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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: ORO BLANCO

ALTERNATE NAMES:
ORO BLANCO GROUP

SANTA CRUZ COUNTY MILS NUMBER: 9D

LOCATION: TOWNSHIP 23 S RANGE 11 E SECTION 17 QUARTER SW
LATITUDE: N 31DEG 25MIN 15SEC LONGITUDE: W 111DEG 14MIN 43SEC
TOPO MAP NAME: RUBY - 15 MIN

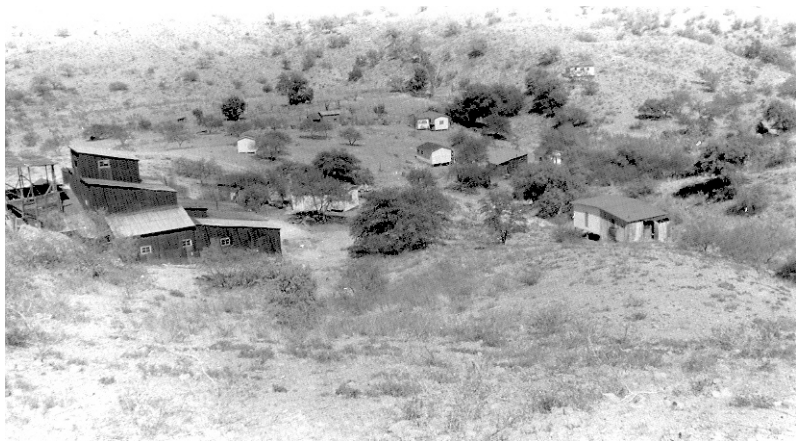
CURRENT STATUS: PAST PRODUCER

COMMODITY:
GOLD
SILVER
COPPER
LEAD

BIBLIOGRAPHY:
REPORT OF THE REGION CONTIGUOUS TO THE
MONTANA MINE
PRIVATE RECORDS
SANTA CRUZ CO. RECORDER'S RECORDS
ADMMR ORO BLANCO FILE
MAP IN ROLLED FILE UPSTAIRS









ORO BLANCO

SANTA CRUZ COUNTY

Report on the Region Contiguous to
the Montana Mine, Ruby, Arizona
1934 Geology files

Structure & Mineralization of the Oro Blanco
Mining District, Santa Cruz County, Arizona
By Dr. Louis H. Knight Jr. 1970 p. 143
Geology files

See: Eagle-Picher Confidential Files "O" also
"L" Legend Mine report

A Report on the Field Work, Prospecting & Geology of the District Contiguous to the Montana
Mines, Ruby, Arizona, by F.E. Gregory, September, 1935, Geology file

Chactaw mine (file) S.C. Co.

REFERENCE FILE - OROBLANCO (Mine File)

See: ABM Bull. ¹⁹¹⁻~~124~~, Pg. 65, T23S, R11E, Sec. 17,18,19,20

SANTA CRUZ CO.
Oro Blanco Dist

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

August 13, 1958

To the Owner or Operator of the Arizona Mining Property named below:

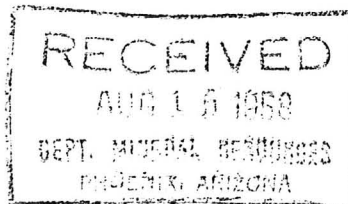
White Gold Mine (Santa Cruz Co.) gold, silver copper
(Property) (ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

Frank P. Knight

FRANK P. KNIGHT,
Director.



Enc: Mine Owner's Report

See: Oro Blanco Mining District (file)

Mr. George E. Fernald
2535 N. Santa Rita
Tucson, Arizona

See: ABM. Bul #131 p. 188-189.

*No 5 such number
222
D*

ASSAY MAP

ORO BLANCO MINE

ACCOMPANYING REPORT

John Daniel E.M.

QUARTZ VEIN OUTCROPPING 2'6" - 8'12" WIDTH

SURFACE

WATER LEVEL

235' Level

260'

DRIFT TUNNEL 720'

2'6" - 2.45

3'6" - 4.65

4'6" - 32.90

4'0" - 14.20

4'6" - 1.40

4'0" - 1.05

4'6" - 12.60

3'0" - 0.70

4'6" - 4.10

5'6" - 4.00

8'6" - 28.00

3'6" - 5.60

5'0" - 18.95

8'6" - 7.70

4'3" - 6.30

2'6" - 0.70

4'0" - 0.53

4'0" - 3.50

4'6" - 2.80

3'6" - 8.40

4'6" - 4.20

4'0" - 8.05

5'0" - 6.30

The Oasis

Saturday, April 27, 1895.

MINING NEWS.

At Oro Blanco four arastras are working on ores from Nat Crocum's mine.

Mr. Mitchell is having some ore from one of his claims in the Oro Blanco district worked, with good results.

Wm. Hart of Tucson, has bought the Warsaw mill, at Oro Blanco, and is taking it down and moving it to his own property in that district.

Mexicans are making fifty cents to \$2.50 a day "placering" in the gulch at Oro Blanco, just below Leavell & Bachellier's Mary Josephine mine.

At Oro Blanco Leavell & Bachellier have sunk the shaft on their claim a distance of about 100 feet and are drifting preparatory to cross cutting the vein.

A New York party has taken a sixty day option on the old Oro Blanco mine, and has lately had an expert out there making an examination. It is reported that the examination was satisfactory and that the option will be closed. Bena Bogan and William Perry are owners of the property and have given the option. It is the oldest mine in the district and was worked by Mexicans previous to the Gadsden cession.

W. M. S. On
Oro Blanco dis.
Santa Cruz

ORO BLANCO

SANTA CRUZ COUNTY

MG WR 4/19/85: Mr. Bill Ewing (c) reports that the No. 1 shaft at the Oro Blanco mine (Santa Cruz Co) has received additional cleaning and retimbering at depth. Apparently, the shaft still requires 30 feet of retimbering to the first, 125-ft level. Highland-Crow Resources (c) has defined target areas on the Oro Blanco property to be drilled.

MG WR 8/16/85: Visted the Oro Blanco mine (Santa Cruz Co.). Mr. Bill Ewing reported that Highland -Crow Resources drilled about 2,000 feet, of a planned 5.000 feet, using air track equipment during 1985. He expects Highland to be officially off the property by mid-September. He is negotiating with other companies now. During 1985, Mr. Ewing heap-leached some dump material for 2-3 days and produced a 50-ounce dore bar of silver and gold.

MG WR 8/16/85: Visited the Dos Amigos mine (Santa Cruz County). Mr. Bert Walker (c) apparently still owns this property and has recently improved the road. It appears that someone has done some rock-chip sampling on the property.

HM WR 1/30/88: An unconfirmed report indicates that Bill Ewing's Oro Blanco Mine Santa Cruz County has been leased by Newfields Minerals of Vancouver B.C.

NJN WR 1/29/88: It was reported that Echo Bay (card) is active exploring in the area around the Warsaw (Pittsburg Mine - file) and Oro Blanco (file) properties in Santa Cruz County.

NJN WR 3/18/88: John Zigarlick, president of Echo Bay Mining (card) reported that they drilled the Oro Blanco (file) Santa Cruz County but do not have much continued interest and will drop the property.

MG WR 2/10/84: Mr. T. Antoniuk of Rayrock Resources (c) reports he is moving an air-track drill onto the Oro Blanco property (Santa Cruz County). This drill is new on the market and is capable of reverse circulation and core drilling. According to Mr. Antoniuk the Rayrock underground and surface sampling program was encouraging and that is why a surface drill program was planned.

MG WR 4/13/84: Received a report that someone has recently drilled the White Gold (separate green card) property in Santa Cruz Co. This property is a new listing. It is in the Oro Blanco district and consists of several claims in S $\frac{1}{2}$ Sec 20, N $\frac{1}{2}$ Sec 29, T23S R11E.

MG WR 11/30/84: Received report that the Oro Blanco property (Santa Cruz Co) excluding the Oro Blanco mine, is being explored by the Tech Corporation (c).

MG WR 12/21/84; Highland-Crow Resources, Ltd., subsidiary of Teck Corp., 1199 West Hasting St., Vancouver, B.C. V6E 2K5, Canada, has an agreement to explore and develop the old Oro Blanco property (Santa Cruz Co.) excluding the Oro Blanco mine property. The local geologist in charge is Mr. Dick Cribbs (c).

CJH WR 4/12/85: Don Anderson, (c), Green Valley, Az. reported that Bill Ewing (c) is starting underground development at the Oro Blanco mine (f) Santa Cruz Co.

ORO BLANCO PROPERTY

SANTA CRUZ COUNTY

MG WR 3/4/83: The original Oro Blanco Mine in Santa Cruz County is on the unpatented Oro Blanco #1 claim (SW $\frac{1}{4}$, Section 17, T23S R11E) owned by Legend Mines Inc.

Visited Oro Blanco Mine in Santa Cruz County. Legend Mines Inc. is still developing property. Mr. Bill Ewing loaned me a copy of the underground map of the Oro Blanco Mine.

MG WR 6/3/83: Mr. Terry Antoniuk, senior geologist, Rayrock Resources Ltd., Toronto, Ontario, Canada, reports Rayrock has leased the property held by Legend Mines in the Oro Blanco District. The Oro Blanco mine, Santa Cruz County will be cleaned and sampled. A geologic map of the mine and the property will be prepared.

MG WR 7/8/83: Mr. Leodoro (Leo) Leal, P.O. Box 175, Arivaca, AZ 85601, phone 398-2807, and two of his brothers are re-timbering the vertical shaft (No. 1 shaft) at the original Oro Blanco Mine, Santa Cruz County. This work is being done for Rayrock Resources Ltd. The new two-compartment shaft is down about 35 feet; a hoist will now be installed to move materials and to remove rockfill that is in the old shaft. The new shaft will be taken down to the first (125') level.

MG WR 8/19/83: Mr. Terry Antoniuk, Senior Geologist with Rayrock Resources, Canada was in to discuss his recent work at the Oro Blanco Mine in Santa Cruz County. Rehabilitation of the shaft has slowed; there are two or three automobiles that have to be removed. The shaft has been cleaned and retimbered down about 80 feet. Surface geologic mapping of the Legend Mines property is almost complete at a scale of 1 inch = 200 feet.

MG WR 10/21/83: It is reported that the 700,000 tons of tailings at the Montana Mine (Santa Cruz Co.) contain 1.5 to 2.0 oz/ton silver.

MG WR 11/11/83: Visited the Oro Blanco mine. Shaft rehabilitation is complete and sampling of first level is underway.

CJH WR 4/16/82: Visitor: Bill Ewing, Operator, Legend Mine (at the site of the old Oro Blanco Mine,) P.O. Box 7001, Tucson, AZ 85725. Mobile Tel: 624-6646, Unit 0018. The property is located four miles south of Ruby and consists of 33 unpatented claims. Gold is found in a highly altered andesite breccia. Mr. Ewing is going to cyanide heap leach on a pad using about 7' lifts of ore. He will crush to 3/4", pelletize with cement, recover the precious metal by carbon adsorption, and electrowin. Four or five carbon columns (18" x 6') will be used.

MG WR 6/11/82: Ken Phillips and I drove through the Oro Blanco (Legend) property, Santa Cruz County, but did not have time to speak to anyone. The property resembles a small mining camp with several house trailers, water tank, and abundant mining equipment. Someone at another property told us the Oro Blanco has an excellent supply of potable water - - 50 gallon per minute.

CJH WR 6/11/82: Visitor: Bill Ewing, Legend Mine, Oro Blanco District. He furnished him with information concerning precious metal electrowinning. He feels that his laboratory silver recovery (cyaniding - carbon adsorption) has been low because of the presence of manganese in the ore. Will copy USBM RI 7736 (Extraction of Silver from Refractory Ores) for him.

CJH WR 7/16/82: Visitor: Bill Ewing, Legend Mines, Oro Blanco district. Wanted a field test for beryllium. He has some suspect mineralization on this property. His cyanide-heap leach operation at the Legend Mine is not yet on stream.

JHJ WR 8/24/82: (Tucson office) Mr. B. J. Kerley said Mr. Bill Ewing and Bert Walker were erecting a leach pad, probably at the Legend Mine. (Oro Blanco Mine, Santa Cruz County).

MG WR 10/8/82: The U.S. Bureau of Mines reported production from the Oro Blanco Mine, Santa Cruz County, for the years 1912, 1929, 1939-42, 1946-48 and 1962 is 1,267 tons treated yielding 2,194 lb. copper, 4,073 lb lead, 2,503 oz. silver and 642 oz. gold.

Do Not Reproduce

GWJ WR 6/11/79 - Bill Ewing is starting work on his Oro Blanco Property.
7/10/79 a.p.

MG WR 8/22/80: Mr. Bill Ewing, P.O. Box 7001, Tucson 85725, mobile phone 624-6646, unit 5607, was in to discuss his mining properties. He controls the old Oro Blanco Mine in Santa Cruz County, T23S, R11E, Sec. 17. He has removed 25,000 tons of dump(?) material to his Eagle Mine site (Pima Co.) and has crushed the ore to (-)1½". He has run percolation tests on the ore and has built a leach pad. He has also purchased an Escapule Plant and hopes to begin leaching soon to recover gold.

JHJ: 1/8/81 On January 7 Mr. Bill Ewing came into the Tucson Office. Mr. Ewing's address is Arizona Western Mines, P.O. Box 7001, Tucson, Arizona 85725. He stated that he is starting a surface percussion drilling program at his Legend Mine (Oro Blanco). Over 100 holes, approximately 50 feet deep, will be originally drilled. There are four veins. The Forest Service has approved his proposed plan, including heap leach. He needs data on cyaniding. He was provided with miscellaneous articles.

CJH WR 2/27/81: Visitor: Mr. William R. Ewing, P.O. Box 7001, Tucson, Arizona 85725, phone 624-6646 unit #5607. He is with Legend Mines Inc. which is planning on going public shortly. They hold 28 unpatented lode claims in the Oro Blanco Mining District. The claims carry Pb, Ag and Cu. The company is considering heap leaching.

MG WR 1/23/81: Talked to Harry J. Whittinghill, P.O. Box 91, Arivaca, Arizona 85601, phone 398-2390. He owns the Grubstake Mine in the Oro Blanco District of Santa Cruz County. He is leasing the mine to J.W. Fry, mobile phone 1-624-6646, unit 0436. Mr. Fry is trying to establish a gold operation; his mill is on the Grubstake and the mine is on the Sorrel Top.

NJN WR 7/24/81: John Perkins visited. He was interested in the costs of production and techniques for producing magnetite from Black Sands in the Durham Wash area, Pinal County. He thinks he may have a market for it as an aggregate for concrete in California. It was reported (Ann Turney) that he and some associates are "operating" the Oro Blanco in Santa Cruz County.

ORO BLANCO MINES

SANTA CRUZ CO.

Field Interview with T. J. Anderson, 2318 Parkway Terrace, Tucson (meeting him at Arivaca). Discussion of the Oro Blanco Mines (15 unpat. claims) in which Mr. Anderson owns a controlling interest.

AXEL L. JOHNSON - WR - 11-5-60

REPORT ON
ORO BLANCO AND TRES AMIGOS MINES

TRAYLOR ENGINEERING COMPANY

By S. W. Traylor

President

New York

July 24, 1907

Oro Blanco Mine

The ore is found in and associated with a quartz-porphry intrusion in an andesite-porphry "country". This intrusion, as far as can be seen from the present workings, has come up through the andesite porphyry as a short lenticular intrusion with a long arm or mineralized fissure forming the North Vein, the mineral solutions following three or more main channels approximately parallel, the ore being found generally not in the more crushed and decomposed material but in the harder and less altered rock alongside of it. As exposed in the present workings of the mine, there are four main veins or ore-zones which carry gold values. These are named respectively, the North (the long arm of porphyry or mineralized fissure mentioned above), Middle, South and Parallel veins.

As exposed in the long No. 4 cross-cut, the mineralized ground (the thickest part of the quartz-porphry intrusion) is → by the Parallel vein, while on the North, though the "country" West of the shaft has not been quite reached by cross-cuts with the North wall, the North vein can be said to be the limiting wall of the deposit.

No sulphide ore has yet been encountered, unless the hard, undecomposed red quartz-porphry at the end of the West drift be included.

The average strike of the deposit is North 65 degrees West, and the deposit is narrowing with depth as is shown by the opposite dips of the North and Parallel veins.

The North and Middle veins form one vein from the surface down to about 75 feet in the Hill shaft, where they split into two distinct veins. Similarly, but on the strike of the deposit, the South and Parallel veins form one vein in the junction tunnel and shaft.

As will be seen from Map No. 2, the North vein has been opened on the 125 foot level (at an average depth below the surface of 180 feet) by a drift 1034 feet long, by six raises, No. 5 of which is up 65 feet, by four stopes above the level and one stope from a winze 48 feet down. On the 250 foot level the North vein has been drifted on for 50 feet to the East and 90 feet to the West.

The Middle vein has been opened for 165 feet on the strike and by a raise 40 feet up and a small stope-cut.

The South vein, if the ground included in samples No. 15, 16, 17, 18 and 19 be taken to represent this, is not very clearly defined on the east end, though following the slant drift from Station 11, the vein appears well defined. The vein may be said to be opened up for over 300 feet and, including the South vein shaft and Junction tunnel and shaft, exposed over a total distance of over 600 feet.

some 350 feet wide at the widest part, the South side being limited

(1)

On the surface well defined croppings can be traced from a little west of the junction tunnel some hundred feet east of the No. 1 shaft. The tunnel on the Extension claim on the other side of the creek is apparently on the same ore zone, though the ore at this point narrows considerably and is very low grade.

Though the mineralization as exhibited in the long No. 4 cross-cut appears to be largely continuous across the width of the intrusive mass, especially between the South and Parallel veins on examining closely the ground and geological structure in the drifts on the various veins and in the cross-cuts, the average width of ore or mineralized ground in each of these four so-called veins is comparatively small and is approximately as follows:

North vein	average width	5-5-3/4 ft. (5 1/2')
Middle vein	" "	4 1/2 ft.
South vein	" "	5 ft.
Parallel vein	" "	5 ft.

(1) This may be the claim lying west of the Dos Amigos or the Dos Amigos and the Extension may be the same.

** The parallel vein is opened in the main workings by a drift 170 feet long and No. 7 raise, which is up 61 feet. It is also opened in the Parallel Shaft workings by a shaft 130 feet deep, by 135 feet of drifting on the bottom level, by 155 feet of drifting at the 65 foot level and by a cut 25 feet below the surface. It is exposed for about 800 feet at the extreme points in the Parallel shaft workings and the junction shaft tunnel.

TRES AMIGO MINE

The Tres Amigo and Sorrel Top veins cut across an elongated hill some 3,000 feet to the South West of the Oro Blanco Mine, known as the Sorrel Top Hill.

The hill is mainly composed of andesite-porphyry but the western part is crossed by a wide dyke of a purple-red quartz-porphyry (in which the Sorrel Top vein deposit occurs). This dyke is exposed in the long Tres Amigos cross-cut, at the north end of the Sorrel Top drift and in the North face of the Tres Amigos levels, and can also be traced on the surface across the wagon road in a direction South East from the Sorrel Top shaft.

The Tres Amigos vein appears to be a true fissure cutting across the andesite-porphyry country. The vein has been opened on two levels, the tunnel level being about 850 feet long, while the 100 foot level is in tow unconnected portions, respectively about 500 and 230 feet long. The main 100 foot level about 500 feet long, as mentioned above, was closely sampled. There is a shaft from the surface down to the second level, and three winzes; and also two large stopes, which are on surface ore, and a third stope above the tunnel level. The Tres Amigos vein is cut off in the north face of the drift at the tunnel level by the red quartz-porphyry dyke mentioned in the preceeding paragraph.

The samples taken and assay values are marked on Map No. 7.

The Sorrel Top vein is not a true fissure but rather a zone of mineralization in the red quartz-porphyry dyke mentioned above as cutting across the west side of the property. It is opened up by a 175 foot shaft and some 250 feet of drifting, and is also probably proved in the long drifts in the andesite country from the Tres Amigos cross cut. The vein as opened shows one short ore shoot, and the pay ore appears to be bottomed between the lowest working on the Sorrel Top shaft and the cross cut tunnel.

The tonnage which can be expected to be extraded from this vein is small, as there is probably, from the appearance of the ends of the various drifts and the assays on the samples taken, just this one short ore shoot.

The Tres Amigos and Sorrel Top veins strike about North 47 1/2 degrees West, the dip of the Tres Amigos vein being about 80 degrees to the west and the Sorrel Top about 70 degrees to the East.

SECTION 2

SAMPLING SCHEDULE

<u>Mark</u>		<u>Values</u>
<u>Oro Blance Mine - North Vein</u>		
<u>MAIN WORKINGS 1st Level</u>		
1	In West face 734.5 from shaft; across 3'0 in face and 1'9" back in wider part of level - 4'9" in all, omitting gouge on North wall. Compact undecomposed red quartz-porphry carrying fine sulphides-----	\$ 7.00
2	Sample of above gouge; across 6"-----	Trace
47	Resample of #1 taking 3'2" only 1 foot above old cut-----	12.40
35	At top of No. 6 raise 30' above level across 3'11"-----	10.00
36	In No. 6 raise 15' above level at West side of raise, 41' back from face across 2'9"-----	4.60
105	10' East of center of No. 6 raise across 5'4". Same red quartz-porphry-----	9.40
46	30' West of Station 20; across 4'2"-----	1.20
37	5.5' East of Station 20; across 4'9"-----	1.00
3	In face of right hand drift opposite station 20, across 5'10"-----	Trace
39	46' East of Station 20 across 4'11"-----	2.00
40	4'9" West of Station 19 (-50' East of S 38) Across 4'5"-----	1.80
41	At West end of caved stope 12.5' above level and 45' East of Station 19 across 5'6"-----	8.00
104	In pillar at East end of caved stope 29' West Station 7, across 4'9". Sampling includes some rock braccia with manganese filling and some gouge-----	4.00

42	In first small stope West of No. 4 cross-cut 10.5' West of Station 7 and 13.5' above level across 1'6" of crush material-----	4.80
43	30' East of Station No. 7 across 3'6"-----	5.60
44	At top of No. 5 raise 65' above the level across 3'10" at East side of raise-----	Trace
45	At top of No. 5 raise continuing across from S 44 into 6' acrosscut in foot wall across 5'6"-----	Trace
48	In No. 5 raise 30' above level at West side across 4'0"-----	1.00
49	65' East of Station 7 and 10' above level at West end of No. 3 stope across 3'6" of sheared porphyry-----	6.00
65 85	At top of No. 4 raise 48' above level (and 4' below top of raise) at West side across 4'2"-----	6.20
66 86	In No. 4 raise 23' above level at West side across 4'0"-----	1.60
34 84	In No. 3 stope 6' East of cross cut to Hill shaft 16' above level across 6'6"-----	Trace
50	40' East of S. 49 10'6" above level on East vertical face of No. 3 stope across 5'0"-----	4.40
51	At West end of No. 2 stope 13'6" above level and 1' East of West edge of winze across 5'2"-----	9.00
67	In lower winze stope 35' below level 11' from center of winze on West face of stope across 6'0"-----	4.40
68	At bottom of winze on West side 4'6" below level across 6'2"-----	3.80
52	Upper winze stope on East face 20' below level and 35' from center of winze across 6'4" of sheared porphyry-----	6.40
53	Across 4'3" of foot wall of same stope 20' below level and 10' from center of winze-----	1.00
54	In pillar at East end of No. 2 stope 7' west of Station 3 and 5' from West end of above pillar 9'3" above level, across 3'7"-----	6.00
82	At top of No. 1 stope raise at East side 32' above level and 4' below top of raise across 5'0"-----	2.00
83	On East face of No. 1 stope 19' above level across 7'6"-----	2.00

36 56	40' East of S 54 across 4'6"-----	1.60
69	In No. 3 raise 46' above level and 7' below top of raise at East side across 3'6"-----	Trace
70	In no. 3 raise 26' above level East side across 4'4"-----	4.00
106	9' East of center of No. 3 raise across 5'4"-----	1.20
57	14' East of center of No. 3 raise (and 40' east of S 56) across 5'9"-----	9.00
58	In cross-cut 24' East of No. 3 raise at West side of cross-cut wall-slip (9.5' from side of level) across 4' of sheared porphyry to within 5.5' of side level-----	1.00
59	Continuing for 5'6" to North side of drift across solid porphyry ore-----	1.00
60	40' East of S 57 and 58' West of shaft across 5'0"-----	Trace
71	Across West wall, west side of No. 2 raise cross-cut across 11'3" cut to side of drift-----	2.00
72	In No. 2 raise 29' above level (on angle of 72 degree dip to the south) and 5' below top of raise, along East side of raise and continuing into crosscut, 8'0" in all-----	1.20
61	18' West of shaft (of station 0) at East side of No. 1 raise across 5'6"-----	1.00
74	Top of No. 1 raise 30' above level and 4' below top of raise at West side across 5'0" of quartzose material-----	Trace

EAST DRIFT

62	22' East of Station 0 across 3'6"-----	2.00
63	82' East of shaft across 4'2"-----	1.00
10	95' from shaft opposite West edge of double cross-cut across 2'0" of decomposed material-----	2.00
96	112' East of shaft across 4'2"-----	5.20
93	137' from shaft across 1'9" of gouge material-----	1.00
64	142' from shaft across 3'9" of decomposed andesite of South wall-----	2.40
65	At same place continuing across 1'6" of gouge material-----	16.00
94	147' from shaft across 3'1" of gouge and crush material-----	5.40
66	202' from shaft across 5'2" decomposed andesite-----	2.20
9	275' from shaft across 2'1" decomposed andesite-----	Trace

92	290' from shaft across 5'2" decomposed andesite-----	2.40
7	Face of East drift 300' from shaft across 8" of gouge on South wall of drift-----	Trace
8	At same place, continuing across to North on undecomposed andesite behind slip across 3'7"-----	13.00
55	Re-sample of S 8 along old cut-----	13.50
103	Same East face after blasting into, across undecomposed green andesite behind slip, pieces broke for a foot in behind slip missing 4" next to slip of green andesite. Hard partially decomposed andesite-----	.60
00	Resample of West face of drift after blasting across same cut as No. 47 but missing 4" each side of center slip carrying manganese-----	.80
107	230' level, sample in face of hanging wall rock, across 4'9", 958 from East side of shaft (station 0)-----	Trace
108	62' from shaft across 5'0"-----	Trace
109	West side of shaft station across 2'6" from side of drift in, of best ore-----	4.40
110	Continuing across 4'6" of hard rock to back of shaft-----	4.60
111	In face of East drift 50' from East side of shaft across 1'0", mostly gouge-----	.80
112	In shaft 15' above station at East side across 4'6"-----	Trace
<u>OTHER SAMPLES TAKEN, OMITTED ABOVE</u>		
73	Picked pieces of sulphide ore from West face of North vein-----	5.00
38	North vein West drift 87 feet East of station 20, opposite West edge of double recess opposite station. Across 5'8" including some crushed material-----	Trace
95	North vein East drift 172' from shaft across 6'3"-----	1.60
<u>EXTENSION TUNNEL</u>		
97	In Extension tunnel along East wall of crosscut 62' in across 5'6"-----	19.80
98	In drift opposite last sample across 4'0"-----	7.60

ORO BLANCO MINE - MIDDLE VEIN

MAIN WORKINGS - 1st Level

EAST DRIFT

14	In face ^{86.5"} 85.3" from cross-cut across 2'6"-----	2.00
33	54' from cross-cut across 5'9"-----	7.20
34	In stope cut 19' above level and 16.5' from cross-cut across 3'9"-----	14.60
25	In raise, in East drift from same, 10' from center of raise and 37' from level across 4'0". (center of raise is 9' West of center of cross-cut)-----	9.60
24	In West drift from same raise, 10' West of center of raise, 37' above the level (top of raise is 40' above level). Across 4'0" of crush material-----	1.00
<u>WEST DRIFT</u>		
13	In West face of stope drift, 43' from center of raise (52' from cross-cut), 26.5' above level across 4'0"-----	2.60
11	In face of West drift 76' from cross-cut across 1'9" of crush material with manganese filling of hanging wall (left hand side of drift)-----	1.80
12	Continuing across to foot wall across 2'0"-----	Trace

HILL SHAFT

100	In Hill shaft 115' above level across 4'9" of west side-----	Trace
101	In face of West drift at 77' above level, 14' from center of shaft: across 1'7" of good ore at right hand side of drift. (No ore in hanging wall of drift and poor ore in foot wall)-----	23.80

ORO BLANCO MINE - SOUTH VEIN

MAIN WORKINGS - 1st level

Samples in Cross Cut

15	In cross-cut commencing at a point 12'6" South of center of South vein drift and taking 15'9" West wall of cross-cut-----	2.40
16	Commencing at a point on East wall of cross-cut opposite the south end of above sample and taking 17'0" along East wall but deducting 2'9" ^{5'} for drift opening (drift to East) (11'3" net)-----	2.20
17	Commencing at a point on West wall of cross-cut opposite south end of above sample and taking 12'6" along West wall-----	5.40
18	Commencing at a point on East wall of cross-cut opposite South end of above sample and taking 9'9" along East wall up to slip separating it from the unaltered andesite (from end of sample 15' to center of Parallel drift 16')-----	4.60
19	In face of No. 8 drift 30' from cross-cut and 6' beyond East side of cross-cut to left hand across 6'0"-----	2.60

DRIFT SAMPLES

81	34' West of center of cross-cut and 22' east of S80 across 5'6" including 2'6" of recess in foot wall-----	.80
80	42' East of S 28 across 5'0" of vein, across to foot wall-----	Trace
79	30' East of S 28 at East end of stope across 2'9" of hard quartzose hanging wall rock-----	1.60
28	50' West of Station 15 and 100' from center of cross cut across 5'0"-----	7.20
75	midway between samples ^(75') 28 and 29 (125' in cross-cut) across 4'2"-----	3.40
102	Midway between S 75 and ^S 29 (137.5' from cross-cut) across 5'4"-----	1.00
29	100' West of Station 15 and 150' from cross-cut across 5'0" 4"-----	11.00
78	20' West of S 29 across 1'6" of decomposed andesite wall rock on foot wall (left hand side of drift)-----	5.40
	<i>wallrock at right hand side of drift</i>	
77	Continuing across from last sample across 1'0" of COCHINEAL red gouge-----	Trace
30	200' from cross-cut across 4'3"-----	11.60
6	In face of West drift 223.5' from cross-cut across 6'3" of porphyry and including 1'6" of crushed material on North Wall-----	1.50
31	In "Quartz" cross-cut sample along west wall from 20' to 25' from center of drift-----	1.60
32	In face of same cross-cut 32.5' from center of drift across 1'6" of solid white quartz and 2'6" of red quartz and porphyry, 4'0" in all-----	1.80

ORO BLANCO - PARALLEL VEIN

MAIN WORKINGS - 1st Level

EAST DRIFT

4	In face of East drift 115.5' from cross-cut across 5'1"-----	1.00
26	75' from cross-cut across 4'10" including 1'6" of gouge material-----	3.80
20	In top of Parallel raise at East side 59' above level (to top of raise 61' from level) across 2'6"-----	23.20
21	In same raise 17.5' from level at East side across 2'0" of soft gouge material-----	22.40
27	30' ^{20'} from cross-cut across 5'6" including 1'3" of gouge-----	3.80

** 76 Midway between S. 29 and S. 30 across 2'6" of quartzose rock on foot wall (left hand side of drift) 5.40

WEST DRIFT

22	13' from cross-cut across 1'6" of decomposed andesite-----	2.00
23	Sample down across South wall of drift (to ascertain if values are outside vein proper) includes a foot of partially decomposed andesite and a foot of unaltered counter rock-----	1.00
5	In face of West drift 53.5' from cross cut across 8" of gouge-----	1.00

PARALLEL SHAFT WORKINGS

91	In East face of bottom level 80' from shaft across 4'6" of decomposed andesite and 3'0" of hanging wall rock 7'6" in all--	Trace
89	56' from shaft along west wall of cross-cut into foot wall across 11'0" of quartz porphyry-----	1.00
90	34' East of shaft in drift across 6'3" of partially decomposed porphyry-----	1.00
88	29' West of shaft across 3'10"-----	Trace
87	57' from shaft across 4'0" of decomposed andesite-----	1.00
G	at 65' level in drift 40' from shaft, across 4'0" of compact quartz porphyry-----	3.40
H	In shaft 8' above 65' level at East side, across 4'6" of quartz porphyry-----	Trace
F	At same level 65' from shaft across 7'0" of quartz porphyry-----	Trace
D	90' from shaft across 6' of quartz porphyry (opposite small cross cut into hanging wall, caused by turning drift to south) No walls-----	1.00
E	Same distance from shaft across West side of above cross cut, across 8'6" of quartz porphyry-----	Trace
C	115' from shaft across 4'8" of quartz porphyry-----	4.40
B	140' from shaft along West side of cross-cut into hanging wall, across 18'0"-----	Trace
A	In face of West drift 148' from shaft, across 2'5" (same quartz porphyry both sides, no walls)-----	Trace

JUNCTION TUNNEL AND SHAFT

99	Sample across West side of shaft on level with floor of tunnel, across 3'9" of quartzose ore (shaft is 60' deep)-----	Trace
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TRES AMIGOS MINE - TRES AMIGOS VEIN

<u>1st Level</u>	<u>North Drift</u>	
203		In face of North drift 270' from center of cross-cut across 3'6" ^{3'6"} under slip where quartz porphyry dike cuts off vein----- Trace
204		75' South S 203 and 195' from cross cut across 5'0"----- Trace
247		100' from cross-cut and 14' above level across 7'0"----- 4.50
206		61' from cross-cut along South side of cross-cut into foot wall, across 12'3"----- 1.00
248		30' from cross-cut and 14' above level, across 3'9"-----30.40
200		In long cross-cut, picked pieces of andesite porphyry----- Trace
201		Picked pieces from face of Tres Amigos cross-cut of purple red quartz porphyry----- Trace
206		At first left hand corner of cross-cut intercepting drift, across 4'6" broken across corner. This is the vein at the place----- 1.20
<u>South Drift</u>		
207		50' from center of cross-cut and 11' above level, across 6'0"----- 2.20
208		100' South of cross-cut and 25' above level across 4'6"----- 3.40
209		150' South of cross-cut and 15' above level, across 12' ^{6"} 0" ----- Trace
210		168' South of cross-cut along South side of cross-cut into foot wall, across 9'0"----- Trace
211		200' South of cross-cut and 20' above level, across 5'0"----- 5.20
212		250' from cross-cut in North pillar of shaft from surface across 5'2"----- 2.80
213		252" from cross-cut long North wall of winze station; along 14'0" cut from side of drift----- 3.00
249		Midway between S 212 and S 214 (275' from center of cross-cut) across 4'4"----- 18.80
214		300' from cross-cut across 4'6"----- 38.00 ^{38.00}
250		Midway between S 214 and S 215 (325' from cross-cut) across 4' ^{8"} 6" ----- 15.00
215		350' from cross-cut, across 4'2"----- 20.60
251		375' from cross-cut, across 3'7"----- 9.40
216		400' from cross-cut, across 4'5"----- Trace
217		Continuing across East from above sample into recess, across 12'0" 2.40

218	^{445'} 443'	from cross-cut, across 3'2"-----	6.40
252	^{480'} 480'	South of cross-cut under pillar of stope, across 3'3"-----	40.00

(To entrance of tunnel from S 252 75', or to where drift enters under cover, ^{65'}
~~68'~~)

2ND LEVEL

NORTH DRIFT

219		In North face of drift 42.5' from center of winze, across 3'7" or ore (8' cross-cut to left hand side shown nothing)-----	14.00
220		17.5' from center of winze, across 4'0"-----	5.00

SOUTH DRIFT

221		6' South of center of winze, across 4'9"-----	11.20
253		18' South of winzē along South side of cross-cut into hanging wall, along 10'6" of best looking rock-----	6.00
254		31' South of winze, across 4'5"-----	20.30
222		56' from cross-cut winze across 4'7"-----	1.60
223		106' from shaft, across 4'7"-----	8.20
²⁵⁸ 255		121' from shaft, across 4'10"-----	23.00
²³⁴ 224		156' from shaft, across 4'0"-----	Trace
225		206' from shaft, across 4'2"-----	2.00
232		108' from shaft, in cross-cut to right hand along north wall, across 10'0" from West slip out to side of drift-----	8.00
226	^{236'} 256'	from shaft, across 4'7"-----	3.40
257		286' from shaft, across 3'9"-----	8.20
227		306' from shaft, across 4'6"-----	6.40
228		356' from shaft, across 4'4"-----	8.60
256		375' from shaft, along North side of cross-cut to left hand, across 7'6"-----	5.00
231		406' from shaft, across 3'9"-----	8.00
229		In South face 456' from shaft at right hand side of drift, across 1'2" of dark iron stained gouge-----	2.60
230		Continuing across 2'4" to foot wall (left hand side of drift) across sheared prophyry and vein filling-----	6.00

TRES AMIGOS MINE - SORREL TOP VEIN

Sorrel Top Shaft Workings

(1)	233	At 65' level in pillar separating shaft from small south stope 7.5' from center of shaft; across 3'6" of good iron-stained rock-----	52.40
	234	At same level in North drift 24.5' from shaft and 3.5' back from face; across 4'9" of partially decomposed red quartz porphyry-----	4.40
	244	In shaft 80' down on South side across 4'2"-----	25.20
	241	120' level South drift 32' from shaft opposite South edge of 29' cross-cut into foot wall; across 4'6" from hanging wall slip to side of drift-----	1.40
	242	Continuing for 6'9" ^{8'9"} across West wall of cross-cut down to unde com posed wall rock----- (Drift continues for 8' but ore is turned into right hand side of drift or is cut out by hard red porphyry.)	8.00
	240	10' from shaft across 3'0"-----	5.00
	243	In shaft on North side 12' above 120' level, across 2'0" of best looking part of barren looking section of ground-----	29.80
(2) {	237	Same 120' level, North drift, 49' from cent ^r of shaft across shaft across 4'7"-----	8.20
	238	80' from shaft, across 5'0"-----	10.80
	239	In North face, 102' from shaft, across 5'2"-----	6.40
	236	In shaft at south side, 139' down, across 5'10"-----	2.80
	235	In shaft 167' down at North side, 2' above roof of bottom level; across 4'9" of red porphyry-----	34.80

(1) Some of this ore remains - it is high grade. Sample taken about 1954. This ore contains about 1 oz. of silver about 25¢ in 1907.

(2) I went down rope to check these 2 samples. Traylor apparently added 20% to the true value of assay. Sampled about 1954. Trench cut by Traylor evident. (B.D.)

CROSS-CUT WORKINGS

202	In North Drift 85' North of cross-cut, across 5'0" at best part of vein. This ore only shows for about 50' of entire shaft DRIFT -----	2.40
245	35' from cross-cut, across 2'6" mostly decomposed andesite-----	2.80
246	In South drift, 10' from cross-cut, across 2'9" of partially decomposed andesite-----	1.00

Jesus Rodriguez told me in 1946 that no ore was ever shipped. Al Robles high-graded a small amount in 1936. Jesus also said mine was closed down in 1907 during a depression. B.D.

Ore Extracted. About 3,200 tons of ore have been taken out from the Oro Blanco workings and milled in the 3 stamp merrill mill for test purposes. The grade of this ore was said to be about \$25.00, but both mining and sorting must have been carefully carried out to produce ore of this grade, as none of the stopes show more than small bunches of ore approximating at all to this in grade.

A large tonnage, probably about 30,000 tons, has been extracted from the Tres Amigos stopes and drifts. Except for the one small stope above the 65foot level on the Sorrel Top vein, no ore from this vein has been extracted for the mill. The ore extracted from the Tres Amigos vein was milled in the old Tres Amigos mill.

Ore Blocked out and porbable ore. The average assay value of the mine is computed in four different ways:

1. General average on all ore claimed.
2. On ores running trace to \$2.00
3. General average excluding assays of \$2.00 and under.
4. General average excluding assays of \$5.00 and under, and the corresponding tonnages, taking ore of each of the above grades are computed.

The minimum commerical value for the ore is taken to be \$5.00. (The "probable" ore is also computed under each of the above heads).

NOTE - On maps no. 2 & 7 will be found a legend denoting in colors, first, ores with values of trace to \$2.00. Second, ores of value to \$2.00 to \$5.00 and Third, ores of value of \$5.00 and upward.

NOTE - For any one block of ground the average assay value was arrived at by a method of proportioning the several assays in the drifts and raises. This almost certainly gives a more accurate average than one calculated from strict width-dollar multiples, and in any case, will probably be too high as the values do not seem to extend more than about 60 feet above the level.

The widths taken were generally wider than the widths sampled and often wider than the width of the drift. This is to allow for ore branching into walls as happens at places, as is shown in some cross-cuts, though the values in these are never high.

No allowance has been made for ore below the level, as this is more than compensated for by the two factors of grade and width mentioned above.

NORTH VEIN

A. Above 125 foot level;
(a) East of shaft;
Total length on strike - distance from station to east face - 300 feet.
Average length of dip-mean of seven ordinates taken from Map No. 3 - 98 feet.
Width of vein-mean of ten widths equally spaced - 5 feet.
Cubic contents of block of ground - 147,000 cu. ft.
One ton of vein in place measures 13.5 cu. feet.
Tonnage in block of ground - 10,900 tons.
Average assay value - proportional mean of assays - \$2.50.

(b) West of shaft;
1. From shaft 150 feet west
Length on strike - 150 feet.
Average length on dip - 155 feet.
Width of vein - 6 feet.
Cubic contents - 139,500 cu. feet.
Tonnage - 10,300 tons
Assay value - \$2.30.

2. From 150 feet west of shaft up to Station 7.
Length of strike - 168 feet.
Average length on dip - 195 feet.
Width of vein - $5\frac{1}{4}$ feet.
Cubic Contents - 191,990 cu. feet.
Tonnage - 12,700 tons.
Assay value - \$5.70.

3. Below the level in block of ground opened up by winze.
Length on strike - say 75 feet.
Length on dip - say 55 feet.
Width of vein - $6\frac{1}{2}$ feet.
Cubic Contents - 26,800 cu. feet.
Less volume of ore extracted - $40 \times 40 \times 6\frac{1}{2}$
- 10,400 cu. feet.
-volume of ground remaining - 16,400 cu. feet.
Tonnage - 1,200 tons.
Assay value - \$5.50.

4. From Station 7 to Station 19.
Length on strike - 146 feet.
Average length on dip - 203 feet.
Width of vein - $5\frac{1}{2}$ feet.
Cubic contents - 163,000 cu. feet.
Tonnage - 12,100 tons.
Assay value - \$5.10.

6. From Station 21 to West face;
Length on strike - 74 feet.
Average length on dip - 217 feet.
Width of vein - 5 feet
Cubic Contents - 80,300 cu. feet.
Tonnage - 5,900 tons.
Assay Value - \$7.00.
Between first and second levels;

5. From Station 19 to Station 21.
Length on strike - 190 feet
Average length on dip - 217 feet
Width on vein - 5'3"
Cubic contents - 216,500 cu. feet
Tonnage - 16,000 tons
Assay value - \$1.35

Note - No allowance is made for ore below the level as this is more than covered by taking a rectangular block of ground and by the fact of the West drift being driven away from the ore in the hanging wall of the ore-band.

- (a) East of shaft;
 Length on strike - 50 feet.
 Length on dip - 105 feet.
 Width - 5 feet.
 Cubic contents - 26,250 cubic feet.
 Tonnage - 1,900 tons.
 Assay value - \$1.80
- (b) West of shaft.
 Length on strike - 90 feet.
 Length on dip - 105 feet.
 Width of vein - 6 feet.
 Cubic contents - 56,700 cu. feet.
 Tonnage - 4,200 tons.
 Assay value - \$4.50.

Total tonnages in North Vein of three grades of ore.

(1)	10,900 tons	of	\$2.50
	10,300	" "	3.30
	12,700	" "	5.70
	1,200	" "	5.50
	12,100	" "	5.10
	16,000	" "	1.35
	5,900	" "	7.00
	1,900	" "	1.80
	4,200	" "	4.80 4.50
	<u>75,000 tons</u>		<u>of \$3.70</u>

(2) 43,000 tons of \$ 2.39

(3) 31,900 tons of 5.70

MIDDLE VEIN

(a) East Drift:
 Length on strike - 86.5 feet.
 Average length on dip - 200' - 75' or 125 feet.
 Width of vein - 5 feet.
 Cubic contents - 54,000 cu. ft.
 Tonnage - 4,000 tons.
 Assay value - \$8.50.

(b) West drift:
 Length on strike - 78 feet.
 Average length on dip - 125 feet.
 Width of vein - 4 feet.
 Cubic contents - 38,000 cu. feet.
 Tonnage - 2,800 tons.
 Assay value - \$2.20.

TOTAL TONNAGE IN MIDDLE VEIN OF TWO GRADES OF ORE.

- (1) 6,800 tons of \$ 5.90
(2) 4,000 " " 8.50 (minus 2800 tons of \$2.20 value)

SOUTH VEIN

(a) From cross-cut for 80 feet along drift;
Length on strike - 80 feet
Average length on dip - ~~180~~¹⁹⁰ feet
Width of vein - 5 feet
Cubic contents - 76,000 cu. feet.
Tonnage - ~~6,600~~ tons.
Assay value - \$1.60.

(b) Block of ground exposed in cross-cut.
Length East to West - say 60 feet.
Length North to South - 55 feet.
Length on dip - say 40 feet.
Cubic contents - 132,000 cu. feet.
Tonnage - 9,800 tons.
Assay value - \$3.70.

(c) From ~~80~~⁶⁰ feet in drift to West face:
Length on strike - ~~140~~¹⁴⁰ feet.
Average length on dip 0 190 feet.
Width of vein 5 feet.
Cubic Contents - 136,300 Cu. feet.
Tonnage - 10,100 tons.
Assay value - \$5.10.

TOTAL TONNAGE IN SOUTH VEIN OF THREE GRADES OF ORE

- (1) 5,600 tons of \$1.60
9,800 tons of 3.70
10,100 tons of 5.10
25,500 tons of \$3.80
(2) 19,900 tons of \$4.40
(3) 10,100 tons of 5.10

PARALLEL VEIN

A. Main Workings:

(a) Tonnage in No. 7 raise ore shoot.
Length on strike - 80 feet (from cross-cut for ~~50~~⁸⁰ in).
Average length on dip - 225 feet.
Width of vein - 5 feet.
Cubic contents - 90,000 cu. feet.
Tonnage - 6,700 tons.
Assay value - \$7.50.

(b) Remainder of drift both sides above ore shoot:
 Length on strike - 90 feet.
 Average length on dip - 225 feet.
 Width of vein - 4 feet.
 Cubic contents - 81,000 cu. feet.
 Tonnage - 6,000 tons.
 Assay value - \$2.00.

B. Parallel shaft workings.
 Length on strike - 150 feet.
 Length on dip - 130 feet.
 Width of vein - 7 feet.
 Cubic contents - 136,500 cu. feet.
 Tonnage - 10,100 tons.
 Assay value - \$1.20

Total tonnages in Parallel vein of two grades of ore

(1) 6,700 tons of \$7.50
 6,000 " " 2.00
 10,100 " " 1.20

 ~~22,800~~ tons of \$3.60
 2,600

(2) 6,700 tons of \$7.50

Total tonnage in main Oro Blanco Mine - All veins of two grades of ore

North	75,200 tons	43,300 tons	31,900 tons of \$5.70
Middle	6,800 "	2,800 "	4,000 " " 8.50
South	25,500 "	15,400 "	10,100 " " 5.10
Parallel	22,800 "	16,100 "	6,700 " " 7.50
	130,300 tons	77,600 "	52,700 tons of \$6.00

TRES AMIGOS MINE - TRES AMIGOS VEIN

A. Above tunnel level.

(a) North of cross-cut:
 1,420 feet from center of cross-cut.
 Length on strike - 120 feet.
 Average on dip - 155 feet.
 Width of vein 6'6".
 Cubic contents - 120,900 cu. feet.
 Tonnage - 9,000 tons.
 Assay value - \$4.90

2. For 150 feet from end of last block of ground into face.
 Length on strike - 150 feet.
 Average length on dip - 155 feet.
 Width of vein - 5 feet.
 Cubic contents - 116,200 cu. feet.
 Tonnage - 8,600 tons.
 Assay value - \$1.00

- (b) South of cross-cut.
1. From cross-cut for 250 feet.
 Length on strike on dip
 Average length on dip - 142 feet.
 Width of vein - 6'6".
 Cubic contents - ~~260~~²³⁰,700 cu. feet - volume of
 ground stoped ~~2~~² 70 x 20 x 6.5 - 9,100
 cu. feet - net 221,600 cu. feet.
 Tonnage 16,400 tons.
 Assay value - \$1.90.

 2. From 250 feet up to 350 feet:
 Length on strike - 100 feet.
 Average length on dip - 130 feet.
 Width of vein - 4'6".
 Cubic contents - 58,500 cu. feet - volume of
 ground stoped 40 x 25 x 4.5 - 4,500 cu. ft.
 net 54,000 cu. feet.
 Tonnage - 4,000 tons.
 Assay value - \$17.00.

 3. From 350 feet to entrance of drift:
 Length on strike - 190 feet.
 Average length on dip - 65 feet.
 Width of vein - 4'3".
 Cubic contents - 51,700 cu. feet volume of
 ground stoped - 60 x 40 x 4.25 - 10,200
 cu. feet. - net 41,500 cu. feet.
 Tonnage - 3,100 tons.
 Assay value - \$8.00.

B. Between tunnel level and 100 feet level.

(a) above 500 feet drift.

1. From North face (-42.5 feet from center of
 cross-cut shaft) to 40 feet south of shaft:
 Length on strike - 82.5 feet.
 Average length on dip - 100 feet.
 Width of vein - 5 feet.
 Cubic contents - 41,250 cu. feet.
 Tonnage - ~~34~~³⁴,100 tons.
 Assay values - \$11.00

2. From 40 feet south of shaft to 270 feet south
 Length on strike - 230 feet.
 Length on dip - 100 feet.
 Width of vein - 5 feet.
 Cubic contents - 115,000 cu. feet.
 Tonnage - 8,500 tons.
 Assay value - \$5.00

3. From 270 feet south of shaft to face (456 feet from shaft)
 Length on strike - 186 feet.
 Length on dip - 100 feet.
 Width of vein - 5 feet.
 Cubic contents - 92,000 cu. feet.
 Tonnage - ~~68,900~~ tons. ^{6,900}
 Assay value - \$10.00.

(b) Above 220 foot part of level
 Length on strike - 220 feet.
 Average length on dip - 65 feet.
 Width of vein - 4'6".
 Cubic contents - 64,350 Cu. feet.
 Tonnage - 4,000 tons.
 Assay value - \$4.00

Total tonnages in Tres Amigos vein

(1)	9,000 tons	of	\$4. ⁵ 0
	8,600	" "	1.00
	16,400	" "	1.90
	4,000	" "	17.00
	3,100	" "	11.00
	3,100	" "	6.00
	3,800	" "	5.00
	6,500	" "	10.00
	4,800	" "	4. ⁹ 0
	64,400 tons of		\$ 5.40

Of the 64,400 tons it is safe to estimate that 40,000 tons will average \$9.00.

TRES AMIGOS MINE - SORREL TOP VEIN

(a) Sorrel Top shaft ore shoot central portion of ore shoot lying diagonally across shaft, commencing at South side of shaft and coming down through small stope on 65 foot level and crossing shaft between the 120 foot and 175 foot levels.
 Length on dip - 175 feet.
 Length on strike - 35 feet.
 Width of vein - ~~4'8"~~ ^{4'6"}
 Cubic contents - 29,100 cu. feet.
 Tonnage - 2,000 tons
 Assay value - \$22.00.

(b) Remiander of block of ground opened up in Sorrel Top shaft workings:
 Length on dip - 175 feet.
 Length on strike - 80 feet.
 Width of vein - 5 feet.
 Cubic contents - 70,000 cu. feet - above 29,100 cu. feet
 net - 40,900 cu. feet.
 Tonnage - 3,000 tons
 Assay value - \$7.00.

(c) Block of ground between bottom of Sorrel Top Shaft
 and cross-cut workings;
 Length on dip - 175 feet.
 Length on strike - 150 feet.
 Width of vein - 5 feet.
 Cubic contents - 131,200 cu. feet.
 Tonnage - 9,700 tons.
 Assay Value - \$2.50

Total tonnage in Sorrel Top vein

(1)	2,000 tons of \$22.00
	3,000 tons of 7.00
	9,700 tons of 2.50
	<u>14,700 tons of \$ 6.10</u>

Total tonnage in Tres Amigos Mine - both veins

Tres Amigos	64,000 tons of value as above
Sorrel Top	<u>14,700 " " " " "</u>
	79,100 tons approximate average value \$5.90

Sect. 4

SUMMARY, ETC.

In either mine it is impossible to tell from the appearance of the ground where the values lie, though generally the more compact and quartzose rock will carry higher values. Wherever the ore ran over \$6.00 per ton, the ground at that point was further prospected by raises, etc. and often stoped out till values fell too low for further extraction. The former operators of the mine seem to have been able, either from close sampling or from a close acquaintance with the rock, to have worked on the higher grade ground.

The ore seems to lie in shoots which are more or less short, but owing to the spotted character of the ore and the greater or less continuity of the mineralization, these are not very well defined.

The estimates of tonnage were made on areas of ground incompletely blocked out and it is possible that the estimate of the tonnage in any one block of ground, when more completely exposed by further development, would have to be cut in half. This is particularly the case in the main Oro Blanco workings, where the values seem to fall rapidly 50 to 60 feet above the level.

The estimates of tonnage and grade, if not excessive, are at any rate, not under the actual figures, and the ground was given all the credit it was worth.

In some of the stopes, the pillars left were too low grade for extraction.

ORO BLANCO MINE

In the main Oro Blanco workings, it is computed there is 52,700 tons of ore which can be extracted, averaging \$6.00, blocked out, but owing to the irregular distribution and spotted character of the ore, supposing a profit could be made on \$6.00 ore under the local conditions and with the present mill, it is doubtful if this ore could be extracted at a profit.

Further developments on the Oro Blanco will necessarily be expensive on account of the heavy flow of water, and, again, the assays in the winze below the 125 foot level and on the 230 foot level are much lower in values, therefore, taking into consideration the water to be contended with and the low assay values on your lowest workings makes it difficult, within a degree of safety, to recommend further sinking, at least until after you have made further and fuller developments on the Tres Amigos, which would, in our judgement, have considerable to do with the future development of the Oro Blanco veins. At this point, however, we wish to state that the heavy flow of water in the Oro Blanco is of considerable importance to your company. In fact, it may be termed as of great value, as, without this water, it would be difficult and expensive to secure water from any other source in quantity for the carrying on of large operations without going to an enormous expense. We may also mention here that our not being able to recommend further development on the Oro Blanco at this time is due mainly to the fact that the development of the Tres Amigos can be accomplished at much less cost, and from the further fact that the Tres Amigos vein is more clearly defined. It is just possible that in depth the intrusive stratus of veins as found between the North, Middle, South, and Parallel as above enumerated, may be consolidated into one vein, and, under such circumstances, this would unquestionably prove the Oro Blanco, in our judgement, to be a valuable property. The direction in which the North and South veins dip indicates that it is reasonable to expect them to come together at greater depth, as both of these veins dip towards each other.

Sample No. 8 in the face of the East drift of the North vein was of hard undecomposed green andesite behind the wall slip of the vein; this assayed \$13.00. On blasting into the wall however, and reaching the true "country" the values disappeared, as in sample No. 103, thus indicating that, in all probability, the values were leached out of the vein and concentrated in the enclosing rock immediately next to the vein, samples No.s 1 and 00, taken in conjunction with samples No.s 47, 73 and 3 respectively, would appear to indicate that the values in the West end on the North drift were mainly concentrated near the so called "manganese slip" and in the rock showing the fine sulphides.

It may be mentioned here that the length of the ore shoots on the Middle, South and Parallel veins are respectively about 86, 100 and 80 feet.

The assay values given are for gold alone, the silver contents being one ounce or under.

TRES AMIGOS VEIN

It is computed that 40,000 tons of ore averaging \$9.00 can be extracted from the Tres Amigos vein proper, or 64,400 tons of the lower average of \$5.40 may be extracted from the same vein, while it is computed that there can be extracted 14,700 tons with an average value of \$6.10 from the Sorrel Top vein.

In referring to the Tres Amigos Mine, we call special attention to the Sorrel Top Vein, as from the smallness of the ore shoot and the doubt from the structure of the deposit of any other ore shoot being encountered, it can hardly be taken into account in considering the future of the mine and its prospective value.

With regard to the Tres Amigos vein, however, there is computed to be 40,000 tons of ore averaging \$9.00 with a grand total of 64,400 tons of ore averaging \$5.40 blocked out, and the prospective value of the mine, in our judgement, is by far more encouraging than that of the Oro Blanco: this decision being arrived at after giving due consideration and careful study of the general appearance of the chief points of development in both properties. It must not be overlooked, however that on the tunnel level on the Tres Amigos the vein is cut off at the North end of the drift by a "purple-red" quartz-porphry dyke which cuts across the northwesterly portion of the property. This dyke will, of course, in all probability cut the vein at the 100 foot level at some point more or less distant from the shaft.

Our sampling, taken for the sole purpose of getting a true conservative tonnage and value of the ore blocked out in your properties, and at the same time give the mine the benefit of doubt in every case, would indicate that ore of a commercial value in the Oro Blanco, including all veins, would be 62,700 tons having a value of \$6.90 per ton, and the Tres Amigos, including the Sorrel Top, 79,100 tons of an average value of \$5.00 per ton.

To enable you, if desired, to check up our work, we have included in this report full and concise descriptions of the major portion of our samples, and especially these which have any reference or bearing on the tonnage and value of the ore.

IN CONCLUSION:

We deeply regret that we cannot recommend to you the installation of an ore reduction plant, as the amount of ore in sight, considering the location of the mines, and particularly the scarcity of fuel in the immediate vicinity of the properties, would under no circumstances justify the expenditure of money in this direction at present.

In considering a plant for your properties, all of the power should be transmitted electrically from the nearest point on the railroad. To do this, however, the properties must be thoroughly developed, as you have at the present time no workings of any depth to speak of, but with the splendid showing that you have, however, on the Tres Amigos particularly, we can see no reason why this property should not develop in depth, and unless the vein is cut off by the large quartz-porphry dyke referred to above, which is not likely except on the north

end, this vein should make sulphide ores with an additional 100 to 200 feet in depth, and at this point the future of the mine could be proven beyond question. We should therefore recommend that a gasoline hoist be located at some suitable point on the Tres Amigos at the level of the cross-cut, that the vertical shaft sunk to a depth of 100 feet below the cross-cut level be continued in depth, and that drifts at proper intervals be driven to determine the extent of the ore and its values. Until the results of this development work had been concluded one way or the other, we would not recommend the expenditure of further money on the Oro Blanco, as in case of the Tres Amigos developing into a valuable property, as we think it will, the proper thing thereafter would be the locating of a large three-compartment working shaft at some point centrally between the Oro Blanco mines and the Tres Amigos, and have both properties worked through this main shaft. By so doing this would enable you to more economically develop further the Oro Blanco properties and to successfully handle the large flow of water that you now have to contend with in same.

signed Traylor Engineering Company
by S. W. Traylor
President

New York, July 24, 1907

C - O - P - Y

