two or three years this may effect drastic curtailment of Standard Metals' base metal production.

2. Silver Wing Mining Corp. Mr. Clyde Christie of Albuquerque is optimistic about the potential of the Silver Wing property at Silverton. The operation is not well financed and has been improperly staffed for efficiency. Mr. Christie's experience in mining is very limited but he is quick to rectify problems that can be corrected by good judgment. He recently replaced the foreman with a former shift boss at Idarado and ore production has improved under the new man's direction.

Eventually this property must expand exploration and development work but this will take more financing than is now available. The

Silver Wing Mining, Con't.

present stope is mined about 125 feet long, averaging about 30 feet in width. With some sorting, heads assayed 3.81% Cu for the month of March. During that month 546 tons were milled with 92% recovery. Concentrates assay .06 oz Au per ton, 16.8 ozs Ag, 27.95% Cu. Metallurgical studies are being made to determine the feasibility of obtaining better percentage recovery of copper with production of concentrates assaying about 21% Cu. Ore minerals are chalcopyrite, bornite and enargite. There are occasional streaks in the mine about 3 feet wide assaying as much as 25% Cu. This high grade ore is commingled with the lower grade for milling. In continuation to the northeast of the present stope, long-hole drilling has intercepted additional tonnage from which the mill can be supplied with ore.

Silver Wing ore is treated in the Pride mill located about 5 miles up the canyon from Silverton. The mine and mill now work on 2-shifts per day employing about 24 men. It is Mr. Christie's expectation that the mill will be working 3 shifts per day within the next three weeks, at which time he expects to produce one car of copper concentrates per week. Before Silver Wing can expand to higher production larger mining equipment is required and better ventilation system must be installed.

There has been outside interest shown in acquiring the Silver Wing property at Silverton, including American Zinc, Murchison, Atlas, Shattuck Denn, Kerr-McGee and individual oil people from Dallas. The most satisfactory presentation has been made by American Zinc Co., which firm has supplied some equipment and has been generous with advice. However, finalizing of an exploration and development program has not yet been accomplished.

Next to the Silver Wing group and owned by Silver Wing Mining Corp. is the Fredericka group. This property is contiguous with the Silver Wing to the northeast. Examining companies have shown more interest in the Fredericka because the outcrop exposure extends approximately 3,000 feet with width 50-150 feet. Old records of production from the Fredericka group indicate high grade lead-zinc mineralization. This group is at an elevation of about 12,500 feet and the most likely place to prospect would be the Silver Wing adit, the face of which is 2,000 feet southwest of the adjacent property.

3. Bachelor Mine, Carl I. Dismant, Ouray: Carl Dismant and son are starting operation at the Bachelor mine which contains narrow veins of lead-zinc ore. Samples for metallurgical test work assay:

Au	Ag	Pb	Zn
.04	6.04	10.51	4.09

Dismant has not been able to develop sufficient tonnage for full-time operation of the 75-80 tons mill located adjacent to the highway below the mine. Test work indicates jig concentrate assaying 76% Pb with 19.58 oz Ag per ton, 3.7% Zn. Flotation following the jig would produce 56% Pb, 8.8% Zn (Ag assay not known). It would be theoretically possible to ship a mixed product assaying:

Au	Ag	Pb	Zn
0.22	35.9	67.4	5.89

Bachelor Mine, C.I.Dismant, Con't.

Flotation zinc concentrates produced in test work assay 56.76% Zn with .06 oz Au, 9.16 ozs Ag, 1.65% Pb. Test report indicates the following percentage weight of these products: 8.5% jig concentrate, 6.4% lead, 5.2% zinc.

4. Willreed Mining & Milling: J. Stanley Reed of Naturita, Lou Williams and brother of Norwood. The Williams brothers are wealthy cattle men and supply financing for operation of the Senorita Mine, located near the Bachelor Mine in Ouray. The Senorita orebody reportedly is replacement in the white sandstone member above the red beds, the ore carrying silver values in barite gangue. Previous work at this property attempted to produce high grade silver ore by mining narrow discontinuous high grade streaks.

C.I. Dismant at the nearby Bachelor Mine has a contract with Willreed Mining to handle the Senorita ore in Dismant's mill. Because of greater promise of ore reserves in the Senorita property, this agreement calls for milling Senorita ore for three weeks, treating ore from the Bachelor Mine the following week. I was provided with a sample of the Senorita concentrates for evaluation and purchase terms.

5. Federal Resources, Inc., Camp Bird Mine. This firm has taken over the Camp Bird property. About 35 men are now employed, 4 or 5 men working at replacement of mill roof that caved under heavy snowfall. Other men are engaged in cleaning out caved areas in the Treasure tunnel. Some sampling is under way but at present no plans for resuming production.

6. Idarado Mining Co. for the past 6 months has produced 37,000 tons of ore per month. Beginning in July production will be reduced to 30,000-32,000 tons monthly because of vacation schedule during the summer months. It is expected the grade of heads will improve but this will not be noticeable in the concentrate production.

Because of shortage of miners, Idarado set aside a stope which they used for instruction of young men interested in learning how to operate mine machinery, drilling and blasting. As a result of lack of miners in the Silverton area these young students found that after a short period of employment with Idarado training program they could get jobs as full fledged miners at the Silverton property. This venture was not very successful for Idarado and was abandoned.

Our agreement for purchase of Idarado production runs through June 1966. However, we have proposed to prepare a new contract to become effective July 1st of this year through June 1969 with improvement in the zinc return. This suggestion was favorably received by Mr. Hilander who will present the proposal for approval by his New York office.

7. Silver Hat Mining, Inc. J.E.Montgomery of Ophir is manager for Silver Hat Mining, operating the old San Bernado Mine at Matterhorn. Across the canyon from the mine, adjacent to the highway, this firm has reconditioned a flotation plant that handled ore from San Bernado Mine many years ago, the ore transported across the canyon with two sets of tramlines. In the previous operation the mine was worked to the 5th level.

About 4 years ago Montgomery obtained financing in Cincinnati and this project was started by advancing a new adit on the 6th level approximately 100 feet below the older workings. The vein matter is quartz, galena, pyrite and tetrahedrite.

The mill is now in good operating condition but at the time of my visit there was a lack of sulphides. The ore is hauled by truck to the mill. Mill Superintendent is John Montonati. Mill capacity is 120 tons per day, or with auxiliary section, 300 tons daily. I observed about 20 tons of bulk concentrates which will run high in iron. Because the mill is now being broken in with some ore from development heading, included with stoped ore, the operators do not know what the concentrates will assay. Mr. Montgomery is anxious to truck concentrates on hand to El Paso and I advised him we would accommodate this delivery.

Silver Hat mine and mill employ about 11 men, 3 in the mill on 2 shifts per day, 7 men in the mine on 2 shifts, and one truck driver.

8. Rico Argentine Mining Co. Superintendent Orville Jahnke at Rico reported the mine is presently on reduced tonnage basis. The operation is staffed with about 70% Navajo Indians with labor rate $1.75 per hour. There seems to be inertia connected with this operation and projects proposed two years ago have not yet been completed. A raise to be used as shaft started a year and a half ago is still more than 200 feet from completion. This improvement would save 2 miles of tramming, 2 miles truck haul to the mill and underground track upkeep. Completion of shaft would effect considerable saving in operating expense. Mr. Jahnke does not have shaft men and because of limited personnel has been concerned primarily with production without regard to improvement of operating conditions.

As a result of recent discovery of new lead-zinc ore Mr. Jahnke believes in the near future he can produce about one carload per week each of lead and zinc concentrates. The contract covering purchase of Rico Argentine production expires at the end of June 1964 and will be renewed by a new three-year agreement.

The Rico Argentine acid plant is making about 120 tons of H_2SO_4 per day.

9. Embargo Mine, J.J. Williams and associates: Our file carries notation of ore showings in the Embargo Mine located northwest of Del Norte. On May 27th I met J.J.Williams, one of the mine owners, and he verified the ore showing as reported in our file. On this June trip I visited the property and observed the ore showing occurring along a weak mineralized fissure striking approximately 60° East. Ore on the surface--lead and zinc oxidized minerals--occurs in a breccia confined to 2-3 feet in width and is apparent over about 100 feet in length. The country rock is extrusive igneous, unidentified rhyolite(?).

Embargo Mine, J.J.Williams, Con't.

With this surface showing, Williams and associates several years ago drove a new adit about 90 feet below the older workings and at creek level. The lower adit extended 240 feet where it encountered ore at about 125 feet from the portal. The work progressed through the ore zone without good mining advice. Lead and zinc minerals occur in a carbonate gangue matrix within an irregular breccia zone associated with the same fissure as indicated on the surface. The ore minerals do not seem to replace any of the country rock. The breccia at the lower level with mineral showing is approximately 20 feet wide and feathers out along the strike within 20 or 30 feet. Visual estimate of grade in the breccia zone is 2-3% Pb, 3-4% Zn. It is too low in value and too weak in mineral showing to be of interest.

10. Emperius Mining Co. At Creede I was unable to locate Tyrus B.Poxson but talked with the Emperius mill superintendent Harold Wall, formerly mill superintendent at the Wellington Mine. He advised me the mill is treating 125 tons of ore per day. Silver in the heads varies considerably as a result of ore high in silver coming from upper workings. Lead and zinc in mill feed is fairly steady. Not much variation in production is expected over the summer months.

Mr. Wall took over superintendency of the Emperius mill on June 1st replacing W.W.Wentworth, who still lives in Creede. Mr. Wall intimates he has been having trouble checking weights on the zinc product moving to Amarillo. I suggested that he look into the condition of boxcars supplied for loading, as he may be losing concentrates enroute, similar to experience of Idarado Mining Co.

11. Wellington Mines Assoc. About a year ago considerable interest was shown in potential production from the Wellington Mine at Breckenridge. This operation has been closed since about March. Mr. Wall advises the mine reportedly had 10 years ore supply when the mill started, but was never able to supply sufficient ore to keep the 125-ton plant operating at capacity. The ore in footwall veins did not materialize in tonnage anticipated by Charles and Pat Parker and associates. During the closing months of operation the mill ran 2 or 3 days per week and finally was forced to shut down when no ore was available. During the closing period the operators attempted to interest Texas financing in taking over the property but apparently the futility of such a proposition was realized and the Wellington operation expired.

12. Monon Leasing Co. at Creede is still active, presently locating additional claims and doing surface work. The Hosselkuss brothers are employed at Emperius and devote time on the Monon claims only after working hours and weekends. These partners are mining silver ore and expect to have another carload for shipment to El Paso when sufficient tonnage is accumulated.

13. Four Aces Mine, Lee A. Hyde, Monticello, Utah. A stockpile of reject copper ore accumulated during uranium operation at the Four Aces property, near the Happy Jack Mine, was shipped by Mr. Hyde in April. During that month Hayden received 476 tons assaying:

Cu	SiO_2	Fe	CaO	Al_2O_3
4%	76	2	2.4	5

Mr. Hyde believes he can continue shipments by mining the same sandstone horizon but is having trouble keeping copper high enough to defray the costs. He is attempting to obtain drill information on the Four Aces from AEC so he will have information on the copper showing in the sandstone beds. To keep shipments coming into the smelter I have offered Hyde a silica credit effective with receipts in June.

14. Micro Copper Corp. has built a mill to produce powder copper in the Lisbon Valley 45 miles southeast of Moab, Utah. This firm has office in the Uranium Building in Moab; Richard Mohler, President; Ellis Cook, Secretary-Treasurer. Bruce Hardman is Superintendent at the mine. In 1962 Micro Copper effected a merger with Lakeside Monarch Co. and constructed the mill. So far no powder copper has been produced, and the operators are changing the metallurgy in an attempt to effect production. The mill is near the old Indian Mine where copper concentrates were produced in the name of Ohio Copper Co. The ore occurs in sandstone and is to be leached and precipitated as micro-copper particles under controlled unoxidizing atmospheric conditions.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KDLoughridge
WLMiles,Jr.
EEGroff
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

L.P.E.

J. H. C.

JUN 8 1964

JUN 2 1964

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

May 29, 1964 W.E.S.

JUN 16 1964

MR. ~~RKK, LPE, FDS~~
READ AND RETURN
PREPARE ANSWERS ____ HANDLE
FILE ✓ INITIALS

S. I. B.

JUN 8 1964

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

FIELD TRIP REPORT - REED F. WELCH
COLORADO MAY 27-28,1964

1. Cotter Corporation: While in southern Colorado to attend the meeting at Del Norte on May 27th, I visited the Cotter Corp. in Canon City, where this firm operates a uranium mill. Mr. David P. Marcott is Executive Vice President, Mr. W.K. Carhartt, Assistant Manager. Because uranium production is being phased out by AEC and ore treated by Cotter Corp. is high grade, there is excess mill capacity to handle complex base-metal ores.

Cotter Corp. exploration department has embarked upon examination of mines in areas tributary to the Canon City mill. This firm has looked at several possible lead-zinc producers and produced some lead and zinc concentrates. The Stonewall Mine at St. Elmo appears to hold most interest at present. Mr. Marcott advises this property shows potential tonnage of 25% combined lead-zinc carrying several ounces silver per ton. Although the vein is only 4 feet wide, because of grade of the ore and indication of extension of the mineralization, Mr. Marcott believes they can made a small but steady operation.

To date Cotter Corp. has produced 28 tons of zinc concentrates assaying 63.4% Zn with less than 1% lead and copper and 0.41% Cd. This product was shipped to Blackwell with freight rate $6.82 per ton for 60,000 lbs minimum carload. The cadmium content net $210 for the lot.

Cotter Corp. has about 40 tons of lead concentrates on hand assaying: Au .04 oz, Ag 80 ozs, Pb 60%, Zn 10%. Mr. Marcott has contacted Bunker Hill and Sullivan, and even though freight to that plant is a few dollars higher than El Paso, he is convinced he should ship the lead to Bunker Hill because that firm pays for the zinc content. Mr. Marcott has not asked for terms for the lead product but I told him I would give him a comparison of outcome at El Paso Plant.

The fact that Bunker Hill and Sullivan is quoting for lead concentrates in Colorado and paying for zinc in that product, and the competing zinc plants will pay for cadmium, makes our terms economically unattractive to the shipper. Even if we reduce the smelting charge to overcome non-payment for these metals, psychologically the shipper is not satisfied and feels he should have the low treatment plus payment for these metals.

Cotter Corp., Con't.

Cotter Corp. has been doing some work on a zinc-copper ore assaying about 1 oz Ag per ton, 7% Zn, 1.5% Cu, 1% Pb, .05-.10 Cd. Concentrates produced in a test run in the Cotter mill indicate product carrying about 33% Cu, 20% Zn, according to Mr. Marcott. These proportions do not seem realistic but inasmuch as they expect to do more metallurgical work for separation of zinc and copper, I did not debate the irregularity of assays reported on the bulk concentrates.

2. Racine & Mayday Mines, Silver Cliff: Mr. R.D. Mueller, manager of the roasting plant for New Jersey Zinc at Canon City, is personally interested in mines in the area adjacent to Canon City. Present work is on the Racine and Mayday mines, owned by the town of Silver Cliff. Mueller has an operating agreement with that civic group and financing to bring the Silver Cliff properties is progressing.

Mr. Mueller believes there is an area 200 feet wide by 600 feet long containing about $7.00 per ton silver value and by crushing and screening he can eliminate coarse material to upgrade the product to $9.00 Ag per ton. Gravity concentration produces approximately 54 oz Ag with no other pay metals. The analysis of the gravity concentrates is

Ag	Pb	Cu	Zn	SiO2	Fe	Mn	S	CaO
54	0.8	.05	3.4	52.7	6.8	11.6	0.3	1.8

Preliminary tests for flotation indicates a product assaying 297 ozs Ag per ton.

Mr. Mueller and associates are interested also in mines located at Bonanza, particularly the Bonanza andCocomongo Mines which have made occasional shipments to Midvale assaying 6 ozs Ag per ton, 6% Pb, 7% Zn.

3. Florence-Canon City slag dumps. With Bill Goodwin of Canon City I visited the slag dump at Florence. In order to convince Messrs. Goodwin and Tilly that this slag does not assay 5-15% Cu with 5-30 ozs Ag per ton, I asked Goodwin to send a sample to El Paso of a representative section of the dump from which he could possibly ship 50 tons of slag.

4. Embargo Mine, J.J. Williams, Box 304, Alamosa (telephone 589-6563) and associates are interested in the Embargo Mine about 9 miles west of Del Norte, then north about 9 miles. At elevation of about 8,000 feet, this mine is served by good forest road. The 240-foot adit has cut 30 feet of sulphide ore assaying 6-10 ozs Ag, 7% Pb, 7% Zn. Diamond drilling carried on by Williams for assessment work indicates ore still going down 52 feet. He estimates 10,000 tons of above grade in this area. Mr. Williams is most enthusiastic about the potential of this property. I told him I would arrange to see the mine early in June.

Embargo Mine, Con't.

Williams' partners in the Embargo Mine and others include Ivan Weaver of Sunnyside and Gordon and Harry Hosselkuss of Creede. Last fall these associates in the name Monon Leasing Company, shipped a carload of silver ore to El Paso from the Peso de Plata property at Creede.

5. King Solomon Mining Corporation was represented at the Del Norte meeting on May 27th by James M. Muir, Jr., President, and C.Mack Roberts. Present work at Creede is in opening up the old King Solomon Mine which is a continuation geologically of the Amethyst fault and vein in the Emperius Mine. The King Solomon Mine was worked many years ago and now requires cleaning out caved areas to get to the ore showings. Mr. Muir has been cleared with S.E.C. to finance this work through stock sale.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KDLoughridge
WLMiles, Jr.
CENelson
CPPollock
TASnedden
RBMeen
JHCourtright

~~EDS~~, JEK, ~~RKK~~, ~~SVP~~, ~~LPE~~

Mr. J.H.Courtright-1

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

J. H. C.
APR 23 1964

April 21, 1964

L. P. E.
APR 29 1964

S. I. B.
APR 28 1964

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
PARKER AREA-April 16-17,1964

Because of reactivation of a number of properties in the vicinity of Parker, Arizona over the past several months I spent April 16th and 17th looking over the potential of this area.

1. Mineral Hill Mine. At this property in the Planet Peak area northeast of Parker considerable money has been spent in an attempt to make an open pit mine with removal of ore for leaching. The Mineral Hill group was drilled and promoted by D.E.Harrison and John Wallace of Salt Lake City. Louis Cramer, engineer who evaluated the property, reported 1.3 million tons of 2% Cu. The mine was promoted to P.W. Fleming and associates of California at a price of about $1.5 million. Substantial cash payments have been made on the purchase price and leaching of 65,000 ton stockpile has been under way for the past several months. To date copper precipitate production has been 37 tons trucked to Inspiration at Miami. It is apparent more money is being spent on the property than is coming from sale of precipitates. On Thursday morning about 10:30 I found Ed Sloan, manager for Fleming and associates, in the local bar bemoaning the fact that he was unable to communicate with Fleming.

The Mineral Hill ore is hard and almost impervious to solutions. The fact that it is not crushed before leaching reduces the possibility of good extraction. How much longer this property can continue on the present operating basis is questionable.

2. North Star Group, Lelon Noblitt. In the same area as the Mineral Hill property, about 5 miles southwest of Swansea Mine, the North Star claims are held by Lelon Noblitt of Parker. This group consists of about 37 unpatented claims covering an andesitic flow area, part of which is intruded with subsequent intrusives. Adjacent to the contacts there is considerable alteration and a scattering of secondary copper mineralization. A few cuts by bulldozer show some rather interesting dissemination of secondary copper minerals. However, none indicates widespread uniformity of copper occurrence sufficient to become a source of fluxing ore. About a year ago Noblitt made an agreement with a Canadian firm that drilled one hole on this property and abandoned the project.

Because of remote location and distance from the smelter I could not encourage Noblitt to work on these claims in anticipation of delivering fluxing ore to Hayden.

3. Last Chance & Lucky John Group. The Last Chance claims owned Lelon Noblitt and Lucky John group owned by his brother Tom Noblitt are located 18 miles northwest of Parker on the California side of the river. Noblitt has driven an adit along the shear zone on the Last Chance property which contains considerable amount of secondary

Last Chance-Lucky John Claims, Con't.

copper mineralization. The country rock is siliceous and with careful mining and sorting the Noblitt brothers produced two carloads delivered to Hayden early in 1964, assaying:

	Dry Tons	Cu	SiO2	Fe	CaO	Al2O3
Last Chance	44.1	7.64	60.4	4.8	0.5	9.4
Lucky John	49.3	4.49	66.2	6.7	.6	7.7

The Last Chance group could produce additional tonnage similar to the first shipment but only with underground mining and careful sorting to eliminate waste. Noblitt believes such an operation would be uneconomic and it has been his ambition to mine the shear zone from surface with power equipment. I pointed out that if he attempts to mine in this manner he will lose money and I would be obliged to refuse acceptance of such production at Hayden. Additional work carried on at this property presumably will be underground and Noblitt will keep me advised of the progress made. The property does not contain potential for a dependable source of fluxing ore.

4. Copper King-Skiploader claims. Ira Mundy of Hesperia, California, who advises he owns California Iron & Fuel Co., has been shipping iron ore to Japan from the Kelso area. I gather there has not been much iron ore shipped and he is now branching out into copper mining. In the Copper Basin area northwest of Earp, he has leased the Copper King and Skiploader mines. The Copper King located about 14 miles north of Earp, consists of three claims owned by E.A.Dilts. There has been little activity on this property since 1920. Mundy is sure he has a big mine and has contracted people from Logan, Utah to do the mining.

These claims are in an area of schistose and gneissoid country rock where exotic copper mineralization shows over 30-40 feet in a low angle dipping horizon. In this complex of metamorphic rocks occurs also some hematite mineralization which predominates over copper. A showing high on the mountain appeals to Mundy and he is approaching this property with the idea he can strip mine the showings and develop large tonnages for shipment to Hayden. None of the ore minerals observed justifies Mundy's approach and I suggested he could perhaps save some effort by drilling the showing before attempting to mine for shipment. I advised him that any production carrying magnetite and hematite would be rejected at Hayden.

In the vicinity of the Noblitt Last Chance claims, about 18 miles north of Earp, Mundy has a working agreement on the Skiploader claims. There are reports of considerable tonnage of ore having been mined along the outcrop of the narrow vein which was shipped to Blythe for smelting many years ago. In 1955 Hayden received two carloads--115 tons--from this claim shipped by A.E.Dilts assaying:

Ag	Cu	SiO2	Fe	CaO	Al2O3
.10	1.2- 2.1	69-72	5-9	1.7	8.0

Copper-King-Skiploader, Con't

The Skiploader vein occurs in andesitic country rock and is 6 inches to 2-3 feet in width. Not having experience in mining this type of occurrence, Mundy is sure to make the mistake of using power equipment for stripping and mining. Munday has reports indicating veins on these claims assay as much as 2 oz. Au per ton and he expects ore shipped will be high grade gold-copper. It is doubtful if any ore will be produced from this property.

5. Seneca Copper Co. Over the past few years I have had correspondence with A.A. and R.I. Gallen, geologists, regarding property located 3 to 4 miles north of Vidal Junction which I thought might develop into a source of siliceous flux. Ross Gallen has done geochemical field surveys and geologic mapping and is very enthusiastic about the potential of this property for shipment of large tonnage of siliceous fluxing ore. He has already applied for reduction in freight rate from Parker to Hayden. Samples sent at my request indicate as much as 16% CaO. Gallen explained this sample was taken from the caliche horizon near surface. He believes the ore occurs in intrusive trachyte covering the major part of 160 acres. Assessment work done by bulldozer, where surface alluvium has been scraped from outcrops, exposes the formation and shows an occasional cross fissure carrying some copper carbonate minerals. From examination of the country rock it is apparent Gallen has misinterpreted the geology. The entire area of his interest is massive black limestone. The possibility of finding ore sufficiently high grade to ship in the limestone gangue is very doubtful.

At the time of my visit the Gallens were negotiating with men to mine ore and I was forced to advise them I could not accept their production for delivery to Hayden. In spite of my advice that the country rock is limestone and disregarding my geologic interpretation, young Gallen holds fast to his opinion that he can produce siliceous ore at this property.

REED F. WELCH

cc: RLHennebach CENelson
RLJourdan CPPollock
WGRouillard RBMeen
KDLoughridge JHCourtright
EEGroff

L.P.E.

MAY 4 1964

Mr. J.H.Courtright

J.R.W.

MAY 5 - 1964

MR. ~~EPE~~, ~~RHK~~, JEK, ~~JRW~~

READ AND RETURN _____

PREPARE ANSWERS _____ HANDLE _____

FILE ✓ INITIALS _____

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 29, 1964

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION-FIRST QUARTER
RECEIPTS EL PASO, HAYDEN, AMARILLO

J. H. C.

MAY 4 .. 1964

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Reports-Excluding Intraplant)

Lead Department	Tons Received-First Qtr.1964 Domestic	Foreign	Total
January	13,981	8,811	22,792
February	15,817	10,365	26,182
March	14,849	6,249	21,098
Total First Quarter	44,647	25,425	70,072
Copper Department			
January	22,060	-	22,060
February	30,617	164	30,781
March	23,745	144	23,889
Total First Quarter	76,422	308	76,730

Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	Total 1st Quarter Received	Smelted	On Hand - Tons 1-1-64	4-1-64
Concentrates	40,079	43,489	25,479	21,729
Residue	24,157	21,964	1,766	4,792
Dust	4,081	5,357	4,195	2,749
Siliceous Pb Ore	1,242	1,235	161	69
Pyrite	-	-	826	826
Total	69,559	72,045	32,427	30,165
Copper Department				
Concentrates	59,128	55,246	9,820	13,852
Precipitates	3,902	3,870	894	731
Residue	2,640	4,160	3,504	1,878
Matte-Speiss	-	122	89	-
Scrap	425	459	92	78
Reverb Flux	-	66	66	173
Converter "	10,161	10,681	29,959	29,427
Total	76,256	74,604	44,424	46,139

Converter Flux: Henry Clay Mines stopped shipment of flux in April but it is expected the 85 mine under new management will meet El Paso Plant fluxing requirements after 60-90 days required to rehabilitate the mine.

HAYDEN PLANT

Summary of Monthly Receipts (203 Report)

	Concentrates				Total
	Asarco	Custom	Total	Flux	Receipts
January	13,091	6,680	19,771	5,312	25,083
February	16,302	4,599	20,901	8,163	29,064
March	17,251	6,263	23,514	5,528	29,042
Total 1st Qtr	46,644	17,542	64,186	19,003	83,189

Receipts & Stocks from 15-day Reports
(Estimated Tonnages)

	Total 1st Quarter		On Hand - Tons	
	Received	Smelted	1-1-64	4-1-64
Concentrates	64,196	66,801	4,021	1,416
Reverb Flux	6,865	6,976	10,332	10,216
Converter "	12,075	11,469	14,624	15,438
Total	83,136	85,246	28,977	27,070

Siliceous Flux: Little Hills-Del Oro flux continues as the principal source of converter flux; Tiger tailings for reverb flux.

TACOMA PLANT - Receipts from Southwest and Colorado

Concentrates:	Idarado Mining Co.	1,685	
	Pima Mining Co.	7,208	
			8,893
Crude:	New Jersey Zinc-Eagle Mine		7,040
Total 1st quarter 1964			15,933

ZINC CONCENTRATES

Summary Receipts Amarillo-Southwest & Colorado

	Tons Conc Rec'd
January	6,348
February	6,605
March	6,462
Total	19,415

COMMENTS ON SHIPPERS

Bagdad Copper Corp. production for first three months of 1964:

	Tons	Ag-oz	Cu-%
Concentrates	11,532	1.7	25.5
Precipitates	2,315		82.4

This property is producing as much copper concentrates and precipitates as the facilities will permit.

Banner Mining Company, Lordsburg, first quarter 1964 production from the Bonney Mine - 1487 tons averaging about 24% Cu with .30 oz Au and 7.0 oz Ag. Development work on the lowest level has proven sufficient ore tonnage to assure an increase in production of copper concentrates.

Cyprus Mines Corp. Copper production from Copper Queen-Old Dick mines for the first three months of 1964 - 4604 tons with average assays approximately 21.5% Cu, 1.9 oz Ag, 14% Zn. Most of the mill feed now comes from the Copper Queen property. Unless new ore is developed by exploration now in progress in the Old Dick property, this operation will probably cease in about a year.

Duval Corporation-Esperanza Pit shipments in first quarter 1964:

		Tons	Ag	Cu
Concentrates -	El Paso	17,591	3.0	27.2%
	Hayden	690	2.6	27.2
Precipitates -	El Paso	541		84.6

at 12,000 tpd — 9 lb Cu / ton ore

Emperius Mining Co. - First quarter 1964 shipments from Creede -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	990	.12	92.0	42.6	7.8	9.4
Zinc "	1238	.02	6.9	1.3	0.3	56.1

Henry Clay Mines, Inc. Over the past year or so this operation at Lordsburg, financed by Werner Lake Nickel Mines of Canada, has been the principal supply of siliceous flux for El Paso, with production since November 1962:

Henry Clay Mine		Tons	Au	Ag	Cu	SiO_2	Fe	CaO	Al_2O_3
1963	El Paso	10,310	.026	1.5	1.18	69.9	4.5	3.4	8.0
	Hayden	6,422	.024	1.5	1.19	66.2	4.7	3.1	8.0
1st Qtr 1964	El Paso	9,174	.02	1.1	.95	66.0	4.0	5.7	7.1
	Hayden	1,657	.02	1.1	1.03	63.0	4.4	3.4	8.1
		27,563							
85 Mine (Brannan & Fuller)									
Nov-Dec 1962	El Paso	4,427	.02	1.0	.96	78.0	4.0	2.5	6.5
1963	"	30,804	.026	1.5	1.26	69.9	4.6	2.9	8.2
1964		-							
		35,231							
Total Henry Clay & 85 Mines		62,794							

Henry Clay Mines, Inc. has not been successful financially, became involved in litigation, finally forced into bankruptcy. Early in April the property was shut down by court order. Subsequently Henry Clay Mines was permitted to ship a small amount of broken ore to pay labor bills. The last car for account Henry Clay Mines, Inc. was billed out April 27th.

A recently organized Lordsburg group expects to ship siliceous flux to El Paso from the 85 mine in the name Diversified Mines and this new operation may be able to meet El Paso converter flux needs.

Idarado Mining Co., Pandora, Colo. - Receipts for the first quarter 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	2,996	1.02	36.1	68.6	2.8	3.4
Zinc "	5,348	.05	3.1	1.3	1.1	56.8

Little Hill Mines: High-silica flux trucked to Hayden from Dave McGee's operation during the first three months of 1964 total 7,030 tons averaging about 0.81% Cu, 72% SiO_2, 2.6% Fe, 10.6% Al_2O_3. Underground mining at Little Hill has become economically impossible and all tonnage shipped now comes from surface outcrops and cuts along the vein structure.

Del Oro flux delivered by McFarland & Hullinger for first quarter 1964 - 3216 tons averaging about 0.36% Cu, 82.5% SiO_2, 2.5% Fe, 5.1% Al_2O_3.

McFarland & Hullinger-Keystone Mine. Production from Crested Butte for first three months of 1964 -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	1,289	.03	79.7	33.8	8.3	10.5
Zinc "	2,107	.01	5.9	1.0	1.9	46.7

New Jersey Zinc, Belden, Colo. Lead and silver-copper ore production at the Eagle Mine for the first three months of 1964 -

		Tons	Au	Ag	Pb	Cu	Zn
El Paso	Lead Conc	1,521	.09	36.2	48.7	2.4	9.0
Tacoma	Crude Ore	7,040	.12	19.4	1.1	3.2	4.1

New Jersey-Hanover Mill lead production for the first quarter 1964: 289 tons with average assays approximately:

Au	Ag	Pb	Cu	Zn
.08	42.3	55.6	1.6	10.2

Pima Mining Company: Receipts during the first quarter of 1964- 24,292 tons (8097 per month) averaging about 26.5% Cu, 4.5 oz Ag, 6.3% Zn. An offer to accept production in excess of 8500 tons per month (average monthly) on copper purchase basis for the remaining period of the present contract (through December 1965) was rejected by Pima Mining Company. Effective March 1st, production in excess of 8500 tons average monthly is moving to Inspiration Copper Corp. at Miami, handled at that plant on a toll basis.

Standard Metals Corp., Silverton, Colorado - Concentrate shipments for the first three months of 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	1,201	.23	23.4	65.3	3.1	7.3
Zinc "	2,501	.02	4.7	4.3	1.0	56.2

Shattuck Denn-Iron King Mine production for the first quarter of 1964:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	3,826	1.08	46.0	34.3	3.3	8.6
Zinc "	7,961	.09	2.6	1.6	.4	55.0

A new six-year contract for improvement in mine outcome has just been completed, the revised terms effective with receipts in March. Current mine production of 28,000-30,000 tons per month will assure the same rate of concentrate production for the next few years.

United States Smelting-Bayard: Copper production for the first quarter 1964 -

	Dry Tons	Au	Ag	Cu	Zn
Concentrate	1,307	.10	1.7	27.8	7.8
Precipitate	20			74.5	

This company has announced renewed interest in the Hanover-Fierro area where two 1500-foot shafts will be sunk to produce 5,000 tons of copper ore per day.

Zinc in Copper Concentrates: I have been making a study of zinc contained in copper concentrates produced in the Southwest with results tabulated below. It is interesting to note that practically all copper concentrate purchased carry some zinc. In 1963, out of 276,514 tons of concentrates received at Hayden, zinc content amounts to 7,369 tons and out of 199,162 tons of concentrates at El Paso, zinc content is 6,042 tons. Between the two plants, there was in excess of 13,400 tons of zinc metal handled from copper concentrates. It is expected that one of the principal contributors of zinc to Hayden, Cyprus Mines, will cease to operate within the year. However, concentrates coming from the Pima District in the future will carry about the same zinc content as past receipts.

Hayden Plant-Copper Concentrates Received in 1963

Shipper	Dry Tons	Weighted Avg. Assays Cu-%	Weighted Avg. Assays Zn-%	Content-Metal Units Cu	Content-Metal Units Zn
Asarco					
Mission	129,466	29.04	2.76	3,759,692.6	357,326.2
Silver Bell	73,768	28.86	1.13	2,128,944.5	83,357.8
Bagdad Copper	42,672	28.99	.55	1,237,061.3	23,469.6
Cyprus Mines	18,664	22.07	14.08	411,914.5	262,789.1
Duval Corp.	11,463	26.65	.63	305,488.9	7,221.7
AZ Minerals (4th qtr only)	481	12.34	5.74	5,935.5	2,760.9
Total	276,514			7,849,037.3	736,925.3
Weighted Avg.		28.386%	2.665%		

14,738,500 lbs
7,369.25 tons

Zinc in Copper Concentrates, Con't.

El Paso Plant-Copper Concentrates Received 1963

Shipper	Dry Tons	Weighted Avg. Assays Cu-%	Zn-%	Content-Metal Units Cu	Zn
Asarco					
Mission	27,890	29.58	1.42	824,986.2	39,603.8
Banner Mining					
Lordsburg	5,987	23.11	2.70	138,359.6	16,164.9
Palo Verde	6,130	24.45	9.33	149,878.5	57,192.9
AZMinerals	5,921	17.73	2.38	104,979.3	14,091.9
Duval Corp	69,535	26.18	0.63*	1,820,426.3	43,807.1
Idarado Min.	3,002	27.27	5.46	81,864.5	16,390.9
Pima Mining	68,267	25.88	5.49	1,766,749.9	374,785.8
St. Joe Lead	6,129	28.53	1.49	180,989.4	9,132.2
U.S.Smelting	6,301	27.19	5.25	171.324.2	33,080.3
Total	199,162			5,239,557.9	604,249.8
Weighted Avg.		26.31	3.03		12,085,000 lbs
					6,042.5 tons

*Minor amount of zinc content in Duval-Esperanza concentrates not reported at El Paso - Hayden average 0.63% used.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
KHSchultz
WLMiles, Jr.
EEGroff
CPPollock
TASnedden
JHCourtright
RBMeen

Mr. J.H.Courtright-1

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

March 6, 1964

S. I. B. L. P. F. J. H. C.

MAR 26 1964 MAR 26 1964 MAR 25 1964

Mr. B. D. Roberts, Manager

EL PASO PLANT

FIELD TRIP REPORT-REED F. WELCH
FEBRUARY-MARCH 1964

1. Arivaca Mining Corporation. On a trip to Arivaca on February 25th I visited the Arizona Group located at Ruby under lease to Arivaca Mining Corporation. With New York financing, this operation managed by Thomas J. Garrity, under supervision of Harry Lehman, has been working for the past six to eight months in the Arivaca-Ruby area. Ore from the Arizona Mine is hauled to a small flotation plant located on the Cerro Colorado property. Two lots of lead concentrates recently received at El Paso assay:

Smelter Lot	Dry Tons	Au	Ag	Pb	Cu	Zn
114	22.1	.613	56.95	32.6	5.86	4.2
346	39.0	.285	86.25	47.5	8.29	3.6

During this mill run approximately 20 tons of 50% zinc concentrates have been accumulated.

Arivaca Mining has shipped two carloads of crude to El Paso on the assumption the ore was too high grade to mill. On examination of this material I estimated it was too low in value to cover freight and smelting charges and refused to accept any more crude at El Paso. The ore occurs in small lenses 3 to 6 inches wide, in some instances a lens blobs out to 5 to 10 feet for a short distance. The two cars of crude were mined in an area approximately 18 to 20 feet wide, this width made up of a series of narrow veins separated by horses of waste.

Arivaca Mining Corporation believes it has 4-5000 tons of ore in sight but a quick appraisal indicates there may be 1500-2000 tons, after which it will be a struggle to find additional ore for the mill. At the time of my visit the mill was not operating because of lack of water. Arivaca Mining has a rig drilling a well in one of the nearby arroyos, hoping to encounter sufficient water to keep the plant in operation. Neither the manager nor the mine superintendent has sufficient background in mining to assure continued operation.

2. J & E Enterprises. In Warsaw Canyon, south of Arivaca, W.L. Jennings and J.W.Edwards of Mesa are doing some strip mining. One mile of road has been built to a small copper showing in the vicinity of the Pittsburg Mine. With caterpillar and front-end loader they are stripping a small quartz vein 2 to 8 feet wide showing secondary copper minerals. (One front-end loader was lost over the embankment.) I have impressed upon these men the necessity of sorting material before shipment to the smelter and they are picking every piece by hand. One car of approximately 30 tons has been received at

J.& E.Enterprises, con't.

Hayden, assaying:

Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
.003	9.22	4.66	68.7	6.7	.3	3.9

At the time of my visit to the property they had about 15 tons of handsorted material that will be shipped to Hayden when they have accumulated a carload.

J & E Enterprises employs three miners at the rate of $10 a day and one foreman at $15 a day.

3. Arthur Ferl. On February 27th I accompanied Arthur Ferl to his property known as the Recompensa #4313 denouncement located 8 miles west of Nogales, Sonora. This is in the "free port" zone with favorable conditions for bringing in mining equipment from the States. The denouncement is in the name of Mr. Ferl's wife Ida Deltran Ortigoza.

In attempting to interest someone to assist in the operation, Ferl brought this to the attention of two Mexican nationals living in Arizona. These men immediately denounced property surrounding the Recompensa and attempted to have Ferl's permit to work in Mexico cancelled. This caused a loss of two or three months time but Ferl has been reinstated as an operator in Mexico and is now in possession of the property.

Work performed on the Recompensa consists of a 50-foot shaft sunk on the ore. The shaft became the stope and was mined 8 to 12 feet wide and about 50 feet long. On the 50-foot or bottom level Ferl has drifted along the vein which strikes north-south. In this north drift he has followed an ore lens from 6 inches to 2 feet in width made up of fine-grained pyrite, small amounts of chalcopyrite and an unidentified silver mineral.

From the stope and along the vein, mined about 7 feet wide, 37 50-ton railroad cars have been shipped to Cananea averaging about 0.6% Cu, 450 grams Ag, 2.5 grams Au with silica in excess of 60%. Cananea purchase schedule is based on minimum 60% SiO2 with credit of 14¢ per unit in excess of 60%. Silver payment is based on 95% of content, treatment charge $5.00 per metric ton. Ferl estimates mining cost about $2.50 ton, haul to railroad at Nogales $2.50 with freight to Cananea $2.50, making total $7.50 per metric ton. He employs 6 Mexicans and works with his miners.

While at the property I took samples across the narrow vein in the north face extending about 150 feet north of the shaft. Although Ferl has been vigilant in watching the grade by sampling, he had 50 tons in the bin of doubtful grade. Since this accumulated tonnage is a disappointment, Ferl has concluded he should mine the narrow high grade vein and leave the wall rock assaying 200-300 grams Ag per ton which is not commercial. The samples I took assay:

	Description	Width	Au-oz/ton	Ag-oz/ton	Cu-%
#1	Face N.drift 4 meters N last timber	1'	0.11	80.2	1.05
#2	Same vein 5' S of face at shoulder	1'	.14	175.0	2.22
#3	Across vein 4 meters N last chute	1'	.22	143.0	2.51

4. Continental Exploration, Inc.-Todd-Wilson-Chilson Claims, Pima District: This group of claims known as the Nevada-Colorado-Utah group west of Helmet peak and south of Dogtown, was drilled by Bear Creek Mining Co. and released after finding two or three drill intercepts penetrating 7-8 feet of zinc sulphide at a depth of about 800 feet.

Subsequently Pima Mining Company picked up this group and drilled six more holes. Pima was enthusiastic about finding a large tonnage of sulphide ore, but after drilling became discouraged about the tonnage potential and returned the claims to the owners

Early in January of this year the claims were taken under an exploration permit by Harold Smithson, local representative of Continental Exploration, Inc., a subsidiary of Continental Materials (formerly known as Continental Uranium). I understand the preliminary permit will be finalized in an operating agreement by March 15th. The exploration permit calls for payment of $1500 per month. By January 1, 1965 payment will be increased to $3,000 monthly with responsibility for doing assessment work. These payments are considered as advance royalty and can be deducted from 5% royalty due on net smelter returns when the mine is put into operation.

Boyles Bros. is doing the drilling on 250-foot centers using rotary rig to approximately 700 foot level and coring the horizon where zinc mineralization occurs. M.W. Cox of San Francisco is consultant on this project and I recently supplied him with a zinc schedule for calculation purposes. So far drilling has been concentrated on the Nevada claims. The Colorado-Utah-Nevada claims are unitized in one block of approximately 5000(?) acres.

5. Shattuck Denn Mining Corp. Iron King Mine. On March 3rd at Prescott I met with Dan Kentro. Shattuck Denn has a new office building at the mine which has been occupied for the past 30 days. This brings the office personnel from Prescott to the mine for more efficient performance.

For the past few months Shattuck Denn New York management has been pressuring the operating staff to increase ore production. During the period of lower metal prices production was reduced to approximately 20,000 tons per month and utilized maximum efficiency of each man in the organization. Following direction of the New York office Mr. Kentro built up tonnage to 27,000 tons per month, which required hiring of approximately 40 additional employees. As of January 1, 1964 the mine employed 191 men, not including management or office personnel. This increased employment caused the mine immediately to begin losing money and the anticipated increased ratio of ore production per man did not materialize. Employees have since been reduced to 167 men with better efficiency.

Beginning in July 1963 crude ore production and grade has been as follows:

Shattuck Denn-Iron King, Con't.

1963	Tons Ore	Au	Ag	Pb	Zn
June	22,000	.09	2.5	2.3	7.1
July	25,140	.095	3.0	2.1	6.8
August	26,300	.094	3.2	2.3	7.3
September	22,060	.096	3.4	2.3	7.1
October	26,050	.102	3.45	2.1	6.4
November	26,000	.088	2.8	1.76	5.6
December	26,000	.09	2.76	1.77	5.8
1964					
January	27,300	.08	2.4	1.7	5.7
February Estimate	26,900	.10	3.0	2.2	7.0

	Au	Ag	Pb	Zn
Ore mined above the 21st level averaged:	.12	3.0	2.8	8.9
Below the 22nd level so far ore averages	.11	2.8	2.5	7.4

Variation in mill feed from month to month during the latter part of 1963 is the result of change in ore grade and vein width as well as adapting underground mining method to change in structural conditions. Under the guidance of a temporary superintendent, special attention is now being given to experimental sublevel shrinkage mining in place of cut-and-fill method. This is showing some improvement in grade of ore mined.

With present mining method below the 21st level, using sublevel shrinkage, costs have been reduced by $4.50 per ton compared with $7.00 per ton where square-set mining is required. It is expected that ore in depth can be mined successfully with sublevel method, use of timbers being restricted to extraction of the 15-foot pillars adjacent to the upper level.

There are many problems in the Iron King Mine. For example, there are some blocks of ore above the 21st level that require square-set timbering. This could aggregate 200,000 tons and is now being mined during higher metal prices. If metal prices drop before this reserve is extracted the ore will be lost.

Diamond drilling from the 22nd level, 2475 feet below surface, has intercepted ore of satisfactory grade at depth equivalent to the 25th mine level,(2875 feet below surface). This is equivalent to about three levels deeper in the mine (133 feet between levels).

The Iron King Mine started losing money in July 1963, continuing through December. In January the operation broken even and in February it is expected the property will show a little profit. Because Shattuck Denn operation has been losing money I am preparing to negotiate a new contract to improve outcome on sale of concentrates. With present ore reserves of approximately 1.5 million tons, Mr. Kentro believes, with the help of the Smelting Company and with success of the experimental sublevel mining, the operation could be assured for five years in the future, forecast of metal prices being approximately as at present.

6. Blue Bell Mine, Mayer: About three months ago A.J.Zinkl and George Freeman acquired a lease on the Blue Bell mine southwest of Mayer. They are financed by D.D. Forrester for the purpose of testing recovery of copper from mine water in the old workings. Inasmuch as the workings are not accessible and the shaft caved, they drilled a 6-inch hole in the hanging wall projected to intersect stoped areas in the lower part of the mine. On March 3rd when I was in the Prescott-Mayer area they advised me they had encountered workings on the 800 level and started pumping to test the water for copper content. Samples tested at Iron King assay office indicate no copper. It was expected the water would be sufficiently acid to contain copper from upper workings. However, since this test indicates the water does not contain copper, they contemplate adding acid and recirculating the water.

7. Copper Queen Mining Corp. Messrs. A.Simons of Phoenix and Jerry Russell of Prescott have discussed with me working at the old Binghampton Mine northeast of Mayer in the name Copper Queen Mining Corp. Simons and Russell were optimistic about producing siliceous copper that might be of interest for Hayden from the outcrop of the Binghampton ore zone. Although these men expected to start shipments some time in February, to date there has been very little activity at the Binghampton property. Because of inclement weather and bad road to the mine I was not able to visit this property on my March trip.

8. Transarizona Resources, Inc., formerly operating at the Lake Shore Mine south of Casa Grande, failed financially. In August 1962 it was reported this firm had spent $2.2 million at Lake Shore, including a Small Business Agency loan of $650,000 for expansion of mill capacity. This government loan was inadequate to cover expenses incurred in the breaking-in operation of mine and mill equipment, which resulted in accumulation of excess indebtedness that could not be paid, forcing the firm into Receivership. Southern Arizona Bank, administering the S.B.A. loan, appointed Mr. S.B. Owens as Receiver the latter part of 1962. Since that time it has been estimated $1 million additional would be required to place the Lake Shore in operation again.

This property has again come to our attention. I understand that Mr. John L. Asher, an associate of Simon Solomon of Continental Ore Corporation, has been instrumental in obtaining the interest of Continental Ore in the Lake Shore Mine. Continental Ore has advanced a letter of credit to Southern Arizona Bank in amount $1,175,000 with which the Receiver will negotiate outstanding indebtedness and place the property in operation. The present plan calls for expansion of plant capacity together with production of acid. What is to be done with the acid is as yet unexplained unless it is for use in processing the Lake Shore ore. Continental Ore is to receive 6% interest on the money advanced and it is Mr. Asher's intention that the property will resume copper production in the near future.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KDLoughridge
EEGroff
DJPope ← ?
CPPollock
TASnedden
RBMeen
JHCourtright

RKR, ~~FAK~~, ~~FBW~~, ~~TDS~~
2/6/64

Mr. J.H.Courtright

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

January 31, 1964

J. H. C.

FEB 5 1964

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION - 1963
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Report-Excluding Intraplant)

Lead Department	Tons Received -1963		
	Domestic	Foreign	Total
January	11,192	148	11,340
February	11,700	9,104	20,804
March	12,073	7,179	19,252
April	14,718	1,037	15,755
May	13,001	9,801	22,802
June	11,527	7,722	19,249
July	14,459	15,667	30,126
August	10,896	5,023	15,919
September	12,436	15,228	27,664
October	11,832	9,990	21,822
November	14,784	10,255	25,039
December	15,892	5,131	21,023
Total 1963	154,510	96,285	250,795
Copper Department			
January	20,277	-	20,277
February	30,769	80	30,849
March	24,530	278	24,808
April	25,454	122	25,576
May	20,702	119	20,821
June	22,637	316	22,953
July	22,790	-	22,790
August	24,867	96	24,963
September	22,715	3	22,718
October	24,471	62	24,533
November	18,650	71	18,721
December	19,429	283	19,712
Total 1963	277,291	1,430	278,721

Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	Total 1963		On Hand-Tons	
	Received	Smelted	1-1-63	1-1-64
Concentrates	153,244	150,355	23,058	25,479
Residue	80,684	81,167	1,118	1,766
Dust	14,452	10,279	476	4,195
Siliceous Lead Ore	4,847	4,371	-	161
Pyrite	-	-	826	826
Total	253,227	246,172	25,478	32,427

Lead diluent has been received from Cascade Mine, Golden, Colorado, and some oxidized lead ore has been shipped from Asarco's Hardshell Mine at Patagonia.E.W.McFarland, Lessee.

El Paso Plant, Con't.

Copper Department	Total 1963 Received	Total 1963 Smelted	On Hand-Tons 1-1-63	On Hand-Tons 1-1-64
Concentrates	201,880	197,204	4,525	9,820
Precipitates(adjusted)	14,273	13,144	242	894
Residue(adjusted)	18,525	15,987	340	3,504
Matte-Speiss	219	113	-	89
Scrap	1,009	954	20	92
Sulphide	-	1,084	1,048	-
Reverb Flux	703	638	-	66
Converter "	42,510	43,820	31,143	29,959
Total	279,119	272,944	37,318	44,424

Siliceous Flux: Henry Clay Mines, Inc. operation at Lordsburg, during 1963 delivered 30,804 tons from the 85 Mine and 10,310 from Henry Clay Mine. Additional payments to Henry Clay Mines have been arranged to keep the mine in operation. Receipts from Chihuahua have been reduced from previous years with only 929 tons siliceous copper ore in 1963 from operations across the border.

HAYDEN PLANT

Summary of Monthly Receipts (203 Report)

	Tons Rec'd.		Tons Rec'd.
January	32,481	July	30,955
February	27,287	August	29,963
March	34,011	September	27,987
April	32,164	October	29,757
May	29,931	November	31,610
June	27,117	December	24,547
Total First Half	182,991	Total 1963	357,810

Receipts & Stocks from 15-day Reports
(Estimated Tonnages)

	Total 1963 Received	Total 1963 Smelted	On Hand-Tons 1-1-63	On Hand-Tons 1-1-64
Concentrates	276,163	274,042	1,710	4,021
Reverb Flux	27,486	27,547	10,364	10,332
Converter "	50,341	42,173	6,942	14,624
Total 1963	353,990	343,762	19,016	28,977

Siliceous Flux: Hayden flux has come from operations in Canyon del Oro -- Little Hill Mines 24,540 tons, Del Oro 18,560. Supplementing this, Henry Clay Mines at Lordsburg delivered to Hayden 6422 tons of copper-bearing flux purchased on the basis of El Paso delivery. Miscellaneous fluxing ore receipts in 1963 total 3829 tons.

Tiger tailings trucked to the smelter by McFarland & Hullinger have supplied reverb flux --22,795 tons , with 5,096 from Mammoth tailings in 1963.

TACOMA PLANT - Receipts from Southwest and Colorado

		Tons Received 1963	
Concentrates:	Mission Unit	14,603	
	Idarado Mining Co.	5,869	
	Pima Mining Co.	22,599	
			43,071
Crude:	New Jersey Zinc-Eagle Mine		16,631
Total 1963			59,702

ZINC CONCENTRATES

Summary Receipts Amarillo-Corpus Christi
From Southwest & Colorado

	Tons Conc. Rec'd		Tons Conc. Rec'd
January	5,139	July	6,304
February	5,588	August	6,974
March	5,346	September	7,167
April	5,667	October	7,031
May	5,807	November	6,342
June	5,873	December	6,113
Total First Half	33,420	Total Year	73,351

ORIGIN OF DOMESTIC RECEIPTS
Ores, Concentrates, Fluxing Ore

		Tons Received		% of Group
EL PASO PLANT				
Lead Department:	Arizona-New Mexico	17,184		28.54%
	Colorado	34,633		57.53
	Other	8,385		13.93
	Total Lead Department		60,202	100.00
Copper Department				
Custom Tonnage				
Conc, Genl Cu Ore:	Arizona-New Mexico	204,016		82.58%
	Colorado	3,399		1.38
	Other	8,175		3.30
		215,590		87.26%
Mission-Silver Bell		31,465		12.74
	Total Conc., General Cu Ore		247,055	100.00
Copper-bearing Flux (New Mexico)			41,380	
Hayden Plant (Arizona Origin)				
Custom Tonnage-Concentrates		73,280		26,50%
Mission-Silver Bell		203,234		73.50%
				100.00
	Total Concentrates		276,514	
Copper-bearing Flux (Converter)			53,351	
Amarillo Plant				
Zn Concentrates originating	Arizona	30,704		42.82%
	Colorado	41,001		57.18%
				100.00
	Total Zinc Dept.-Arizona-Colorado		71,705	

Summary Colorado Production 1963

El Paso-	Lead Ores & Concts	34,633
	Copper Ores & Concts	3,399
Amarillo-	Zinc Concentrates	41,001
Tacoma -	Copper Conct	5,869
	Crude Ore	16,631
Total Tonnage from Colorado-1963		101,533

COMMENTS ON SHIPPERS

American-Peru Mining Co., Deming Mill lead production 1963 - tons assaying:

Tons	Ag	Pb	Cu	Zn
1,943	25 - 40	44 - 53	4.5 - 7.3	10 - 15

A Z Minerals Corp (successor to Texas Zinc Minerals): 1963 Copper concentrates delivered from operation at Mexican Hat, Utah:

	Tons	Ag	Cu	Zn
El Paso	5,921	2.0	8 - 23	2.5
Hayden	481	1.0	11 - 14	5.0

Bagdad CopperCorp. 1963 receipts El Paso and Hayden:

		Tons	Ag	Cu
Concentrate	Hayden	42,672	1.8	25 - 40
Precipitates	El Paso	6,374		74 - 83

Banner Mining Co., Lordsburg production 1963

Tons	Au	Ag	Cu	Zn
5,987	.29	7.0	22.5	2.5

There has been no production from Pima District property since May 1963.

Cyprus Mines Corp. Copper Queen-Old Dick property, Bagdad - Copper production for 1963 delivered to Hayden Plant.

Tons	Ag	Cu	Zn
18,664	1.8	21 - 24	11 - 16

Duval Corporation-Esperanza Pit Deliveries to El Paso and Hayden in 1963 -

		Tons	Ag	Cu
Concentrates	Hayden	11,463	2.0	23 - 32
	El Paso	69,535	2.2	23 - 32
Precipitates	"	2,453		68 - 82

Emperius Mining Co., Creede, Colo. Production for 8 months of operation in 1963:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.	2,893	.14	80	42	5.7	9.0
Zinc "	2,883	.02	6.3	1.2	.3	57.2

Henry Clay Mines, Inc. Lordsburg - Fluxing ore shipped in 1963:

	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
El Paso 85 Mine	30,804	.026	1.5	1.26	69.9	4.6	2.9	8.2
Henry Clay	10,310	.026	1.5	1.18	69.9	4.5	3.4	8.2
Hayden " "	6,422	.024	1.5	1.19	66.2	4.7	3.1	8.0

Henry Clay Mines lost money in 1963 and is seeking financial assistance. Better mining equipment now arranged for will help reduce mining costs. Up to 4,000 tons per month is now going to El Paso, none to Hayden Plant.

Humphreys Engineering Co., Cascade Mine, Idaho Springs, Colo. Receipts at El Paso in 1963 -

	Tons	Ag	Pb	SiO2	Fe	CaO	Zn	Al2O3
Lead Dept.	2,921	55.0	2.1	74.0	1.5	.6	2.8	8.1
Copper "	325	40.5	1.5	76.5	1.3	.4	2.1	7.7

This silver ore has been purchased for diluent in the lead department. At the time the last schedule was issued (September 1963), tonnage available for direct-smelting was estimated at about 3,000 tons. About half of this estimated reserve has been shipped. On this basis shipments should continue at least through the first quarter of 1964. Other siliceous silver properties in the Golden area may deliver some tonnage to El Paso in 1964.

Idarado Mining Co. - 1963 Production:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc -El Paso	13,555	.78	34.5	71.2	2.6	3.0
Copper " "(4 mos	3,002	.58	23.5	3.8	27.2	6.5
" " Tacoma(8 "	5,869	.56	22.6	3.9	26.7	7.8
Zinc " Amarillo	25,413	.04	2.8	1.0	.9	58.5

Little Hill Mines: Siliceous converter flux delivered to Hayden in 1963 from operations in Canyon del Oro:

	Tons	Cu	SiO2	Fe	CaO	Al2O3
Little Hill Mines	24,540	.74-1.68	71	2.4	.9	10.5
Del Oro(McFarland & Hullinger)	18,560	.26-.35	83	1.9	.3	5.5

Since the Henry Clay flux has been routed to El Paso, these two operations will now supply fluxing ore needs at Hayden

McFarland & Hullinger-Keystone Mine, Crested Butte, Colo. Production July through December 1963 -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	2,725	.019	67.0	30.2	8.2	10.5
Zinc "	3,252		8.0	1.0	2.2	46.0

Improvement in metallurgy is reflected in better grade concentrates; zinc product for the last quarter averaged about 48.5%.

New Jersey Zinc Co., Belden, Colorado. Lead concentrates and crude ore shipments in 1963 -

		Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	El Paso	6,476	.113	34.0	51.2	2.5	7.1
Crude Ore	Tacoma	16,631	.24	23.0		3.0	3.0

Pima Mining Company - 1963 shipments :

	Tons	Ag	Cu	Zn
El Paso	68,267	3.9	26.1	5.4
Tacoma	22,599	3.9	27.6	6.1
	90,866			

Deliveries to the two plants during the last quarter of 1963 averaged about 10,290 tons monthly. Production for the first quarter of 1964 will be less than this because of working in hard ore.

Rico Argentine Mining Co. Shipments in 1963 -

	Tons	Au	Ag	Pb	Zn
Lead Conc.	753	.02	35	70	5.2
Zinc "	1,027		6.0	4.7	53

Shattuck Denn-Iron King Mine Production 1963 -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc.	13,404	1.165	52.6	38	2.4	9.7
Zinc "	29,968	.08	2.3	1.6	.2	55.6

New York management request for expansion in mine production has been reduced from 35,000 to 30,000 tons per month. The local mine management thinks this request can be met for a short period.

Standard Metals Corporation, Silverton. 1963 shipments -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	4,368	.20	18.2	63	2.9	8.4
Zinc "	8,060	.02	5.4	4.4	1.2	52.5

This operation has lost money since its inception. Temporary assistance has been given to Standard Metals Corporation effective January 1, 1964

United States Smelting Co., Bayard: Copper production in 1963 - 6301 tons averaging approximately 27% Cu with .12 oz Au, 2 oz. Ag. The Continental Mine ore reserves are about exhausted. Exploration work is under way to expand known tonnage.

Sonora-Chihuahua Receipts 1963

		Tons Rec'd 1963	
Lead Dept. (Sonora)	Anita Cobre, S.A., Santa Ana	175	
	Minas de Guatamo, Hermosillo-Conc	1016	
	Minerales, S.A. Santa Ana	160	
	Minerales de Hermosillo	368	
	Pedro Trelles S., Magdalena Conc	792	
			2,511
Copper Dept. (Chihuahua)	Jose Carreon-Siliceous	80	
	R.P. Corral	68	
	Angel Flores	368	
	Silicatos y Calizas-Silic.	839	
	Jose Trevino	69	
			1,424
Zinc Concentrates (Amarillo)	Minas de Guatamo, Hermosillo		1,646
Total Receipts 1963 Sonora-Chihuahua			5,581

Minas de Guatamo is now exporting zinc through Guaymas and under present arrangement Amarillo will not receive tonnage from this operation in 1964.

REED F. WELCH

cc: RLHennebach, RLJourdan, CNWaterman, WGRouillard, RMMcGeorge, WLMiles, Jr., EEGroff, CPPollock, TASnedden, J.H.Courtright, RBMeen

RKK

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

L. P. E.

NOV 5 1963
RKK
11-12-63

October 30,1963

Mr. R. L. Jourdan
Vice President
New York Office

NEVADA FIELD TRIP-OCTOBER 21-25,1963

In past years the state of Nevada has been a source of substantial tonnages of silver ores and we have been concerned about possible renewal of activity in that state as a result of recent increase and stabilization of the price of silver.

On Monday, October 21st, at Reno I met Mr. M. C. Teats from Tacoma for a trip through part of Nevada to investigate mining activity that might result in shipments of siliceous ore to our Tacoma Plant. We visited Lovelock, Winnemucca, Battle Mountain, Elko, Eureka, Austin, Tonopah and Fallon.

Lovelock: Mining activity in and around Lovelock is principally in the interest of iron ore, some of which is shipped to Japan. Eagle Picher is active in this area producing diatomaceous earth.

Seven Troughs: Gold mining formerly centered around the Seven Troughs District is not active at present.

Winnemucca: I understand Newmont Mining Company is showing some interest in the Getchell Mine with arsenical gold ore, principally arsenopyrite.

Battle Mountain: Copper Canyon Mine. At Battle Mountain we met McFarland & Hullinger who hold a lease on certain parts of the Copper Canyon Mine. It was thought the glory hole near the old Copper Canyon shaft now exposing large tonnage potential of low grade copper ore might produce a siliceous product that could be moved to Tacoma. In 1958 lessee in this area shipped to Garfield 10,117 tons assaying from 2.6 to 7.3% Cu, averaging about

Au	Ag	Cu	SiO2	Fe	S	Al2O3
.0269	0.88	4.13	61.4	8.0	3.4	6.1

The copper content in past production is higher than Mr. Hullinger thinks could be produced at this time which he estimates would not exceed 2.5%. Inasmuch as the silica content is under 70% and with only 2.5% copper Mr. Teats was not disposed to offer encouragement for shipment to Tacoma.

Elko: Newmont Mining Company has an exploration office and equipment yard in Elko and I understand is actively engaged in exploration work north of Carlin in the Maggie Creek area. Mr. Roger Kirkpatrick advises that Newmont has succeeded in developing a small tonnage of open pit gold ore.

In this same area Phillips Petroleum and Kerr-McGee are drilling, the objective being an open pit gold mine.

Eureka: Hecla Mining Co.-Ruby Hill Project. In my report of May 1, 1963 (April Field Trip) I commented on activity by Hecla Mining Co. at the Fad shaft. A 6-inch hole has been drilled entering the 2250 level of the Fad mine, this work requiring 2½ months. In order to keep the hole going straight with the objective it was surveyed and penstocked about 20 times. Pumping equipment was placed in the T-L shaft located a short distance from the Fad shaft to discharge water into the collar of the Fad shaft, creating hydrostatic head in the shaft. Coincident with pumping water into the Fad shaft, 25,000 bags of cement slurry were pumped into the drill hole. This was done with the water standing at about the 800 level. By creating hydrostatic head in the Fad shaft higher than normal water level, Hecla Mining Company thought it possible to reverse the flow of water forcing the cement slurry into the crosscut leading to the point where water was coming into the Fad shaft workings.

At the time of our visit one pump with capacity about 2,000 g.p.m. was in use to unwater the Fad shaft and water level was then at about the 1800 level. Apparently there has been a stoppage of water entering the mine because this pump is effectively lowering the water.

When the mine was flooded there were at least two submersible pumps left in the sump. Hecla Mining Company has connected these pumps and found that the motors would run. It is remarkable that the motors of this equipment, submerged since 1952, still work. However, the impellers must be filled with sediment because water was not discharged. Additional pumps will be placed in the shaft as soon as available and Hecla Mining Company anticipates water will be lowered to operating level without too much difficulty.

Mr. William Anderson,Jr. is in charge of the Ruby Hill project,as well as the Mayflower operation at Park City, Utah. He was absent at the time of our visit and we talked with Mr. Gary R. Rico, engineer in charge.

Austin: There has been no resumption of mining activity in the old Austin mining district. There are rumors of large potential but no evidence of activity.

Tonopah: We met Robert B. Daniel and T.H. Huntley who are actively promoting properties in Tonopah and Silver Peak areas. Mr. Daniel was hopeful of interesting someone in the northern part of the Tonopah district where the partnership has properties. One mine located about two miles north of the Tonopah Extension Mine was drilled by Asarco in 1950.

At Silver Peak Midcontinent Uranium Corp. has been doing exploration work on the Sixteen-to-One and Mohawk mines. This company has driven a crosscut about 1,000 feet since late June, the work being under contract to Cole and Baum, 307 Belvada Apartment, Tonopah, telephone 482-6861. Midcontinent Uranium is managed by Norman Ebbley, Uranium Center Building, Grand Junction, Colorado. Mr. Daniel advised us that Mr. Ebbley was out of the district deer hunting and we did not go to Silver Peak. It is rumored the vein intersection recently made by Midcontinent in the Sixteen-to-One Mine carries 12-16 ozs Ag per ton If the operator is successful in developing sufficient tonnage this will require a mill producing silver concentrates which no doubt will be tributary to Selby Plant.

Fallon: Mr. S.V. Trease of Fallon has had correspondence with Mr. Teats regarding copper ore in his newly located property (15 claims) about 30 miles southeast of Lovelock in the valley on the west side of the Stillwater Range. While prospecting with his son Robert for iron ore following a storm, Trease discovered this deposit in a small arroyo with a showing of secondary copper minerals covered by a shallow mantle of alluvium. Trease advised us he sank a 50-foot shaft on the granite-lime contact and has accumulated about 80 tons of 5-6% Cu ore. Specimens shown to us contained copper carbonates, silicates, cuprite and native copper in an altered garnetized limestone.

I wanted to see this property but Trease is now engaged as a carpenter which will carry him through November and could not show us this copper discovery. He plans to resume development work on this ore showing after November and will keep in touch with Mr. Teats and send samples for ore evaluation.

Mr. H.B.Chessher,Jr. of Siskon Corporation, Reno, has visited the Trease prospect and Mr. Chessher Sr. has shown some interest in taking over the property. Trease has not responded favorably to this proposal inasmuch as Chessher would promote the mine to an interested operator. Mr. Trease feels he can interest an operator in the property himself. He would like very much to lease the claims to a qualified operator on 10% royalty basis.

Charles Steen Mining Office, 1790 Plumb St., Reno, is located at the Reno airport and he is carrying on extended mining activities.

Mammoth Mine, Eureka, Utah. Steen's interest in the Mammoth mine, operated in the name New Park Mining Co., at present is in exploration and development work. Mr. Julian Ashby is in charge of mining activities for Charles Steen. Ashby, formerly managing Steen's oil investments in Texas, has not had long experience with mining but seems to have a conservative approach to problems placed before him. With reference to the Mammoth Mine he advised New Park Mining Company is not interested at this time in shipment of ore that has been accumulated. Admittedly, it is difficult to justify shipping ore mined to date on the Tacoma purchase schedule.

Mr. W.W. Wittmeyer, New Park manager at Eureka, has provided the following analysis representing three types of ore accumulated on mine dumps from development work taken from the 2600 level of the Mammoth Mine.

	Au	Ag	Cu	SiO2	Fe	S	Al2O3	CaO	Mn	Zn
1)	0.95	12.5	1.3	21	33	30	1.8	1.5	0.2	0.6
2)	.25	15.0	2.0	51	16	23	?	5.0	?	1.1
3)	.20	13.0	2.5	45	20	10	?	9.5	?	0.8

Analysis for No. 1 above has been determined by automatic sampling of 193 tons; analysis reported for the other two products is from hand samples.

While in Los Angeles last month I talked with Charles Steen on the possibility of shipping ore to Tacoma from the Mammoth Mine. At that time he advised me he was working on a possible milling method to

Mammoth Mine, Eureka, Utah, Con't.

eliminate some of the massive pyrite and would advise me the success of the mill tests so that I might evaluate return with a direct-smelting schedule. To date I have no advice on the success of such mill test.

Mr. Steele McIntyre, one of the owners of the Mammoth Mine, advised me that as soon as New Park Mining Company makes a shipment this places the operating agreement on a production basis with greater financial obligations to Mammoth Mining Company compared with present exploration basis. I believe this is the reason New Park is not interested in shipping development ore.

If Tacoma Plant finds it advisable to seek pyrite flux we should encourage New Park to ship a limited tonnage under special schedule terms to determine the feasibility of direct shipment to Tacoma.

Charles Steen New Mexico Prospect. Mr. Ashby advised the ground in the Bonita District, New Mexico, held by Steen in the name of Grand Deposit Mining Company is a purely speculative venture. In December 1962 El Paso received a small trucklot from this property in the name Silver Bar Mining Co.(Ira Young). This six-ton lot assayed:

Au	Ag	Pb	Cu	SiO2	Fe	S
.15	104.8	20.9	0.7	11.4	18	30

Mr. Ashby feels there may not be too much ore potential in these claims.

Rex-Cash Mines, Boulder, Colorado. This operation under the name Grand Deposit Mining Co. is financed by Steen with 90% ownership in the Steen family. I understand the Rex-Cash operation is considered a personal venture for Charles Steen, with local management by Russell McLellan at Boulder. The last previous information I had on this subject indicated Steen was interested in attempting to mill this ore. The Rex Mine product assays about 6 oz Au, 80 oz Ag per ton; the Cash Mine ore about 1.58 oz Au, 15 oz Ag per ton. Apparently Mr. Ashby is not in favor of milling this high grade and reports the operation is now placed on production basis for shipment of crude ore to the smelter. Request was made early in July for publication of suitable freight rates to move this product from Boulder to El Paso. To date I have not been advised the effective date of the requested rates.

REED F. WELCH

cc: RLHennebach
WGRouillard
BDRoberts
REShinkoskey
JTRoy
DJPope
CPPollock
TASnedden
JHCourtright

J. H. COURTRIGHT

J. H. C.

NOV - 6 1963

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

November 4,1963

Mr. B. D. Roberts, Manager

EL PASO PLANT

SOUTHWEST & COLORADO PRODUCTION-NINE MONTHS 1963
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Report-Excluding Intraplant)

Lead Department	Tons Received-9 Months Domestic	Foreign	Total
January	11,192	148	11,340
February	11,700	9,104	20,804
March	12,073	7,179	19,252
April	14,718	1,037	15,755
May	13,001	9,801	22,802
June	11,527	7,722	19,249
July	14,459	15,667	30,126
August	10,896	5,023	15,919
September	12,436	15,228	27,664
Total 9 months	112,002	70,909	182,911
Copper Department			
January	20,277	-	20,277
February	30,769	80	30,849
March	24,530	278	24,808
April	25,454	122	25,576
May	20,702	119	20,821
June	22,637	316	22,953
July	22,790	-	22,790
August	24,867	96	24,963
September	22,715	3	22,718
Total 9 months	214,741	1,014	215,755

Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	9 Months 1963 Received	Smelted	On Hand-Tons 1-1-63	10-1-63
Residue	62,263	60,576	1,118	3,008
Concentrates	112,132	108,844	23,058	25,699
Siliceous Lead	2,677	2,633	-	51
Dust	8,729	8,125	476	663
Sulphide	-	-	826	826
Total 9 Months	185,801	180,178	25,478	30,247

El Paso Plant, Con't

Copper Department	9 Months 1963 Received	9 Months 1963 Smelted	On Hand-Tons 1-1-63	On Hand-Tons 10-1-63
Concentrates	153,581	147,507	4,525	11,077
Precipitates*	10,272	9,762	242	365
Sulphide	-	1,084	1,048	-
General Copper	564	502	-	62
Residue	13,847	11,805	340	3,980
Converter Flux	36,342	32,660	31,143	34,961
Matte-Speiss	-	-	-	51
Scrap	620	634	20	7
Total 9 Months	215,226	203,954	37,318	50,503

*Tonnage adjustment to separate Precipitates & Residue

Siliceous Flux: Late in August Henry Clay Mine production, up to 1500 tons per month, was diverted to Hayden Plant to reduce excess flux moving to El Paso

HAYDEN PLANT

Summary of Monthly Receipts (203 Report)

	Tons Rec'd.		
January	32,481	July	30,955
February	27,287	August	29,963
March	34,011	September	27,987
April	32,164	Total 9 Months	271,896
May	29,931		
June	27,117		
First Half	182,991		

Receipts & Stocks from 15-Day Reports
(Estimated Tonnages)

	9 Months 1963 Received	9 Months 1963 Smelted	On Hand-Tons 1-1-63	On Hand-Tons 10-1-63
Concentrates	212,069	210,677	1,710	3,192
Reverb Flux	20,722	21,296	10,364	9,819
Converter "	36,336	32,927	6,942	10,048
Total 9 Months	269,127	264,900	19,016	23,059

Fluxing Ore: Little Hill-Del Oro high-silica flux supplies converter requirements and Tiger tailings reverberatory flux. Henry Clay Mines at Lordsburg delivered 2307 tons of converter flux containing lower silica (approximately 65%) than the Little Hill-Del Oro product.

TACOMA PLANT - Receipts from Southwest and Colorado

Concentrates:	Mission Unit May-Sept.	14,603	
	Idarado Min.Co "	3,919	
	Pima Mine (September)	1,767	
			20,289
Crude:	New Jersey Zinc-Eagle Mine		11,281
Total 9 Months 1963			31,570

ZINC CONCENTRATES

Summary Receipts Amarillo-Corpus Christi
From Southwest & Colorado

	Tons Conc Received		Tons Conc Received
January	5,139	July	6,304
February	5,588	August	6,974
March	5,346	September	7,167
April	5,667		
May	5,807	Total 9 Months from Southwest & Colo.	53,865
June	5,873		
Total First Half	33,420		

COMMENTS ON SHIPPERS

A Z Minerals Corp.(Texas-Zinc Minerals), Mexican Hat, Utah. Copper concentrates delivered to El Paso through third quarter 1963 - 5834 tons assaying 15 - 23% Cu with about 2 oz Ag per ton. Effective for truck delivery to Hayden October 16th a new contract was made. Hayden delivery represents considerable saving in shipper's trucking cost because of back haul of manganese picked up at Nogales.

Bagdad Copper Corp. Smelter receipts for nine months 1963:

	Tons	Ag	Cu
Concentrates-Hayden	31,527	1.8	25 - 40
Precipitates-El Paso	4,374		74 - 83

Banner Mining Co. - Production 1963 through third quarter:

	Tons	Au	Ag	Cu	Zn
Palo Verde(6 months to shutdown)	6,130	.01	7.5	24	10
Bonney	4,823	.26	7.1	24.5	2.5

It is expected Bonney Mine production will continue at about the current rate.

Cyprus Mines Corp. Copper production for 9 months 1963 delivered to Hayden Plant - 14,137 tons averaging about 22.4% Cu, 1.8 oz Ag per ton, 13.6% Zn.

Duval Corporation-Esperanza Pit: Deliveries 9 months 1963:

		Tons	Ag	Cu
Concentrate	Hayden	10,427	2.1	23 - 32
	El Paso	48,904	2.0	23 - 33
Precipitate	"	1,689		68 - 81

= 10 lbs cu per ton ore at 12000 tpd, and 27% cu in conc.

± 10¢ per ton ore

Emperius Mining Co., Creede, Colorado, resumed operation in June after 4-month shutdown. Production for this period of operation -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	1,660	.34	84.5	43	4.9	8.5
Zinc "	1,631	.02	6.3	1	.3	57.2

Henry Clay Mines, Lordsburg. Beginning late in August Henry Clay Mines started shipment of flux to Hayden Plant. Receipts at El Paso and Hayden January through September 1963:

	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
El Paso 85 Mine (Brannan & Fuller Lease)	28,269	.026	1.4	1.29	70.2	4.5	2.8	8.2
Henry Clay Mine	6,993	.024	1.4	1.19	70.6	4.5	2.8	8.4
Hayden " " "	2,307	.01	1.2	1.20	66.0	4.0	2.5	9.5

Hayden deliveries come from the Henry Clay Mine; production from the 85 Mine has been reduced since tonnage started moving to Hayden. This operation is faced with litigation which may interfere with future production.

Idarado Mining Co., Telluride, Colorado - Production for 9 months 1963:

		Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	El Paso	10,156	.800	35.6	72.0	2.6	3.0
Copper "	"	3,002	.576	23.5	3.8	27.2	6.5
" "	Tacoma	3,919	.578	22.8	3.5	27.0	7.5
Zinc "	Amarillo	19,027	.04	2.8	.9	.9	58.8

Since April all copper production has been moving to Tacoma Plant. No change is anticipated in Idarado production rate.

Little Hill Mines: Shipments of high-silica flux to Hayden for 9 months of 1963 from Little Hill and Del Oro operations:

	Tons	Cu	SiO2	Fe	CaO	Al2O3
Little Hill Mines	18,702	.84 - 1.6	72	2	.8	10.5
Del Oro (McFarland & Hullinger)	13,971	.29 - .35	84	2	.3	5.5

McFarland & Hullinger, Keystone Mine, Crested Butte, Colo. Production for the third quarter 1963 since starting the mill late in June -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	1,196	.016	70.6	29.9	8.1	11.6
Zinc "	1,562	.01	10.5	1.4	2.8	41 - 45.6

Since the first shipment late in June metallurgy has been improved but still is not satisfactory.

Nash-McFarland operation at Trench Mill was concluded in August. Concentrate production since this operation started in 1958 is summarized below.

Zinc Conc.	Year	Tons	Ag	Pb	Cu	Zn
	1958	3,642	2.0	0.9	1.3	57.0
	1959	3,690	2.4	1.5	1.2	54.0
	1960	3,149	2.4	1.3	1.4	54.5
Amarillo	1961	1,485	2.5	1.6	1.2	54.6
CorpusChristi		1,372	2.3	2.0	1.1	54.1
	1962	2,001	2.8	2.8	1.2	55.1
	1963	736	2.9	2.4	1.2	53.0
Total Zinc		16,075				

Since the middle of 1961 the zinc has been shipped to Corpus Christi.

Nash-McFarland Trench Mill, Con't.

Lead Conc	Year	Tons	Au	Ag	Pb	Cu	Zn
	1958	1,672	.02	47.0	70.0	1.3	5.0
	1959	1,082	.027	48.9	67.0	1.9	4.6
	1960	2,150	.02	40.0	70.4	1.4	4.2
	1961	1,385	.02	35.5	69.2	1.5	4.5
	1962	1,065	.02	32.8	73.1	.3	4.3
	1963	378	.02	39.6	73.5	.5	4.0
Total Lead		7,732					

New Jersey Zinc Co.,Belden, Colorado: Lead concentrates and crude ore shipments for 9 months of 1963 -

		Tons	Au	Ag	Pb	Cu	Zn	Fe	S
Lead Conc.	El Paso	5,241	.099	31.1	49.2	2.4	7.8		
Crude Ore	Tacoma	11,281	.26	22.7		2.75	3.0	37	42

Pima Mining Co. Production for three quarters 1963

	Tons	Ag	Cu	Zn
El Paso	58,213	3.6	25.7	5.4
Tacoma	1,767	2.95	25.6	4.8

Trial shipment of Pima concentrates (10 cars) was sent to Tacoma late in August with 1767 tons received at that plant in September. Beginning early in October Pima concentrates have been moving to Tacoma at the rate of 2,000 tons per week and will continue on this basis for the time being.

Shattuck Denn Mining Corp.-Iron King Mine. Receipts for 9 months of 1963 -

	Tons	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	El Paso	9,994	1.132	51.3	38.1	2.3	9.8
Zinc "	-Amarillo	22,528	.08	2.2	1.6	.2	55.6
	Corpus Christi	57	.08	2.1	1.2	.2	56.1

Iron King mine is now producing 25,000 tons of crude ore per month. Management is working to produce 30,000 tons monthly which will gradually increase concentrate tonnage in the next four months.

Standard Metals Corp.,Silverton, Colo., has increased production since the first of the year, now shipping approximately 500 tons per month lead concentrates and 900-1000 tons of zinc. Shipments through the first 9 months 1963 -

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	3,022	.176	19.1	65.2	2.6	8.5
Zinc "	5,860	.02	5.5	4.2	1.2	52.8

Increased tonnage came from re-activating the old Shenandoa-Dives Mine and tramline. This ore also dropped the grade of the zinc product.

Production Southwest-Colorado
Total 9 Months 1963

Sonora-Chihuahua - 9 Months 1963

Lead Department (Sonora)	Total 9 Months	
Minas de Guatamo, Hermosillo - Conc.	703	
Minerales, S.A., Santa Ana	160	
Minerales de Hermosillo	368	
Pedro Trelles S., Madgalena - Conc	536	
		1,767
Copper Department (Chihuahua)		
Jose Carreon	80	
Ramon Corral	68	
Angel Flores	240	
Silicatos y Calizas	551	
Jose Trevino	69	
		1,008
Zinc Conc.-Minas de Guatamo		1,277
Total 9 Months Sonora-Chihuahua		4,052

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
EEGroff
WLMiles, Jr.
CPPollock
TASnedden
JHCourtright

Mr. J.H. Courtright-1
L.P.E.

JCK Oct 21

SOUTHWESTERN ORE PURCHASING OFFICE ~~TDS~~ OCT 21 1963
Tucson Arizona ~~JLK~~ J.H.C.

October 8, 1963 MR. ~~TDS~~ ~~WES~~ ~~RKK~~ OCT 15 1963
W.E.S. READ AND RETURN
OCT 17 1963 PREPARE ANSWERS ____ HANDLE ____
RKK 10-18-63

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

INITIALS ____

FIELD TRIP REPORT-REED E. WELCH
COLORADO-OCTOBER 1-5,1963

Last week I made a trip into the southwest section of Colorado visiting our contract shippers and potential producers.

1. Emperius Mining Co., Creede. For several weeks we have had correspondence with Mr. B.T. Poxson regarding moisture content in the lead concentrates shipped to El Paso. Mr. Poxson has just been to Creede and was not able to return to the mine to meet with me. I discussed this problem with the office manager, Mr. Hayden, and the mill superintendent, Mr. W.W. Wentworth, who is not so disturbed about moisture comparison with the smelter as Mr. Poxson seems to be. Mr. Wentworth showed me moisture samples taken on lots already liquidated at El Paso which indicated mill moisture was 1.25% to 1.50% higher than moisture at the smelter. Mr. Wentworth does not agree with Mr. Poxson's thinking on this subject inasmuch as Poxson determines El Paso moisture by using the wet weight at Creede compared with dry weight at the smelter. Any loss in transit, which seems to be considerable, shows up in this calculation as moisture

Mr. Wentworth is doing his best to reduce moisture content of concentrates. With the limited facilities available I believe he is doing a fairly good job. The principal problem is to convince Mr. Poxson of the error in his interpretation.

The Emperius mill is treating 120 tons of ore per day assaying 11 oz Ag per ton, 5% Pb, 6% Zn, 0.6% Cu.

2. Gordon Hosselkus & Associates. Gordon Hosselkus is assayer for Emperius Mining Co. and has mining interests of his own to the west of the Emperius vein and north of the Bullfrog property on which Humphreys Engineering did some exploration work. Associated with Gordon is his brother Harry J., Ivan Weaver, W.W.Wright and J.J.Williams. Work is done on week ends and holidays on the Monan #1 and Monan #2-Embargo claims. Gordon has done some rather careful mining and kept fairly good assay records indicating he has some ore containing 35 ozs Ag per ton. If we could encourage him to ship 25-30 oz Ag ore he thinks he could produce two railroad cars per month.

In the work done on these two claims the partnership has accumulated about 5 tons of 1500 ozs Ag which I advised could be delivered to El Paso by truck.

The Monon 2-Embargo claim has estimated 2500 tons of sulphide ore assaying 18% Pb, 22% Zn with gold-silver values that could be shipped to a custom mill. Personnel from American-Peru mill at Deming visited Creede and obtained samples of this ore in order to quote an outlet.

3. McFarland & Hullinger-Keystone Mine. At Salida I observed one railroad car of zinc and about half a carload of lead concentrates from the Keystone Mine. It was apparent the truck drivers were negligent in loading rail equipment. In the case of the zinc product the car was overloaded in the center with no concentrates over one set of axles. This resulted in heaping of concentrate in the center of the car, overloading one side of the equipment. At Crested Butte I called this to the attention of Mr. Erickson, Mill Superintendent, and the bookkeeper. We talked with the truckers cautioning them regarding the necessity for proper loading of concentrates in rail equipment and I believe better loading practice will be followed in the future.

The Keystone mill is handling about 240 tons of ore per day. Mr. Erickson reports the metallurgy has improved. Much of this improvement is the result of re-using water from the tailings pond. This avoids contamination with mine water which is polluted with iron and mud. A water line has been run approximately half way to the face from which fresh water may be obtained. This project will be pressed so the mill will be supplied with uncontaminated water.

Erickson has added two lean-tos to the mill building to provide better storage for supplies and has enlarged approaches to the mill for more accessible truck and car entry.

The mine superintendent was underground at the time of my visit and I did not obtain underground information. The fact that the mill is working steadily indicates the mine is being brought into better condition.

4. Armand Brazil, Lake City. During the past summer we have had an occasional inquiry for ore outlet from Lake City. Armand Brazil of Lake City has interested Salt Lake City financing in one of his properties in that area. With promoting enthusiasm 8 tons were trucked from this property to International Smelter assaying .07 oz Au, 16.23 ozs. Ag, 1% Zn. The net return to shipper after smelting was $8.70. With this discouraging result it developed money was not available to pay labor or supply bills and this operation went out of existence.

5. Joe R. Brown, Frank Hugh Mine. This mine, owned by Joe Brown of Montrose, is located on American Flat in Engineer Pass between Lake City and Ouray, about 20 miles north of Lake City. Brown has been attempting to promote this and other properties and claims he has interested Murchison brothers of Texas in organizing the Skyline Mining Co.

The Frank Hugh mine subsequently was leased to the Kelly brothers of Grand Junction, former uranium operators with mechanical loading equipment. Two samples obtained from this mine, claimed to represent 7 foot width, assayed:

	Au	Ag	Pb	Cu	Zn
1)	.04	16.6	.3	7.5	.6
2)	.05	28.1	.5	9.6	.4

Brown is known in this area for taking specimen samples which are not verified with shipments. He recently delivered 200 tons to

the Standard Metals mill at Silverton which did not pay for the hauling. He now has about 150 tons dumped at the Pride of the West mill in Silverton. Observation of this material indicates as much as 0.5% Cu is doubtful.

While there may be narrow veins represented by the grade of Mr. Brown's samples, use of mechanical equipment and mining with front-end loader from the surface will not produce satisfactory results.

6. Camp Bird Mine. At Ouray I discussed the future of the Camp Bird property with some of the Idarado people. It has been rumored that Mr. Tremlett made an operating agreement with a mining company on the Camp Bird property. I now learn this transaction was with Federal Resources, this firm putting up $1.2 million for 26% of the new operating company stock. Out of this payment, $300,000 is to be considered as a loan to the operating company to be repaid from profits. At a later date Federal Resources has an option to acquire up to 51% of the operating company ownership for $1 million.

7. Idarado Mining Co. at present has no particular problems with reference to shipments to smelters. The mine is producing 3900 tons per month which seems to be the optimum tonnage for maximum efficiency. This allows the mill to work 7 days for three weeks of the month and 6 days the next week with one day for mill inspection. The mine operates on 5-day weekly basis. The last wage increase of 8¢ per hour has been met with better efficiency underground. Mr. Hilander is quite confident the efficiency of the mine is keeping up with wage increases. Much of this is accomplished through obtaining maximum ore production.

At Telluride I visited with Mr. Tatman who discussed variation he has been experiencing in the filter plant. He is aware that in some instances the zinc concentrate shipped to Amarillo has contained a little too much moisture for satisfactory handling. It is his objective to ship concentrates containing not more than 9% moisture when the product leaves Telluride. However, he has experienced vacuum pump problems and has had a burned out motor in the lead filter tank agitator which results in higher moisture than desired in the lead product. Mr. Tatman is doing the best job possible with this complex problem, and is willing to tackle the problem of eliminating high water content in the concentrates.

Copper concentrate shipments to Tacoma so far have been very satisfactory as far as dry weights are concerned. There has been less loss in transit over the past three months than experienced in previous shipments to Tacoma and this has eased the tension with the producer as far as delivery to Tacoma is concerned.

Mr. Tatman is working with the zinc product hoping to obtain an ultimate average grade of approximately 59%. The balance between losses in tailings and recovery seems to be about at that level and in many instances he is meeting this specification.

The Idarado mill metallurgy at times acts up unexpectedly. Mr. Tatman believes one reason for this variation in mill performance could be ore coming from development work on the 2,000 level where the

Idarado Mining Co., Con't.

vein contains petroleum products. This comes in about the position geologically that the conglomerate or red beds occur. Large specimens of ore shown to me contain considerable tacky tar petroleum.

8. James D. Dalpez, Shamrock Mining & Leasing Co., has a lease from Idarado Mining Company on the Little Jimmie vein located in Valley View draw immediately above Telluride and next to the Smuggler claim. Mr. Dalpez owns claims adjacent to the Little Jimmie and over a period of years has driven several hundred feet of adit. The vein is about 6 inches wide, along which he has mined high grade for 15 to 16 feet. He has also encountered stope fills in the old upper mine workings and thinks this would contribute enough material for a small gravity concentrator.

Samples from Dalpez assay 7.15 oz Au per ton, 213 oz Ag, 1.6% Pb, 3.5% Zn. I expected this would be the highest grade he could produce but "Whispering Joe," as he is known locally, gave me to understand he sampled only the low grade questionable material. At his home in Telluride he has accumulated about 20 tons of ore he thinks will contain from 7 to 40 oz Au and about 500 oz Ag per ton. I told Dalpez he could ship this to El Paso if he can make satisfactory trucking arrangment for delivery to the smelter. Because of franchise on trucking in this area he is having trouble in obtaining a satisfactory rate.

9. Standard Metals Corporation is producing ore from the Sunnyside and Silver Lake mines, the latter brought down over tramline. Tonnage from the two properties amounts to 550 to 560 tons per day. Ninety men worked in the mines and mill during the month of September. Dave Axtell is quite hopeful that with increased metal prices and larger steady tonnage for the mill this operation eventually will be successful.

Lead concentrates continue to be delivered to El Paso by truck. Although one truck does not keep up with lead production, it seems to be working out satisfactorily financially. Application for freight rates from Bernalillo is serious and Standard Metals would like to have rates established from that station for movement of both lead and zinc concentrates.

10. Silver Wing Mining Corp. Clyde Christie, manager of this operation, spends most of his time in Silverton. Vandalism during the summer months cost this operation several thousand dollars in destroyed equipment and stolen property. This setback, together with inexperience and no knowledge of mining, almost brought failure to the project. However, Christie is willing to take suggestions and is doing his best to be practical in his approach to ore production. The mine employs 9 men on two-shift basis.

Mr. Christie has acquired the Pride of the West mill--50-60 tons per day capacity--located about five miles up the canyon from Silverton. The mill employs 3 men under the direction of Mr. Wigglesworth who has more knowledge of mining than others in this project. Wigglesworth does the assaying and consults with Christie on mining in addition to running the mill.

Silver Wing Mining Corp. Con't.

The Silver Wing mine apparently has a number of lenses of copper-silver ore in a rather wide zone. The lenses produce 1.8 to 5% Cu with 1.5 to 3 oz Ag per ton. Concentrates produced from these gash veins have been running from 17 to 20% Cu with 15 to 20 oz Ag per ton. This product is trucked to Inspiration smelter at Miami. With some success underground, Christie believes he could produce 250 tons of concentrates per month from ore assaying 4% Cu. On evaluation of this concentrate production it is possible I can purchase this for Hayden delivery.

11. Rico Argentine mine and mill employ 70 men, 60 Navajo Indians paid $1.50 to $1.70 per hour. The mine is managed by Orville Jahnke who was away at the time of my visit because of death in the family. The acid plant employs 9 men under supervision of George Herrington. The rated capacity of this plant is 150 tons of acid per day but because of inefficiency of an old plant, 120 tons daily is the best that can be produced at this time.

In Jahnke's absence, Herrington was in charge but did not know if the flotation mill was operating at the time. The ore for flotation seems to be very erratic and apparently the mill does not operate when excess pyrite appears in the ore, which then goes to the acid plant.

The underground raise started a year ago for the purpose of hoisting ore to the surface has not yet been completed. With the apparent lack of efficient supervision it seems the operation is barely getting by.

12. Proposed Colorado Smelter. The proposed smelter was discussed in some detail with Mr. Hilander of Idarado Mining Co. who informed me he does not see how an independent smelter could operate economically in Colorado. However, Denver Equipment Co. is doing some metallurgical work on ores and concentrate samples from the various mines. Obtaining the samples is under the direction of Charles R. Butler, a geologist residing in Durango. He obtained 200 pound sample of Idarado mill feed and three 50-pound samples of lead, copper and zinc concentrates. Samples of ore and concentrates have also been collected at Standard Metals Corporation and presumably from other producers in Colorado. Denver Equipment Co. is preparing bulk samples for test in the Imperial Smelting Company laboratory in England.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KHSchultz
WLMiles, Jr.
KDLoughridge
DJPope
CPPollock
TASnedden
JHCourtright

Mr. K.E.Richard-1

W.E.S.

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

JUL 3 1963

J. H. C.

K. R.

June 20,1963

JUL 25 1963

JUN 21 1963

Mr. B. D. Roberts, Manager

MR. ~~AHC~~ ~~RKR~~ ~~SAP~~ ~~WES~~
READ AND RETURN
PREPARE ANSWER HANDLE
FILE

S. I. B. R.K.R. 6-28-63

EL PASO PLANT

JUN 21 1963

FIELD TRIP REED F. WELCH
COLORADO AREA, JUNE 6-14, 1963

1. Proposed New Smelter in Colorado: Since abandoning the Leadville plant it has been a field day for promotion of a new smelter for the Colorado area. At first small Mace furnace installations were proposed. All of these were unwarranted as far as ore potential and successful operation were concerned. In discussing this with me during the mining meetings last February one of the proponents, Carl I. Desmont, proposed building a plant at Ouray. He thought he could operate such a furnace successfully without metallurgical knowledge. Mr. Desmont, formerly with War Production Board, asked for a bullion schedule when I met him in February. I thought I had discouraged him but now find he has been appointed on Governor Love's Mining Industrial Development Board. On this trip he again asked for a lead bullion schedule.

The Governor's committee has been evaluating the feasibility of constructing a smelter in Colorado and the Pueblo Chamber of Commerce has proposed the plant be located in that area. The committee contemplates using the Imperial smelting process which is operating in England, reportedly treating ore from a mine in Australia. Senator Dominick and Representative Aspinall are lending support to this proposal and I understand the Area Redevelopment Administration would provide 85% of the $15-16 million construction cost.

2. Emperius Mining Co. The mine at Creede closed down at the end of last year. After some adjustment in mine and mill supervision and a new mining contract, Mr. Poxson resumed operations and started shipments again on May 21st. The new Mine Superintendent is Ben Neher; Mill Superindendent, William Wentworth, formerly mill man at Camp Bird. The old mining contract established over a period of years resulted in miners' pay up to $2200 per month and was not favorable to the mining company. A new ore mining contract based on ore value instead of cubic footage in stopes is proving to be more favorable for the operation.

With emphasis on economy and new supervision in mine and mill Mr. Poxson believes he can continue in operation on present metal prices without losing money as he did during the past two years. Concentrate production will be substantially the same as in 1962. Comparison of 1962 mine production with May 1963 is shown below:

Head Assays:	Au	Ag	Pb	Zn	Cu	Avg.Tons Milled/Day
1962	.0195	7.32	5.09	7.93	0.70	123.30
May 1963	-	9.36	5.71	7.32	.65	115.61

3. Camp Bird Colorado: Mr. C.P.Tremlett, manager of Camp Bird in Denver office, has not been allowed sufficient capital by the London office to operate this property successfully and on March 15th he closed the mine and mill. One of the Camp Bird directors was expected in Denver the day I visited the office.

Since closing the mine Tremlett has compiled data to show what he thinks is worth while for exploration and development in the Camp Bird property. He estimates development of the mine to be a steady producer will require $3 to $4 million. He presented a report on Camp Bird to John Simpson of Placers Development, Ltd., Vancouver, inviting that firm to join Camp Bird in development of the mine. Simpson and associates after consideration of Tremletts proposition made a counterproposal which was so far apart from the original it left no room for negotiation and the matter was dropped. I understand Mr. Tremlett is considering resigning his position with Camp Bird.

On one of his trip to England Mr. Tremlett visited the Imperial smelter in Avondale where he observed the successful operation. As a result he is enthusiastic in support of this smelting process for a plant to smelt ores from the various mines in Colorado.

4. Humphreys Engineering, Cascade Mine: Humphreys Engineering of Denver is shipping 40-60 oz. silver ore to El Paso loading on the railroad at Golden. Mr. McKinley reports the vein is now about 300 feet long. They have raised on the ore above adit level about 140 feet. At this elevation the vein widened from 2-3 to 10 feet, only to pinch again to a narrow streak a few feet higher. By the time they raised 150 feet the vein changed in dip from vertical to a lower angle which seems to cause the pinches and swells. Sufficient work has not been completed above the 150 foot level over the adit to foresee what the vein will be like approaching the surface.

Mr. McKinley rehabilitated an old winze below adit level which required going through some underhand stoped area. He sank this working about 100 feet, at which position the winze ran into an old drift that connects with workings in the Lamartine Mine to explore the Chloride vein of that mine. Apparently the values above adit level of the Cascade Mine do not continue downward to make this area a stoping possibility. If the Chloride vein is the same as the Cascade this work predicts termination of value in depth. However, there are approximately 400 feet above the present stoping position in the Cascade Mine that will provide prospecting area. With approximately 1,000 tons of broken ore in the stope and equal tonnage of unbroken ore, McKinley thinks he can continue shipments to El Paso through this year.

With rate of $7.15 recently established, effective July 1st, from Rocky Flats to Utah plants compared with $9.34 applying on present shipments to El Paso we may be obliged to adjust purchase terms to meet Tooele competition.

5. Glory Hole, Inc. Dr. William M. Muchow, promotor of Glory Hole Mine was in the East at the time of my June trip. Warren Prosser, 430 Cooper Building, Denver, formerly with Asarco, is consulting engineer. His approach to this property is quite professional but he admits the controlling management is not compatible with his thinking. Doctor Muchow is out of funds to carry on an operation. He has spent over $100,000 in the last few years on an unorthodox mill. According to Mr. Prosser the mine has some merit and a legitimate mining company has been interested in leasing. However, Dr. Muchow will not relinquish the mine to another operator without consideration for cost of the mill which no lessee would want.

The gold-silver-zinc mineralization in the Glory Hole mine is worth about $4.50 per ton. Zinc in the breccia zone assays 1.6%. Mr. Prosser believes the area has some potential for exploration from an engineering point of view. An operation might be handicapped in mining because of control of stream pollution and forest service restrictions.

6. Wellington Mine Association. On June 5 I visited the Welling- Mine at Breckenridge. Interest in this property has been kept alive by C.O.Parker of Denver who has faith in the future of the mine. His son Pat, C.O.Parker,II, is General Manager of the operation; Roland Paulson, Comptroller; Harold Wall, Mill Superintendent; Robert Schlosser, Mine Superintendent; and Homer Huntsinger, Purchasing Agent. In the mine and mill 23 men are employed working the mine on one shift, the mill three shifts. At present the mill is treating 110 tons of ore per day.

There have been some unexpected expensive incidents in bringing this property into production but the mill is producing good grade lead--74-75%. The zinc is marmatitic and concentrates run 48-50%. So far this operation has produced 4 carloads of lead and 10 cars of zinc concentrates. With the exception of one car handled at El Paso the lead production has been shipped to Tooele. Two cars of zinc were received at Amarillo, the remainder purchased by American Zinc at Dumas. Since my return to Tucson I have been advised by Mr. Parker that the next two cars of lead will be consigned to El Paso. On my return trip to that area next month it is possible I can secure both lead and zinc production for our smelters.

7. Idarado Mining Co. I visited the Idarado camp on June 10th. Mr. Hilander was on the Telluride side. In telephone conversation he advised me he did not receive first-hand information on the proposed new smelter in Colorado.

Because of heavy runoff Idarado is working with more difficult mining problems than encountered during winter months. More water is coming from the mine making the ore wet and adding to problems in the crushing plant. Tonnage handled through June and July will be affected slightly but this is temporary resulting from seasonal conditions.

Idarado Mining Co.,Con't.

Mr. Hilander reported he has not had an opportunity to evaluate the change in pulp preparation now in effect at El Paso but he believes it will benefit all concerned to eliminate the accumulation of metallics in the lead product. He will get in touch with me on results of his comparison with El Paso after sufficient time for evaluation of this method of pulp preparation.

Mr. Forbes, Chief Clerk, reports rail equipment supplied by D&RGW for shipment of zinc concentrates to Amarillo is much better than a year ago. As a result of eliminating use of lime in the filter plant Idarado is satisfied to continue shipping zinc in boxcar equipment.

Copper concentrate tonnage moving to Tacoma admittedly is not to the advantage of the producer. The specific objection is the time consumed for delivery to the smelter which increases period required for settlement as compared with El Paso delivery. Also concentrates travel over greater distance through variable climatic conditions. However, in spite of these objections Idarado is not too unhappy so far with diversion to Tacoma Plant.

8. Standard Metals Corporation. The first of March David Axtell became Superintendent at Silverton, replacing Dave Hutchinson who was unable to keep the mine advanced sufficiently with broken ore to supply continuous mill operation. The mill is now handling up to 12,500 tons of ore per month resulting in increased concentrate tonnage. However, Mr. Axtell is having troubles with the mining method--long-hole drilling--on 20-40 foot width veins results in poor breakage. This requires secondary blasting of larger boulders. A modified stoping method using sublevels will be tried in the hope of eliminating secondary blasting and reducing steel cost.

In April Standard Metals started hauling concentrates to El Paso using one truck and two drivers. This equipment is able to handle all the lead production with the exception of tonnage accumulated when the smelter cannot accept trucks over weekends and holidays. An occasional railroad car is shipped to handle this accumulation. By using their own truck it appears a saving of $1.00 per ton concentrate can be effected. Because of this experience in trucking to El Paso, Standard Metals is interested in trucking both lead and zinc concentrates to Bernalillo,New Mexico, for loading on the railroad. Rates that might be available from that station to Amarillo and El Paso are being evaluated by Mr. Cantwell.

Directors of Standard Metals in New York, Gloyd Wiles and others, seem to be causing some friction within the organization. Mr. Wiles employed a metallurgist, Clyde Wick, sent him to Silverton with the understanding he would be mill superintendent without first clearing with the Moab office. When Mr. Wicks arrived at the mine he was put on the payroll but not as mill superintendent, and apparently reports to Mr. Wiles without consulting the Silverton or Moab office.

Since returning to Tucson Mr. McCormick called me from Moab and expressed apprehansion on the continuity of Standard Metals operation. He reports they are losing money on present metal prices.

9. McFarland & Hullinger, Keystone Mine. Late in May these lessees started the Keystone mill at Crested Butte. After overcoming some mechanical problems, the mill was performing satisfactorily at the time of my visit on June 7th. Much of the zinc concentrate produced before that time was very low grade, which may be the result of treating a dump that was thought to be commercial.

The ore passes in the mine were giving trouble because they had been left full of ore and now require blasting to open. Clearing of the 2000-foot level portal free of caved material is progesssing satisfactorily. When completed this will allow draining of water through that working and prevent excessive water entering the ore passes. It was expected this portal would be cleared and usable within about two weeks unless unforeseen problems arise.

At the time of my visit three cars of zinc had been shipped and at least one car of lead concentrates, loaded on D&RGW at Salida hauled from the mill by lessee's truck.

10. New Jersey Zinc Co. At Gilman I visited Mr. Jude who is quite discouraged about mining conditions with present low metal prices. For a long time New Jersey zinc has not done any development work on lower levels. To be depleting ore reserves has a depressing effect on the management. How long this will continue Mr. Jude could not say. In order to continue inoperation requires elimination of exploration and development expense.

Mr. Jude cannot forecast how much longer the silver-copper ore will be moving to Tacoma. This ore is mined as it occurs in connection with the zinc orebody.

11. Progressive Mill& Smelter Co. During the Denver mining meeting last February Mr. Hugh E. Crawford, President of Progressive Mill and Smelter Co. at Fairplay, advised me he was building a mill to treat custom ore. Since that time I have been in contact with Mr. Crawford, resulting in a trip to the Fairplay area. Through stock promotion Crawford has erected a mill building with small capacity equipment assembled without professional supervision. The property expected to supply custom ore is the Sweet Home Mine owned by Douglas Bros. with 30,000 tons reported in stockpile which is reject from an earlier sorting operation. The mine is in Buckskin Gulch several miles north of the mill which is about 3½ miles north and west of Fairplay. Mr. Crawford has the Douglas brothers working for him on the mill construction and hopes to have the plant operating before the end of July. Little or no concentrate tonnage can be expected from this operation.

12. Smokey Warde Mining Co. Smokey (J.C.) Warde of Gunnison since last fall has been asking the privilege of shipping copper ore to El Paso. In May I authorized one car for El Paso delivery. This lot, reported to originate at the Copper Girl claim, assays:

Au	Ag	Cu	SiO_2	Fe	Zn	Al_2O_3
.035	0.7	2.65	61.6	9.2	1.9	8.0

Smokey Warde, Con't.

The old Anaconda Mine, relocated as Copper Girl claims, is located about 22 miles south of Iola on the main highway to Silver Lake. The best ore showing (oxidized copper) Warde was mining at the time of my visit was about 14 inches wide. He is doing some hand sorting and hopes to ship another car in the near future.

13. Colorado Fuel & Iron. At Pueblo I called on W.L. Reid, Purchasing Agent, and advised him I would prepare a contract for the lead dross and skims for Omaha delivery and submit for his signature.

14. P & N Mining Co. Richard E. Mackey, 15 S. Yukon Street, Denver, is leasing the Hamill tunnel at Silver Plume from the Buckley brothers. In May Mackey delivered 17 tons of 132-oz silver ore to our Globe Plant. Because of lack of finances Mackey is obliged to ship trucklots and Globe Plant is accommodating him for delivery. He expected to truck another lot to Globe last week.

15. Mike Vincent of Montezuma is operating the Paymaster Mine in Shoe Basin. He advised he has 17 tons of ore he wants to truck to Globe Plant. Through telephone conversations it was decided the ore is too low grade to justify handling in small lots. I advised Mr. Vincent I would visit him in July, at which time he may have accumulated a carload for delivery to El Paso.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KHSchultz
WLMiles, Jr.
DJPope
CPPollock
TASnedden
KERichard
JFFrost

J. H. C.

MAY 7 1963

Mr. K.E.Richard-1

SOUTHWESTERN ORE PURCHASING OFFICE
W.E.S. Tucson Arizona

MAY 13 1963

May 1, 1963

RKK - WES - JEK

MR. ~~JHC~~ - ~~SIB~~
READ AND
PREPARE AN ANDLE
FILE

K. R. S. I. B.

MAY 3 1963 MAY 8 1963

RKK 5-16-63

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

FIELD TRIP REPORT-APRIL 1963
REED F. WELCH

1. Newsboy Mine, Morristown: On April 16th I met H.K.Thomas and we visited the Newsboy Mine located about three miles southwest of Morristown. Mr. Thomas has held these claims under lease for the past year or two without doing any development work. Apparently the lease does not require performance other than assessment work obligation.

The Newsboy vein stands out on the side of a dry wash 80-100 feet wide and approximately 30 feet high. The vein is traced in both directions along the strike for several hundreds of feet. In 1940-41 some tonnage was shipped from the Newsboy to Clarkdale, Magma and Hayden. Tonnage aggregating in excess of 11,000 tons came from open cut assaying approximately:

Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
.069	8.1	0.25	72	3.75	9.0	2.5

The ore contains some manganese oxide which does not show up in assay reports. In the event this grade could be maintained for future shipments, there is a possibility of considerable tonnage from this area. Because of difficulty in sampling, values in the face of the present cut are not known.

Mr. Thomas is associated with Arizona Testing Laboratories in Phoenix and is considering hiring someone to operate the Newsboy claims to produce siliceous flux for our Hayden Plant. Since my return to the office Mr. Thomas advises he plans to ship a few cars to Inspiration smelter at Miami to determine ore values in the pit walls. I advised him that with our obligation from present sources of flux I could not encourage a new flux producer at this time. I told him in the near future I will be interested in information on the potential of Newsboy Mine production.

2. Bagdad Copper Corporation. On April 17th I visited Bagdad Copper

Loading Ramp: At Hillside Bagdad Copper has prepared a new loading ramp at our request and installed 450 feet of trackage to accommodate the new air-dump cars to move concentrates to Hayden. We are obligated to reimburse Bagdad Copper Corporation for the cost of ramp construction. I was surprised to learn this expenditure is $15,000 to $16,000 and I advised Mr. Colville I would do my best to repay as much of this as possible. He will supply me with a statement of major cost items before a decision on how reimbursement is to be made and what proportion is to be assumed by the smelting company.

Power Cost: A new power contract was made in January 1963 with Arizona Public Service. On questioning Mr. Colville about power

Bagdad Copper Corp.,Con't.

cost he gave me the following detail:

	Cost/Kilowatt Hour
January 1956	4.7 mills
" 1958	4.7 "
" 1959	6.0 "
" 1960	5.8 "
" 1961	5.7 "
February 1962	6.8 "
January 1963	10.75 ""
February 1963	11.0

The increase in power cost from February 1962 to February 1963 is equivalent to $20,000 per month or $240,000 annually.

Production: Bagdad Copper is presently milling 5500 to 5600 tons of ore per day. When in soft ore the mill handles as much as 6,000 tons daily. For the period April 1-15 mill heads averaged 0.59% Cu, tails .068%, recovery 88.7%. For this period calculated copper produced was 887,459 pounds in concentrates. Rather poor mill recovery is realized when heads vary. For this reason the next 45 days production the mine is expected to produce ore assaying 0.65% Cu and for the next 30 days 1.0%, followed by about three months of 0.6% Cu. Such variation in ore grade is expected for the remainder of the year.

The precipitating plant for the first half of April produced 30,000 pounds of copper per day for a total of 352,192 pounds. By June of this year precipitate production will be increased to 40,000 pounds of copper daily. This will be accomplished by moving the leaching solutions to the larger ore dump.

Stripping is currently 750,000 tons per month on 5-day week with two shifts per day. Depending on mill consumption, the same weekly shift is worked on ore production. Ore for the mill is coming from one bench only. Four benches above this ore level material is hauled to the leaching dump.

Bagdad Copper employs 380 men, including office force, doctors, nurses, etc. For the year 1962 Bagdad Copper Corporation net was $90,174 after deducting depreciation and income taxes. This compares with a loss of $400,324 for the 1961 period.

3. Cyprus Mines Corp. When I visited the Old Dick mine Paul Allen was at the property. He showed me maps of the orebody indicating the main Old Dick ore shoot bottomed 40 feet below the 950 lowest working level. From a crosscut run for the purpose of accommodating diamond drilling, several holes crossed the projection of the orebody below the pinched-out position. One intercept at 1050 feet and another at 1500 feet picked up a small amount of mineralization but insufficient to constitute an orebody. From the same crosscut in the hanging wall a horizontal hole was driven back toward the footwall considerably south of the rake of the main ore shoot. In that intercept at the rhyolite footwall contact and 200 feet south of the main ore stope a vein several feet wide carrying minable ore has been

Cyprus Mines, Con't.

developed. All ore now coming from the Old Dick Mine apparently is from this vein.

Because of decrease in tonnage from the Old Dick, Cyprus Mines expedited development of the Copper Queen Mine, from which the principal volume of mill feed is now coming, hauled about three miles to the mill. Centennial Development Co. sank the Copper Queen shaft from the 750 to 900 level and at the time of my visit was completing a 300-foot crosscut to the ore vein. It has been decided to continue sinking the main shaft to the 1150 level.

About a month ago Mr. Friedman requested open schedule to evaluate the possibility of shipping high grade copper-zinc ore direct to the smelter. The Copper Queen oreshoot contains blobs or bunches of 10-18% Cu with 10-20% Zn. This material might justifiably be shipped direct to the smelter for the copper content. However, because the zinc represents some return when milled which would be lost in direct smelting, it has been decided to blend this product with over-all mine ore.

The Cyprus mill is now processing 240 tons of ore per day. Since installation, the sink-float section is rejecting 20% of gross mill tonnage ahead of flotation. This in effect has raised the heads from 4% to 5% Cu and the zinc to 10%, compared with 1962 heads of 5% Cu, 17% Zn. This reflects change in grade of ore from the Old Dick main oreshoot to the new vein type ore and ore from the Copper Queen Mine.

During 1962 the sink-float reject section accumulated about 21,000 tons assaying .94% Cu, 1.22%Zn. This material is accumulating at a rate of 2200 tons per month. It is plus 10 mesh, minus 3/4 inch and may represent converter flux product, providing the zinc content is not objectionable and delivery cost is not prohibitive. I obtained a sample of the reject material to determine full analysis, on which I will report later.

4. Rico Argentine Mining Co. has been disqualified for the Small Mine Operators Subsidy. The management thought they might qualify because, due to separate ownership many of the Rico claims were operated and liquidated as separate entities. In spite of this the tonnage was in excess of limits allowed in the Subsidy Act.

Attempting to reduce mining costs, the management found it necessary to eliminate the long adit haul to surface two miles in length followed by 2½ mile truck haul to the mill. This entails raising a two-compartment shaft from adit level to surface, a distance of 500 feet. The work is now under way and it is expected will be completed within the next few months.

Rico Argentine has 60 employees on 6-day week. Half of these men are producing pyrite for the fluo-solids plant, the remaining men are producing lead-zinc ore and on the shaft work. Ore production for the flotation mill amounts to 35-40 tons per day, the mill operating on one-shift per day basis. On completion of the new shaft ore tonnage will be increased.

Rico Argentine, Con't.

Pyrite mined for the fluo-solids plant is almost chemically pure and occurs in a 10-foot replacement bed. This product is mined in room-and-pillar method which allows approximately 70% extraction of ore reserves. Recent exploration work in the pyrite area has developed a new pyrite horizon 20 to 25 feet thick from foot to hanging wall. These formations are practically flat with only 2-3° dip.

Hauling of concentrates to Gallup, done under contract, seems to be satisfactory. The disadvantage is having the loading ramp at such a distance from the mine and inspection of railroad equipment is left to the contract trucker. Also any repairs necessary on the ramp are expensive because of remote location from available mine labor.

Rico Argentine is satisfied with handling of shipments at Amarillo and El Paso. The management reports some difficulty with umpire results by Root & Simpson. In the case of El Paso Smelter Lot 532 the umpire assay for lead was lower than smelter or shipper. After being questioned, the assaying firm admitted their standards were off. Otherwise Rico Argentine has no complaints with settlements.

5. Ruby Hill Mining Co., Eureka, Nevada. Recent press releases announced the Fad shaft area owned by Richmond Eureka Mining Co. will be re-activated. Eureka Corporation, Ltd. of Canada, operating under lease from Richmond Eureka, spent $10 million on this project 15 to 20 years ago but because of flooding of the mine on the 2250 level the project has been dormant.

Richmond Eureka Mining a few years ago started litigation against the Lessee to repossess the property. However, the lease includes a force majeure clause and because flooding of the mine was beyond the control of Eureka Corporation, the Federal Court in Reno advised Richmond Eureka to make an ownership arrangement satisfactory to the Lessee without bringing the issue to court. Inasmuch as there was a possibility that adjudication of the case in court would result in Eureka Corporation ending up with a larger percentage of ownership than could be negotiated, Richmond Eureka was willing to settle out of court. A new operating company, Ruby Hill Mining Co., was then organized made up of Hecla Mining Co., Cyprus Mines Corp., Newmont Mining Corp. and Eureka Corporation, the latter having 25% paid up interest.

The new operators, managed by Hecla Mining Co., will attempt to effect a water shutoff on the 2250 level of the Fad shaft and obtain a sample of the ore for metallurgical test purposes. This ore was encountered by drilling in the earlier exploration project of Eureka Corp. It is estimated this can be done for $1.5 million. To evaluate condition of the 2250 level under water from the 840 level, the new operators lowered a television camera and determined the station at 2250 level is free of rubble. Water was encountered about 150 feet from the shaft and it is proposed to drill a large hole from surface to encounter the drift or station level through which material for grouting can be lowered. It is hoped this grouting under water will form a dam sufficiently strong to hold water back from the shaft.

Ruby Hill Mining Co.,Con't.

While the grouting is being done water will be pumped from a distant shaft and discharged into the Fad shaft to create hydrostatic head in this shaft and reverse the flow of water back into the fissure on the 2250 level. With reversal of water effected, grouting materials will be washed toward the fissure to close the fissure contact. If this can be done successfully the Fad shaft will then be unwatered and a new station driven toward the ore under protection of a complete ring of grouting in advance of drift heading.

6. New Park Mining Co., Mammoth Mine, Eureka, Utah. On December 21, 1961, W.H.H.Cranmer, at that time President of New Park Mining Co., acquired an exploration-operating contract on the Mammoth Mine. In March 1962 Mr. Cranmer sold most of his stock interest in New Park Mining Co. to Charles Steen, who then became president of the company and in charge of exploration of the Mammoth Mine. At the property Mr. Steen has William W. Whittmeyer as Manager and R.G. Wiese and James Muth,Geologists.

Since December 1961 New Park Mining Co. has reconditioned the main single-compartment shaft and installed an electric hoist on the adit or 300 level, abandoning use of the old steam hoist located at the collar of the shaft. An internal winze from the 2100 to 2360 level has been repaired permitting access of diamond drills to operate from the 2360 level. Diamond drilling under contract to Longyear has been active since that time. The objective of diamond drilling is to intercept extension of the vertical ore bodies near the shaft and below earlier mining levels. Although the last Mammoth operation mined through another inclined winze to the 2430 level, drilling by New Park is probing from the 2360 level.

Examination of drill cores corroborated my experience at this property 15 to 20 years ago. The cores are imperfect but show large masses of pyrite with fine-grained quartz as gangue. The pyrite has variable degrees of oxidation, depending on the density of the core. In some short intercepts the core assays have been encouraging to the management. From three diamond drill intercepts into the pyrite-quartz area, engineers conducting this work estimate ore reserves of 6,750 tons with weighted assays as follows:

Au	Ag	Pb	Cu	Ins.	Fe	CaO	S
1.139	13.968	0.9	1.468	5-58	15-35	2.5	15-35

Other drill intercepts ranging from a few inches to a foot in thickness show assay values:

Au	Ag	Pb	Cu	Zn
2.975	4.138	-	.235	-
.249	19.425	-	1.45	-
.127	23.2	.87	1.8	-
.03	7.2	15.15	.67	-
.037	2.695	4.55	-	10.0

New Park Mining-Mammoth Mine, Con't.

Since the above assays were determined, Steen has requested that the main ore shaft be sunk from the 2100 to 2600 level. This work is now under way, progressing at the rate of 6 feet per day on two-shift basis. It is expected the shaft will be completed to the 2600 level with drift into the ore by August 15th. There are 13 men presently on the shaft project in addition to the diamond drill crew. To date New Park Mining Co. has spent $257,000 on this project and it is anticipated another $100,000 will be required before ore is encountered and made ready for production.

After visiting the managment, determining plans for mining and examination of cores, I am unimpressed with the ore potential of this property. Although small tonnages of ore containing interesting gold showings are reported, this is erratic in occurrence and produced in volume the ore mined will necessarily be lower grade than the assays reported.

New Park Mining Co. also has renewed interest in some of the upper level lead ore replacement possibilities in the Mammoth Mine. The property has an area between the 700 or 800 level and the 1500 level that justifies prospecting and I understand this has become a project for exploration.

7. New Park Mining Co., Park City, Utah. In talking with Bob Archer, Mine Engineer at the Kennecott Burgin Shaft, I learned he had been with New Park Mining Co. for 10 years before joining Kennecott. Inasmuch as New Park Mine, now operated by Hecla Mining Co., is shipping concentrates to our East Helena Plant, I was interested in his comments on this property. Mr. Archer reports the Galena fissure or Mayflower vein was mined to the 2200 level where the ore values decreased below economic level. However, with assistance of a government loan some years ago New Park Mining did some exploration to the north of the Mayflower vein and developed another long ore shoot known as the Pearl vein. Current production is coming entirely from the Pearl vein and limestone bedded replacement deposit adjacent to this structure. I understand the New Park Mine is producing about 450 tons of ore per day for the mill.

8. Kennecott Copper Corp.-Burgin Shaft. During my stay in Salt Lake City I was advised that Kennecott operation in the Burgin shaft area, East Tintic District, would start producing crude ore in the near future and that International Smelting Co. at Tooele is not interested in purchasing this product. I visited Glenn Burt, Ore Buyer of International Smelting Co., who advised that Tooele plant is operating on two-shift basis. Smelting the Kennecott production, estimated to be 65-75 tons per day, would throw the smelting schedule off balance inasmuch as there is insufficient tonnage for a third shift. Also the metallurgical problem in connection with Burgin shaft ore, requiring pyrite for proper sintering, makes the smelting very costly for Kennecott.

Following this conversation with Mr. Burt I made a trip to the Burgin shaft where I was invited to go underground. Due to lack of time and being unprepared for an underground visit, I declined. However, I had an opportunity to observe ore on the dump. There are

Kennecott Burgin Shaft, Con't.

several thousand tons dumped from trucks at random, some oxide silver-bearing ore, straight oxidized lead and sulphide ores. This material has not been classified and in shipping will be a composite mix as picked up with front-end loader. This makes estimate of value very irregular because records have not been kept of tonnage of oxide mined compared to sulphide. Even the sulphide ore has had deep inroads of oxidation and from casual observation I can see that an attempt to mill this type product may meet with disappointing results.

While at the Burgin shaft I met Roger Bangahart, Geologist, Bob Archer, Mining Engineer, and Jack Bush, Chief Geologist of Bear Creek Tintic District. Mr. Gale Hanson is in charge of this operation with office in Salt Lake City, but I did not have an opportunity to visit him. In discussing outlet for the Burgin shaft ore I was advised United States Smelting Company will take the current tonnage which will be handled on a trial basis. This means that the Tooele Plant, under obligation to United States Smelting, will wind up smelting the Burgin ore, although International Smelting is not interested in this production. It is very likely the ore will be hauled by truck direct to the smelter for $2.00 per ton.

I was advised that Mr. Lane of East Helena Plant had been provided with samples and assay information but that we were not interested in smelting this production at East Helena. Data provided Mr. Lane showed assay ranges as follows:

Au	Ag	Pb	Cu	Zn	Ins	SiO2	Fe	CaO	MgO	S
.02	10 - 30	10 - 35	.06	6 - 18	36.3	32.7	2-7	.07-1.5	1-1.5	2-3

Mr. Rouillard later advised me there has been a reversal of this decision but at the time of my visit to the Tintic District this information may not have been passed on to the Kennecott personnel.

The Burgin Shaft is now in the hands of Kennecott operating department, while exploration in the vicinity is still conducted by Bear Creek. About 2,000 feet north of the Burgin shaft, in the Tintic Standard ballpark, a new ore zone 600 by 2000 feet has been encountered by drilling. This will require another shaft for development and mining. Several thousand feet to the northeast, toward the Silver Shield property, two drills are working in mineralization.

Present work in the Burgin shaft is committed to mining 75 tons or ore per day with anticipated tonnage up to 500 tons per day. This shaft is inadequate and in order to mine the Burgin orebody a new vertical round shaft will be sunk. About 1,000 feet west of the Burgin shaft Morrison-Knudson, under contract, is drilling a 17-3/4" hole to be cased to 14" which will be used to lower the watertable when sinking the new operating shaft. This facility will be 12, 14 or 16 feet in diameter depending on final decision by Kennecott. This shaft will be sunk to 1500 feet, at which point drifts will be run under the orebody in preparation for mining.

Water and rock temperature in the mine is 140°F. and in mining ample ventilation will be required, probably with installed refrigeration. This causes a serious problem in laying out ventilation and

Kennecott Burgin Shaft, Con't.

mining methods. To assist Gale Hanson in design of the mine to meet these problems Kennecott has hired Jack Warren of Butte Anaconda to consult on ventilation problems. In dealing with mining methods Mr. Hanson has obtained the services of Ed Brocker, retired Anaconda employee, as consultant in this field.

9. United Technical Industries. In 1961-62 at El Paso we purchased a few carloads of crude copper ore and copper carbonate concentrates produced by United Technical Industries at the Apex Mine, St. George, Utah. This firm was organized several years ago to acquire natural resources and conduct metallurgical experiments to improve extraction of ore minerals. Office space was taken in the old Murray plant buildings. United Technical Industries ran out of capital, however, and is now represented by J.L. Fakler, Secretary-Treasurer. Mr. Fakler advises the firm is completing purchase of the Apex Mine which will be held as assets, together with some oil leases and other mining claims. United Technical Industries has attempted to interest such companies as Union Carbide, Eagle-Picher, and Anaconda in the Apex and other propertied, including some beryllium claims. One of the projects proposed was to stimulate interest in germanium content in the Apex ore. Eagle-Picher Company did some sampling but apparently has dropped interest. In evaluating concentrates received at El Paso for Ge content a pulp sample was sent to South Plainfield Laboratories where it was determined the germanium seemed to be concentrated in the hematite-goethite-rich magnetic phase. This sample contained .043% Ge.

10. Majestic Oil and Mining Co., Bogdanich Mine, Milford, Utah. While visiting with Mr. Burt of International Smelting Co. I was advised that Majestic Oil and Mining Co., operating the Bogdanich property near Milford, shipped one carload of rather poor grade copper concentrates to Tacoma and that early shipments going to Anaconda also had been poor in grade. However, quite recently this operation shipped six cars at one time to Anaconda and it was thought the concentrate grade was very much improved over previous shipments.

REED F. WELCH

cc: RLHennebach
RLJourdan
CNWaterman
WGRouillard
KHSchultz
RMMcGeorge
DJPope
CPPollock
TASnedden
KERichard

Mr. K.E.Richard-1

J. H. C.

MAY 8 1963

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

April 25,1963

K. R.

MAY 3 1963

S. I. B.

MAY 8 1963

MAY 13 1963

Mr. B.D.Roberts, Manager

EL PASO PLANT

MR. ...
READ AND ...
PREPARE ... REPLY ...
FILE

SOUTHWEST & COLORADO PRODUCTION-1st Qtr.1963
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Report-Excluding Intraplant)

	Tons Received-1st Qtr.1963		
	Domestic	Foreign	Total
Lead Department			
January	11,192	148	11,340
February	11,700	9,104	20,804
March	12,073	7,179	19,252
Total First Quarter	34,965	16,431	51,396
Copper Department			
January	20,277	-	20,277
February	30,769	80	30,849
March	24,530	278	24,808
Total First Quarter	75,576	358	75,934

Receipts & Stocks from 15-day Reports
(Estimated Tonnage-Excluding Intraplant)

	1st Qtr. 1963		On Hand-Tons	
	Received	Smelted	1-1-63	4-1-63
Lead Department				
Residue	19,710	19,433	1,118	1,907
Concentrates	28,880	36,876	23,058	14,788
Siliceous Lead	606	407	-	127
Dust	2,654	2,136	476	681
Sulphide	-	-	826	826
Total 1st Qtr.	51,850	58,852	25,478	18,329
Copper Department				
Concentrates	54,642	50,288	4,525	8,611
Sulphide	-	214	1,048	832
General Copper	167	137	-	37
Residue	8,425	7,559	582	1,410
Converter Flux	12,506	11,971	31,143	31,825
Scrap	223	206	20	14
Total 1st Qtr	75,963	70,375	37,318	42,729

El Paso Plant, con't.

Siliceous Flux: Converter flux continues to be supplied from the Henry Clay and 85 mines at Lordsburg, the principal tonnage presently coming from underground in the 85 Mine. Recent development work by Henry Clay Mines Inc. is encouraging for future production.

HAYDEN PLANT

Summary of Monthly Receipts
(From 203 Reports)

	Tons Received
January	32,481
February	27,287
March	34,011
Total 1st Quarter	93,779

Receipts & Stocks from 15-day Reports
(Estimated Tonnages)

	1st Quarter 1963		On Hand - Tons	
	Received	Smelted	1-1-63	4-1-63
Concentrates	74,521	73,074	1,710	3,157
Reverb Flux	7,380	7,010	10,364	10,734
Converter "	10,544	12,057	6,942	5,429
Total 1st Qtr.	92,445	92,141	19,016	19,320

Siliceous Flux: Little Hill Mines and McFarland & Hullinger Del Oro operations are currently meeting Hayden requirements for converter flux. The Little Hill Mines purchase schedule has recently been revised to increase production with delivery of lower grade material from surface cuts. Tailings from Mammoth and Tiger dumps furnish reverberatory flux. The Mammoth dump is about 60% exhausted with shipment of 56,300 tons. Delivery of Tiger dump material started in March to meet requirements of McFarland & Hullinger's lease.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi

	Tons Concr. Received
January	5,139
February	5,588
March	5,346
Total 1st Quarter	16,073

COMMENTS ON SHIPPERS

Bagdad Copper Corp. Production first quarter 1963

	Dry Tons	Ag-oz	Cu-%
Concentrates (Hayden)	10,073	1.8	26.5
Precipitates (El Paso)	1,755		77.8

By June 1963 Bagdad management expects to increase precipitate production to 40,000 lbs Cu per day (current production 30,000 lbs daily). This will be accomplished by moving leaching solution to the larger ore dump.

Banner Mining Co. - Production first quarter 1963:

	Dry Tons	Au	Ag	Cu	Zn
Palo Verde	3,431	.01	7.8	24.7	10.3
Bonney	1,828	.23	7.5	25.5	1.6

Future production from the Palo Verde shaft and Mineral Hill mill cannot be determined because of outstanding option on Banner holdings in the Pima District by Anaconda Co. Banner Mining Co. also is having labor trouble and production could stop at any time.

Camp Bird Colorado First quarter deliveries -

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conct.	201	3.63	60.3	39.0	10.8	8.4
Zinc "	139	.22	7.8	2.7	1.4	51.4

Cyprus Mines Corp - Copper production first quarter 1963 - 3917 tons assaying approximately 23.6% Cu with 1.65 oz Ag, 12% Zn. The Old Dick mill is handling 240 tons of ore per day, supplied mostly from the Copper Queen Mine. The large orebody of the Old Dick Mine has pinched out at about 990 level.

Duval Corporation - Esperanza first quarter 1963

	Dry Tons	Ag	Cu	Zn
Concentrates-Hayden	3,512	1.9	25.27	.7
El Paso	16,804	2.3	25.98	
Precipitates " "	580		74.9	

mill @ 12000 Tpd
recover 10 lbs cu per Ton

Henry Clay Mines - Deliveries of siliceous flux to El Paso during the first three months of 1963 are as follows:

	Dry tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
85 Mine (Brannan & Fuller)	11,760	.025	1.1	1.2	72.7	4.0	2.6	6.0
Henry Clay	379	.017	1.0	1.2	74.4	4.0	2.1	6.0

This tonnage is produced by Henry Clay Mines Inc. from underground operations. This producer hopes to ship up to 5,000 tons per month from ore developed on the 800 level South Atwood vein.

Humphreys Engineering Co.-Cascade Mine: El Paso plant received crude ore from this property in first quarter 1963 -

	Dry Tons	Ag	Pb	SiO2	Fe	Zn	Al2O3
Lead Dept	395	39.7	1.7	76.4	1.5	2.8	7.5
Copper "	251	34.8	1.2	76.4	1.5	1.9	7.5

Ore from this mine does not concentrate satisfactorily and a special smelting schedule was issued to assist Humphreys Engineering in making 5-6,000 tons ore reserve a shipping product.

Idararo Mining Company - 1st Quarter 1963 -

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conct	3,114	.75	29.6	71.5	2.4	2.5
Copper "	2,173	.60	23.2	4.3	26.9	4.8
Zinc "	5,914	.036	2.6	.7	.8	59.4

Beginning the middle of April the copper concentrates are being diverted to Tacoma Plant.

Little Hill Mines flux delivered to Hayden during the first quarter 1963 totals 5,035 tons averaging about 1.5% Cu, 72% SiO2, 1.9% Fe, 10.5% Al2O3. Copper-bearing flux is now being produced by Dave McGee from open cut, augmenting his underground tonnage to meet the increased smelter needs. Revised purchase terms became effective April 15th to move the lower grade material.

McFarland & Hullinger-Del Oro surface operation produced 4414 tons during the first three months 1963 averaging .34% Cu with 82% SiO2, 6.7% Al2O3.

Mammoth-Tiger Tailings: About 60% of the Mammoth tails have been shipped--total for 1960-63 56,342 tons. Tiger tailings now replace the Mammoth product to protect the lease held by McFarland & Hullinger from Magma Copper Company. Early trial shipment from Tiger dump in December of last year 1858 tons, March 1963 receipts 1972 tons.

New Jersey Zinc Co., Belden, Colorado - Receipts 1st quarter 1963

	Dry Tons	Au	Ag	Pb	Cu	Zn
El Paso Lead Conc.	1,963	.097	32.2	47.5	2.4	8.1
Tacoma Crude Ore	3,289	.28	24.0		2.5	3.0

Pima Mining Co. Production for first quarter 1963 18,070 tons averaging about 26.5% Cu, 4.1 oz Ag, 4.9% Zn

Rico Argentine Mining Co. - Production for first quarter 1963

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conct	133	.03	25.4	65	-	6.5
Zinc "	249	.01	5.4	4.3	.6	52.7

To cut operating costs Rico Argentine is raising a 2-compartment shaft to eliminate the 2-mile adit haul to surface. Completion of this work within the next few months will permit increase in production rate.

Shattuck Denn Mining Corp-Iron King Mine production 1st quarter 1963:

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	3,225	1.17	51.7	38.2	2.2	9.5
Zinc "	7,393	.11	2.7	1.7	.2	55.2

Standard Metals Corp.,Silverton: Production from the Sunnyside Mine for first quarter 1963 -

	Dry Tons	Au	Ag	Pb	Cu	Zn
Lead Conc	571	.065	17.7	62.7	1.8	9.0
Zinc "	1,171	.02	6.1	2.9	1.2	53.0

REED F. WELCH

cc:RLHennebach
RLJourdan
CNWaterman
WGRouillard
RMMcGeorge
E.E.Groff
WLMiles,Jr.
CPPollock
TASnedden
KERichard

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson
Arizona

L. P. E.
FEB 21 1963

February 13,1963 J. H. C.
FEB 21 1963

K. R.
RKK 2-26-63
FEB 19 1963

S. I. D.
MAR 1 1963

Mr. B. D. Roberts, Manager

El Paso Plant

DENVER MEETING FEBRUARY 7-9,1963

I attended the Western Mining Conference in Denver February 7th through 9th conducted by the Colorado Mining Association. At that time I saw most of our important shippers in the Colorado area and have the following comments.

1. Idarado Mining Company. I met with General Superintendent A.C. Hilander and Tom C. Hedlund, who has recently joined Idarado as Mine Superintendent. In a general discussion on the Red Mountain-Telluride operation Mr. Hilander was optimistic that production would continue through 1963 at about the same rate as last year.

Some dissatisfaction has recently been voiced regarding metallics in the lead product and adjustment of settlement assays for metallics. After some research work conducted at Telluride, Idarado Mining Company has virtually substantiated El Paso Plant determination of metallics. In order to overcome this problem Mr. Tatman, Mill Superintendent, has modified the circuit whereby the tailings from the jig plant will be kept separate instead of returned to the lead circuit. Shipments have been made since the changeover was effected but there has not been time for assay determination.

Zinc concentrate shipments to Amarillo in open solid-bottom gondolas proved to be very satisfactory to the mining company. At our suggestion, use of Seperan in the filter instead of lime has proven advantageous for the operation. The zinc product now contains less moisture and the physical condition on receipt at the smelter is more desirable for unloading. Use of Seperan also is giving better accounting for dry weight of the zinc production and Mr. Tatman is adapting its use in the copper and lead filtering plants with the expectation of improvement in these products.

As soon as we have more moderate weather Idarado Mining Company wants to return to loading zinc concentrates in open gondolas, which I assume Mr. Schultz will accommodate

2. Standard Metals Corporation. During the month of February Standard Metals is concentrating on completion of contractual work with United States Smelting Company, Lessor, on underground obligations for exploration. This work requires 400 feet of new headings along the Sunnyside vein and will complete Standard Metals' obligation to United States Smelting, at which time the operating company will be entitled to 20% ownership of the Sunnyside Mine. While this work is being completed ore mining and milling will be somewhat reduced and concentrate shipments may be noticeably lower. Mr. Hutchinson, Mine Superintendent, expects production will increase in March and April.

Standard Metals Corp., Con't.

In an attempt to obtain cheaper mining cost Hutchinson employed use of ammonium prills but because the vein contains many voids and in some places is wet, he experienced considerable misfiring and as a result has gone back to dynamite.

3. Humphreys Engineering Co. Mr. Frank McKinley reports that Jack Kelly is in charge of operation at the Cascade Mine. Work performed so far on the Cascade vein indicates ore reserves of approximately 5,000 tons averaging about 50 ozs Ag per ton. The vein, although narrow on the adit level, has increased in size in the raises and varies from 30 inches to 7 feet in width.

Early last year Humphreys did some concentrating in a local mill but because of high tailings loss and expense of mill operation, McKinley doubts the advisability of using the mill again this summer. He is hopeful that additional tonnage will be developed from a winze that will be sunk below the adit level.

4. Consolidated Parnett Corp. has just completed erection of a mill at the Wellington mine--capacity 150 tons per day. Last week they started ore through the mill at a rate of about 50 tons per day and expect this tonnage will be stepped up to 75 tons daily by the end of the month. The first zinc and lead concentrates should be ready for shipment about February 22nd. It is anticipated this operation will produce about 3 cars of 50-52% Zn and 2 cars of lead per month. Mr. Harold H. Wall is mill superintendent. At present the operation employs 18 men.

Although I have pressed these people for a decision on where cars will be loaded on the railroad, they have not been concerned. I believe they anticipate delivery of some of the lead product to Tooele as well as to El Paso on a trial basis. With the expectation that the product will load at Salida, I have requested Mr. Cantwell to establish a rate on lead concentrates from this station to El Paso.

5. Camp Bird Colorado was not represented at the Denver meeting. In talking with Mr. Tremlett by telephone he advised the property is still operating on reduced tonnage basis and ore moving from the upper levels to the mill adit continues to become lodged in the ore passes. Mr. Tremlett also is somewhat disturbed over adjustment for metallics in settlement lead assay.

6. Emperius Mining Company. Mr. Poxson did not attend the conference and was away from Denver so I did not have an opportunity to contact this former producer.

7. Rico Argentine Mining Co. also was not represented at the meetings. This firm has not communicated with me lately and I do not know the future plans of this operation.

8. Douglas Watrous of Jack Pine Mining Co., Box 66, Idaho Springs, discussed with me the possibility of installing a Mace furnace at Idaho Springs. He is interested in evaluating an outlet for lead bullion with return of refined silver. Mr. Watrous has in mind operating the Silver Plume and Virginia Canyon mines, obtaining some custom ore from other sources in the Idaho Springs area. I understand the financing for this project would be with a Japanese firm that is anxious to obtain silver nitrate. This is the reason for his request for return of silver. I discouraged Mr. Watrous in the hope of return silver for this outlet.

9. Carl I. Dismant, 3037 Birch St., Denver, is attempting to evaluate the possibility of opening up the Bachelor Mine at Ouray. He has communicated with Messrs. Miles and Coats of Globe Plant about installation of a Mace furnace and selling bullion to the smelter. Dismant is a business man of good standing but his rationalization of this proposed project is not sound. I doubt very much if the mine will be opened and if so, I am quite certain Dismant will become convinced installation of a Mace furnace is not feasible. However, because this is very promotional he may elect otherwise.

10. Walt Plankington who has shipped a small quantity of table concentrates through the Globe Plant has abandoned his milling operation treating ore from the Johnny Bull mine and is now discussing the possibility of shipping crude ore to El Paso. Mr. Plankington was out of town and I could not locate him by telephone. He has been in touch with Max Coats and I think it advisable for the Globe Plant management to determine the value of the ore Plankington claims to have ready for shipment before we accept this tonnage. Plankington hopes to produce 150 tons per month. However, judging by his procedure of operation when I visited his mill last summer, I do not have much hope for the realization of his ambition.

11. J.C. Warde of Smokey Warde Mining Co., Gunnison Colorado, talked of the possibility of developing crude ore for shipment from the old Anaconda Mine in the Gunnison area. I have had correspondence and telephone conversations with Warde on this subject. I advised him that when snow conditions permit field observation this spring I will make it a point to see his property.

Other men contacted in Denver who expressed interest in mining are noted below:

Hugh E. Crawford, P.O.Box 2458, Colorado Springs, represents Progressive Mill and Smelter and is interested in reactivating the Home Sweet Home Mine at Fairplay.

Albert A. Childress, P.O.Box 1525, Colorado Springs, representing Buckskin Joe Mines,Ltd., is promoting the London Mine and hopes some day to produce Au-Ag-Pb concentrates. Many years ago this mine was operated by C.W. Jordan.

Gene Atchinson, of United Buckingham Freight Lines, 4301 East 52nd Street, Denver, has made inquiry for an outlet for product from treatment of slag shipped from Pueblo. This product would assay: Au .08 oz, Ag 40 ozs, Pb 6%, Cu 3%, CaO 15%. Atchinson thought he could produce 500-600 tons per month but this potential is promotional.

J.D. Schlottmann, Cotter Corporation, Canon City, has a nebulous idea of producing lead sulphide concentrates from property in Custer County. He did not divulge the name of the mine and advised it would be about a year before he could give information on the proposed operation.

REED F. WELCH

cc:EMcLTittmann
RLJourdan
CNWaterman
W.G.Rouillard
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RMMcGeorge
WLMiles,Jr.
DJPope
CPPollock
TASnedden
KERichard

K. R.

SOUTHWESTERN ORE PURCHASING OFFICE
Tucson Arizona

JAN 29 1963

January 25, 1963

MR. ~~JHC~~ ~~LPL~~ ~~RKK~~ ~~SJB~~ ~~LER~~
READ AND
FILE

RKK 1-31-63

L. P. E.
JAN 29 1963
S. I. B.
JAN 30 1963

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

SOUTHWEST AND COLORADO PRODUCTION-1962
RECEIPTS EL PASO, HAYDEN, AMARILLO

EL PASO PLANT

Summary Domestic & Foreign Receipts
(From 203 Report-Excluding Intraplant)

Lead Department	Tons Received-Year 1962		
	Domestic	Foreign	Total
January	11,668	1,462	13,130
February	12,427	11,518	23,945
March	15,308	5,093	20,401
April	15,820	403	16,223
May	15,386	18,863	34,249
June	13,714	5,852	19,566
July	11,798	1,755	13,553
August	12,722	1,112	13,834
September	11,601	19,522	31,123
October	13,523	10,915	24,438
November	12,306	1,141	13,447
December	10,314	10,563	20,877
Total 1962	156,587	88,199	244,786
Copper Department			
January	21,503	475	21,978
February	23,653	387	24,040
March	21,677	887	22,564
April	24,171	848	25,019
May	29,293	778	30,071
June	22,405	650	23,055
July	26,061	323	26,384
August	27,890	757	28,647
September	17,345	1,028	18,373
October	25,797	996	26,793
November	19,683	293	19,976
December	19,502	765	20,267
Total 1962	278,980	8,187	287,167

Receipts & Stocks from 15-day Reports
(Estimated tonnage-Excluding Intraplant)

Lead Department	Total 1962		On Hand - Tons	
	Received	Smelted	1-1-62	1-1-63
Concentrates	147,727	135,150	12,696	23,058
Residue	86,317	86,463	1,283	1,118
Dust	11,337	11,252	558	476
Siliceous Lead	2,018	2,151	77	--
Pyrite	-	-	826	826
Total 1962	247,399	235,016	15,440	25,478

El Paso Plant, Con't

Copper Department	Total 1962 Received	Total 1962 Smelted	On Hand- Tons 1-1-62	On Hand- Tons 1-1-63
Concentrates	200,223	200,541	4,073	4,525
Residue (includ. ppts)	18,341	18,872	728	582
Scrap	1,275	1,583	121	20
Sulphide	-	2,262	3,525	1,048
Reverb Flux*	813	873	72	-
Converter "	63,538	49,9	17,406	31,143
Total 1962	284,190	274,070	25,925	37,318

*Barren flux not included

Siliceous Flux: Converter flux stocks have been built up about 13,700 tons since the first of the year with receipts from Henry Clay and 85 mines at Lordsburg (48,375 tons), approximately 8200 tons from miscellaneous operations in New Mexico and Arizona, and 7422 tons from Chihuahua. Recent development work in the Henry Clay-85 Mine by Henry Clay Mines Inc. is encouraging for continued production from that source.

HAYDEN PLANT

Summary of Monthly Receipts
(From 203 Reports)

	Tons Received		Tons Received
January	31,140	July	29,241
February	27,028	August	31,442
March	31,683	September	26,891
April	30,324	October	23,259
May	30,477	November	28,722
June	26,007	December	30,823
Total First Half	176,659	Total year	347,037

Receipts & Stocks from 15-day Reports
(Estimated tonnages)

	Total 1962 Received	Total 1962 Smelted	On Hand - Tons 1-1-62	On Hand - Tons 1-1-63
Concentrates	280,036	281,403	2,143	1,710
Reverb Flux	28,383	28,824	10,752	10,364
Converter "	38,812	45,962	13,954	6,942
Total 1962	347,231	356,189	26,849	19,016

Siliceous Flux: Supply for Hayden is assured for some time in the future by surface and underground operations on Little Hill Mines property. In 1962 Del Oro (McFarland & Hullinger) delivered 16,788 tons averaging about .45% Cu from open pit; Little Hill Mines production 13,376 tons averaging about 1.7% Cu. Mammoth and Tiger tailings are used in the reverberatory--25,550 tons delivered from Mammoth and 1858 tons from Tiger dump, beginning late November 1962 moving from Tiger. Miscellaneous operations in Arizona delivered 10,859 tons of siliceous ore during the year, including 6650 tons from Chilito Mine prior to lease termination.

ZINC CONCENTRATES

Summary Receipts Amarillo & Corpus Christi

	Tons Conc. Rec'd.		Tons Conc. Rec'd
January	5,483	July	6,151
February	6,025	August	6,153
March	6,106	September	5,765
April	6,313	October	5,854
May	5,983	November	5,300
June	5,683	December	5,915
First Half	35,593	Year 1962	70,731

ORIGIN DOMESTIC RECEIPTS
(Ores, Concts (includ. ppts), Fluxing Ores

EL PASO PLANT		Tons Recd 1962		% of Group
Lead Dept.	Arizona-New Mexico	21,157		36.54%
	Colorado	30,645		52.93%
	Miscellaneous	6,098		10.53%
			57,900	100.00
Copper Dept. (Conct & Genl. Cu Ore)				
Custom:	Arizona-New Mexico	172,898		82.57%
	Colorado	7,735		3.69%
	Texas, Utah & Misc.	12,026		5.74%
	Total Custom Tonnage-Concts	192,659		92.00%
Mission-Silver Bell-El Paso receipts		16,738		8.00%
			209,397	100.00
Copper-bearing Flux (New Mexico-Ariz.)			56,634	
HAYDEN PLANT (Arizona origin)				
Custom Tonnage-Concts.		91,263		32.76%
Mission-Silver Bell		187,343		67.24%
Total Concentrates-Hayden receipts			278,606	100.00
Copper-bearing flux (converter & reverb)			68,431	

COLORADO PRODUCTION: Production from Colorado, including receipts at El Paso, Amarillo and Tacoma is summarised below:

	Tons Rec'd 1962
Lead Concts	30,645
Copper " & Ore*	33,989
Zinc "	32,272
Total from Colorado 1962	96,906

*Includes 24,236 tons of New Jersey Zinc Co. crude ore and 1,018 tons of Idarado concentrates delivered to Tacoma.

COMMENTS ON SHIPPERS

American Peru Mining Co. at Peruhill delivered 1122 tons of lead concentrates in 1962 averaging approximately:

Ag	Pb	Cu	Zn
37.0	51.6	5.6	10.7

A two-year contract renewal for the lead production has recently been signed by the mining company and it is expected shipments will continue at the rate of two cars per month.

Bagdad Copper Corporation production for 1962 -

	Tons	Ag-oz	Cu-%
Precipitates (El Paso)	3,603	-	72.1
Concentrates -Hayden	45,468	1.6	24.9

The Bagdad precipitating plant is now making money. Some acid sales to outside industry also provide income. The cost of electric power effective January 1, 1963, has been increased from 0.4¢ to 1.5¢ per KW, which amounts to approximately $200,000 additional cost per year.

Banner Mining Company 1962 shipments from Palo Verde and Bonney Mines:

	Tons	Au	Ag	Cu	Zn
Palo Verde	19,669	-	7.3	25.3	7.8
Bonney	7,997	.15	7.0	27.1	1.0

Early in January 1963 Banner Mining Co. laid off 130 miners from the Palo Verde operation, reporting the operation had too many employees. Mining on the 700 and 800 levels has essentially stopped and emphasis is placed upon mining a higher grade ore with less regard for tonnage. Banner Mining Co. management cannot advise how much this will reduce concentrate tonnage, probably around 50%.

The Bonney mine at Lordsburg is producing about 200 tons of ore per day averaging less than 2% Cu. The management is drilling an 18-inch hole from the surface to the 15th level for ventilation, after which the Bonney shaft will be sunk another 130 feet to a new level.

Brannan & Fuller. Beginning in November shipments from the 85 Mine have been from the South Atwood vein on the 700 level for account Henry Clay Mines, Inc. (subsidiary of Werner Lake Nickel Mines), operating under the Brannan & Fuller lease. Development work by Henry Clay Mines on the 800 level in the 85 and Henry Clay properties is encouraging for continued production with improvement in grade. Shipments from underground during November-December 4427 tons averaging about 1% Cu. Recent lots show up to 1.5% Cu. Total receipts from the 85 Mine for 1962, including dump ore, 29,522 tons.

Camp Bird Colorado - 1962 production

	Tons	Au	Ag	Pb	Cu	Zn
Lead Concentrates	2238	1.42	29.1	36.6	8.0	8.3
Zinc "	2127	.07	5.2	2.1	1.6	55.0

Since September Camp Bird has been on curtailed operation, last quarter shipments less than 25% of former production.

Cyprus Mines Corp. Copper production for 1962 - 17,068 tons averaging about 23% Cu with 1.6 oz Ag and 11.7% Zn. The Old Dick Mine production is supplemented by Copper Queen ore which has proved better grade than anticipated from drill assays and may supply the principal mill feed in the future.

Duval Sulphur & Potash Co.- Esperanza production for 1962-

	Tons	Ag	Cu
Hayden-Concts	26,598	2.5	27.8
El Paso "	54,620	2.4	28.1
" Precip. (6 mos prod.)	800		74.1

± 10.5 lb per ton ore (assuming 12000 tpd for 350 days)

Emperius Mining Co. - Production for 1962

	Tons	Au	Ag	Pb	Cu	Zn
Lead concentrates	4826	.10	54.9	39.6	5.3	8.0
Zinc "	4091	.02	6.3	1.6	.3	55.5

Emperius Mining Co. ceased mining at Creede at the end of 1962. The management reports low metal prices and increasing cost of operation forced close down of the mine after 29 years of operation.

Humphreys Engineering Co., operating the Cascade Mine near Golden, Colo., is shipping silver ore to El Paso and concentrating product under 50 oz. grade. Receipts in five months of operation -

	Tons	Ag	Pb
Crude Ore	612	60.0	2.0
Concentrate	88	224.5	10.6

Development work in the Cascade Mine is reported encouraging and the producer forecasts 6,000 tons of ore for shipment in the near future.

Idarado Mining Company - 1962 production

	Tons	Au	Ag	Pb	Cu	Zn
El Paso Lead Conc	11,918	0.85	35.7	72.2	2.1	2.5
Copper "	8,735	.64	20.3	2.8	27.2	4.5
Tacoma " "	1,018	.85	21.8	3.0	27.3	6.2
Amarillo Zinc "	23,506	.05	3.0	.5	.9	56.6

It is expected this production will remain the same for the coming year.

Little Hill Mines: Shipments of flux to Hayden from the underground operation in 1962:

Tons	Cu	SiO2	Fe	CaO	Al2O3
13,376	1.74	75.2	1.9	0.7	9.3

Tonnage has been developed on the second level and shipments will continue at about the same rate.

McFarland & Hullinger are trucking converter and reverberatory flux (tailings) to Hayden with 1962 deliveries as follows:

	Tons	Au	Ag	Cu	SiO2	Fe	CaO	Al2O3
Del Oro open pit	16,788	-	-	0.4	83	1.5	0.3	4.7
Mammoth tailings	25,550	.042	.70	.12	83	2.5	1.3	3.0
Tiger "	1,858	.007	.30	.14	78	3.0	1.0	3.7

Shipments from the Tiger dump were started on trial basis late in November and lease on this dump material has since been concluded with Magma Copper Company.

Coronado Mine: Since termination of contract with Inspiration Copper Corporation, McFarland & Hullinger have been shipping Coronado copper concentrates to El Paso--2,008 tons in the past six months averaging about 28% Cu with 4.5 oz Ag, 10.2% Zn. This operation was concluded January 19th and the surface plant is being moved from Johnson Camp.

Nash-McFarland - Trench mill production for 1962

	Tons	Au	Ag	Pb	Cu	Zn
Lead Concentrates	1065	.02	32.8	73.1	0.3	4.3
Zinc "	2001	-	2.8	2.8	1.2	55.1

Because of provision in the Small Mine Subsidy Act covering maximum production for any 12-month period during the past 5-year period this operation will not qualify for payments.

New Jersey Zinc Co. 1962 lead production & direct-smelting ore:

		Tons	Au	Ag	Pb	Cu	Zn
Belden, Colo.	El Paso-Lead Conc	7746	.098	35.5	49.4	3.0	8.1
	Tacoma-Crude Ore (11 mos)	24236	.11-.32	21-28	-	3-4	
Hanover, N.M.	El Paso-Lead Conc	770	.02	62.5	53.5	0.6	11.8

The Hanover operation was shut down effective December 1, 1962.

Pima Mining Company - Production for 1962 --

	Tons	Ag	Cu	Zn
El Paso	76,046	4.0	26.0	5.5
Hayden	1,955	4.7	26.7	7.1

Pima management reports copper production for the year 40,774,000 pounds.

Rico Argentine Mining Co. - Shipments in 1962

	Tons	Au	Ag	Pb	Zn
Lead Concentrates	1,096	.024	26.5	70.5	5.0
Zinc "	1,254	.015	3.1	3.2	54.7

This company does not qualify for Small Mine Subsidy and may discontinue operation.

Shattuck Denn Mining Corp-Iron King Mine: 1962 production -

	Tons	Au	Ag	Pb	Cu	Zn
El Paso Lead Conc.	17,037	0.93	40.0	34.0	2.0	9.9
Jig "	20	10.05	12.2	7.4	.2	9.6
Copper "	198	.44	8.7	3.0	23.1	10.8
Amarillo Zinc "	33,864	.09	2.4	1.5	.3	55.2
Selby Au-Ag Precip	1	65 - 70	579	1.0	4.0	30.0

By obtaining adjustments in smelting, freight and power costs the Iron King Mine is making a small profit and will continue operating.

Standard Metals Corporation started shipments from Silverton in October 1962 with receipts at El Paso and Amarillo as follows:

	Tons	Au	Ag	Pb	Cu	Zn
Lead Conc (3 months)	914	.137	17.8	58.1	1.7	9.6
Zinc " " "	1,271	.02	3.6	3.0	.95	52.3

Standard Metals is trying a new mining method for cost reduction and may be successful enough to stay in business.

United States Smelting Co.-Hanover Mill copper production 1962:

	Tons	Au	Ag	Cu	Zn
Concentrates	7,120	.105	1.8	27.5	4.6
Precipitates	165			64.5	

This tonnage, produced by lessees, is very marginal. The lessees are now mining below the haulage level and receive less than 50¢ per ton crude profit. A drop in copper price would adversely affect production.

SONORA-CHIHUAHUA PRODUCTION

	Tons Received 1962	
Lead Dept.		
J.M.Borevitz,Nacozari(Conct)	330	
M.A.Castillo, Esqueda,Son.	51	
Raul F. Lemas,Hermosillo	408	
Minas de Guatamo, " (Conct)	1,464	
Minerales,S.A.,Santa Ana,Son	164	
Minerales de Hermosillo	274	
Juan Robinson, "	206	
		2,897
CopperDept.		
Cardoza & Carreon, Chih.(flux)	1,502	
Escalante Bros. "	196	
Angel Flores "	345	
Jimmie Meeden(Bja.Calif)(Conct)	48	
Raul Ochoa C.	368	
Silicatos y Calizos,Chih.(Flux)	5,724	
		8,183
Zinc Conct.-Minas de Guatamo		2,594
Total Sonora & Chihuahua		13,674

REED F. WELCH

cc: EMcLTittmann
RLJourdan CPPollock
CNWaterman TASnedden
WGRouillard KERichard
RMMcGeorge -2
EEGroff