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06/24/97

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: SANTO NINO

ALTERNATE NAMES:

SANTA MARIA MOLYBDENUM  
HAVALINA MINING  
SOUTHERN COPPER MINES  
BEYERLE  
YOUNG AND GARDNER

SANTA CRUZ COUNTY MILS NUMBER: 77B

LOCATION: TOWNSHIP 24 S RANGE 16 E SECTION 8 QUARTER NW  
LATITUDE: N 31DEG 21MIN 39SEC LONGITUDE: W 110DEG 43MIN 04SEC  
TOPO MAP NAME: DUQUESNE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

COPPER SULFIDE  
MOLYBDENUM SULFITE  
SILVER  
GOLD  
LEAD  
ZINC

BIBLIOGRAPHY:

ADMMR SANTO NINO MINE FILE  
SEE ADMMR SANTA MARIA MOLYBDENUM MINE FILE  
ADMMR "U" FILE SANTA CRUZ CU-2  
KEITH, S.B., 1975, INDEX OF MINING PROPERTIES  
IN SANTA CRUZ COUNTY, US GEOLOGICAL SURVEY  
BULLETIN 191, P 82  
AZBM CARD FILE SANTA CRUZ COUNTY

SANTO NINO

SANTA CRUZ COUNTY

USGS Bull. 1182-E p. E14

ABM Bull. 180, p. 236

ABM Bull. # 129, p. 67, 90

*Wah International file*

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

MM-9771 Molybdenite

*Santa Cruz*  
Gochise Co.

Santa Nino Mine # 77B (F)

SANTO NINO

Cu

Santa Cruz

12 - 1

T 24 S, R 16 E

Southern Copper Mng. Co., 61 Broadway, New York City

'42

SANTO NINO MINING CO., INC. (LESSEES) 3-11-55

W.W.Patrick, Congress Hotel, Tucson, Ariz.

W.S.(Bud) Talcott, Congress Hotel, Tucson, Ariz.

MINE: SANTO NINO MINE, Duquesne Dist., Santa Cruz Co., -About 3 Mi.  
SW of Bonanza Mine.

SUB-LESSEES: J. D. Mires, Box 914, Patagonia  
Armando Majalca, Washington Camp, Ariz.

OWNER: Lewisohn Bros., New York City

*Santa Clara*

September 25, 1942

Mr. Rupert Beyerle  
The River Store  
Nogales, Arizona

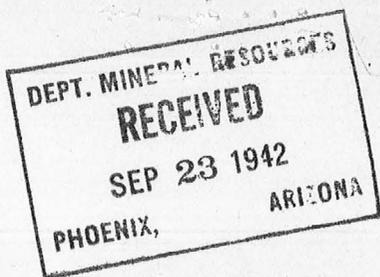
Dear Mr. Beyerle:

In reply to your letter of September 21 I will say that I know of no market where you can dispose of the two tons of high grade MOS2 and copper ore assaying 50 percent MOS2 and 10 percent copper excepting possibly to Hawley and Hawley, Box 151, Douglas, Arizona. I would suggest that you write to them.

Very truly yours,

J. S. Coupal, Director

JSC:LP



THE RIVER STORE  
Nogales, Arizona

September 21, 1942

S. Sam Coupal  
520 - 528 Title Trust Bldg.  
Phoenix, Arizona

Dear Sir;

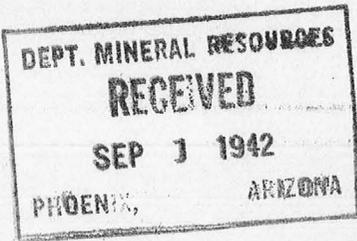
The Lessors from the Santo Nino Mine have a small lot, approximately two tons of very high grade of MOS 2. Please inform me where they could sell this ore at good advantage. It assays approximately about 50% MOS 2 and 10% copper.

Thanking you in advance for this information,

Very truly yours,

*Rupert Beyerle*  
Rupert Beyerle

RB/oc



THE RIVER STORE  
Nogales, Arizona

August 30, 1942

Department of Mineral Resources  
State of Arizona  
518 Title and Trust Building  
Phoenix, Arizona

Gentlemen;

In order to keep the records straight I can inform you now that the Santo Nino Mine has been leased and bonded by Hugh Young and Fred Gardner. The owners of this Mine are the Southern Copper Mining Company, New York, N. Y. The ore produces principally copper; once in a while a strick of Mos 2, shows up in very high Mos 2.

Years ago I leased the property from the company and ever since I have looked after same. For this simple thing don't mention my name on your publication as I play only a small part in the game.

I also received your welcome postal card where you state that you have recommended my Harshaw property, called the Blue Nose Extension to R. D. Lynch. I want to thank you for your kind attention. About a week ago I also bonded and leased said property to Louis Berdusco of Nogales, that is I have given him an option and sixty days. I would appreciate it if you would be so kind and strike my Blue Nose property off the list temporary until further advised.

Thanking you again for your attention, I am,

Very truly yours,  
✓ *Rupert Beyerle*  
Rupert Beyerle

RB/cc



THIS SIDE OF CARD IS FOR ADDRESS

*C. S. Green*  
Mr. Charles F. Willis  
Chairman, Board of Governors  
Dept. of Mineral Resources  
Phoenix, Arizona.

The River Store  
Nogales, Arizona

Mr. Charles F. Wittis  
Chairman: Board of Governors.

Dear Sir:

Please strike the Santo  
Nino mine off your list of  
mines for sale because the  
company has leased same to  
some party.

Very truly yours,  
Rupert Beyers.

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

413 Home Builders Bldg.

May 22, 1942

Mr. Rupert Beyerle  
The River Store  
Nogales, Arizona

Dear Mr. Beyerle:

We will be glad to have details of your operations on the Santo Nino Mine as soon as you are ready to send them.

I am unable to find in our files a Mine Owner's Report on the Santo Nino Mine. Is it possible that you have another name for the property? If so, please advise us.

Yours very truly,

J. S. Coupal, Director

JSC:LP

THE RIVER STORE  
Nogales, Arizona

May 12, 1942

Mr. J. S. Coupal, Director  
Dept. of Mineral Resources  
413 Home Builders Bldg.  
Phoenix, Arizona

Dear Sir:

Received your letter of May the 8th..

When I wrote you May 1st., I would have given you more details in regard to the Santo Nino Mine if it would have been possible, because the papers between the company and the leasee are not drawn up yet. For this reason I could not mention at present the name of the leasee or any details in regard the development work he is contemplating to do.

I assure you that I will give you some details as soon as possible.

The parties that are contemplating to lease the mine are local people. I did not receive any propositions from any of the parties that the Department of Mineral Resources has sent to me.

Very truly yours,

*Rupert Beyerle.*  
Rupert Beyerle

XXXXXXXXXXXX

413 Home Builders Bldg.

Name Card

May 8, 1942

Mr. Rupert Beyerle  
The River Store  
Nogales, Arizona

Dear Mr. Beyerle:

Your card of May 1 has been received and,  
as instructed, we are taking the Santa Nino Mine off  
our list as being for sale.

We would be glad to know who has leased  
the property and what the present operations are so  
that we may complete our records on this operation.

Yours very truly,

J. S. Coupal, Director

JSC:LP

MG WR 2/29/82: The Southern Copper Mining Co., % John J. Nash, Second Vice President, Chase Manhattan Bank, 1211 Ave. of Americas, NY, NY 10036 is the owner of the Santo Nino Mine in Santa Cruz County. This property consisting of 5 patented claims, the Santo Nino, Santo Nino No. 1, Santo Nino No. 2, Santo Nino No. 3, and Santo Nino No. 5, encompasses 94.53 acres. It is located on the east side of Mount Washington and is mainly in the unsurveyed Sec. 9 T24S R16E.

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MG WR 1/29/82: The Hydrology Dept. at the University of Arizona called for information on the Worlds Fair and Santo Nino mines of Santa Cruz County. The department has a contract to study dry and wet conditions in mine workings that might serve as repositories for nuclear wastes.

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MG WR 2/5/82: The Canute Corp. now owns the Santo Nino Mine in Santa Cruz County. The Southern Copper Mining Co. was dissolved and its assets transferred to Canute. Mr. John J. Nash is President of Canute and Mr. Ralph Cox is Vice President and Secretary. Mr. Nash is Vice President, and Mr. Cox is Second Vice President of Chase Manhattan Bank, 1211 Ave. of the Americans, NY, NY 10036. The road to the Santo Nino is in poor condition but the main tunnel level in the mine is in good condition. The mine is wet and the narrow guage track is bably rusted. There is no equipment at the mine site and there is no mining activity.

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SANTO NINO

SANTA CRUZ COUNTY

Utah Construction has the Santo Nino mine area under option and have staked many claims. It is reported that they are evaluating the geological possibilities. GWI QR 4-1-70

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The Utah Construction Co. continued active at the Santo Nino mine and environs with geological mapping and drilling. GWI QR 6-30-70

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Utah Construction and Mining continued their exploration at the Santo Nino area. GWI QR 10-1-70

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Utah Construction & Mining Co. are still exploring the Santo Nino mine area that adjoins Rosario-Simplot on the south. GWI QR 12-31-70

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Utah Construction & Mining Co. is still at Santo Nino exploring, etc. GWI QR 4-1-71

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The Utah Construction & Mining Company continues exploration at the Santo Nino property near Duquesne. GWI QR 6-30-71

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Mine visit. Santo Nino mine no one around. GWI WR 2/24/72

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Santo Nino Mine

No sign of recent work at the dump or old workings. Considerable recent (last six months) road building for drill site access has been done in the immediate area. A large group of claims have been staked on unpatented ground surrounding the Santo Nino by Utah International in December of 1972. *KAP Report dated 6/18/73*

Utah Construction continued drilling their Santo Nino property. GWI AR 73-74

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Mine visit to Santo Nino mine. GWI WR 12/19/74

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I was told by Al Philipps, geologist at Duquesne, that Utah International had stopped drilling the Santo Nino property four or five months ago and all equipment was removed. VBD WR 5/14/75

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THIS IS  
A COPY.....

CHARLES H. DUNNING  
Mining Engineer.  
Phoenix, Arizona.

WASHINGTON COPPER-MOLYBDENUM GROUP.

To: Mr. Sam Akalla,  
Inspiration, Arizona.

Dated June 12, 1962.

Per your request and accompanied by yourself I made a preliminary examination of the above captioned mining claims on June 2 and 3, 1962.

PURPOSE OF EXAMINATION

The purpose of the examination was to study and appraise the the mineral showing on the group, and advise as to whether further exploration, especially by drilling, is justified.

LOCATION AND HOLDINGS

The Washington Group consists of a block of 37 unpatented claims covering an area approximately square in shape and somewhat over a mile on each side. The centre of the group is located approximately 2 miles Southwest, from Washington Camp village and post office, Santa Cruz County, Arizona.

Washington Camp can be reached by a direct road 18 miles in length from Nogales, Arizona, or from Patagonia. The southern line of the group is only a short distance from the Mexican border. The altitude ranges from 6000 to 7000 feet. While most of the claims can be reached via side roads in a jeep a thorough study of the geology would require considerable hiking and climbing over quite rugged country.

HISTORY AND DEVELOPMENT.

The group generally comprises recent discoveries and new locations and with two exceptions is confined to 10 foot discovery holes and assessment work holes.

One of these exceptions is the old Santa Mine (patented) Mine adjoining the eastern line of the Washington Group. While this mine itself is not included in the Washington Group, it is important because of its recorded production of high grade copper-molybdenum ore which indicates a strong mineralization or source of mineralization affecting the adjoining Washington claims.

The Santa Mine will be mentioned in more detail further on in this report.

Another spot where there has been more extensive exploration is near the south central border of the group. It will also be discussed in more detail later, and referred to as the "Southerly Showing".

GENERAL GEOLOGY and MINERALIZATION

In general the terrain is underlain by a fresh, unaltered, medium grained biotite granite or Monzonite. This mass is no doubt intrusive into some older formation. I have made no study to assign the intrusion to any geological period.

Here and there are gossan outcrops and occasionally the typical granite or monzonite phases into a rhyolite, but there has been no exploration to determine whether any of these outcrops are an indication of ore.

Generally, in the location of assessment holes the dump material shows fracturing of the granitic rock and these seams often carry heavy pyrite or chalcopyrite. On rare occasions the above minerals can be found disseminated in the rock, but usually they are confined to the fractures. Molybdenite was reported to have occurred in these shallow excavations but with the exception of the Santo Nino and the Southerly showing mentioned above and below, I was unable to find any in the dumps of these holes. I should however add, that some of these holes have been converted into wells for stock watering and the excavations themselves cannot be examined. An our "rock hound" interest has become so intense that nary a mineral trace, though once prevalent can be found on a dump.

Though there is a lack of moly in this type of rock, nearly every fracture or seam does carry chalcopyrite. This brings up the question as to its origin.

My first impression was that the metallic mineralization was an end-product emanation from the same magma that produced the rock. This would account for the occasional disseminated specks within the rock mass, and for the greater prevalence in the rock fractures. Said fracturing having taken place after the main intrusion cooled and shrunk. The moly mineralization came still later and was confined mostly to the fractures and to the "special situations" discussed later.

In spite of the prevalence of chalcopyrite, and sometimes a little moly in the fractures of the general intrusion, there is no indication, in the surface holes examined, that the whole mass could be ore, or that any enrichment in further depth could be expected.

However, in the two special situations mentioned following herewith, the probabilities are much more inducive. As stated above the Santo Nino Mine consists of old patented claims adjoining the Washington Group. The main development seems to have been a cross cut tunnel started in the barren monzonite granite. The interior of the tunnel could not be examined but the dump indicates at least 1000 feet of work.

Old reports are available and were studied. Apparently between 1926 and 1930 some \$300,000 direct shipping copper was mined,

Average grade was stated to be 5 to 7%. ~~The copper occurred in the monzonite.~~ The face of the tunnel is indicated to be about 250 feet below the surface, and a shaft and some intermediate levels are mentioned.

The reports mention the presence of moly with the copper but there is no mention of it being paid for at that time. Remnants of ore piles show specimens of high grade moly, some as high as 50%, the mineral molybdenite being massive on the fractures and disseminated throughout the monzonite and granite.

The surface of this mineralized zone was not examined but it should, by all means, be traced into the Washington Group.

At the "Southerly Showing" we have the same type of monzonite or granite as is prevalent generally, but up on the mountainside ridge the formation changes abruptly into a flat-lying bed of brecciated porphyry. It would probably be classed as monzonite or latite porphyry. It contains angular fragments (some as large as 6" x 6") of allied rock, usually less altered than the matrix. Voids are prevalent- some natural voids, others leach cavities. It is an excellent host rock and has been well mineralized with iron, copper and moly. The mineralization is both in the seams and disseminated throughout the rock. It appears to be a flow with a definite flat floor, but further up the hill (not examined) the outcropping rock looks like the typical underlying granite. Thus this flat layer could be an injected sill, or there could be a complicated over-thrust faulting that brought the porphyry from elsewhere.

The flat layer appears to be at least 50 feet thick but because of limited time and prevalent overburden no definite conception of its thickness or area could be obtained.

Some old timers (history unknown) had driven a cross cut tunnel in the granite underneath this hillside outcrop. It was not inspected though the portal was only about half caved. It looked solid and probably could be examined with time and lights. It was started about 50 feet below the floor of the porphyry and the dump indicated about 200 feet of work.

The dump consists mostly of the same biotite-monzonite-granite, but here and there were small piles of more porphyritic, better mineralized rock, and the lower margin of the dump (last rock mined) showed a little copper and moly.

My guess would be that the old timers drove the cross cut, not realizing that the ore was a flat bed and they were underneath it. Perhaps they ran a raise and encountered a little of the porphyry but found it too low grade for their then purposes. Or perhaps there had been a little downward infiltration from the minerals above.



DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Santo Nino Mine Date Feb. 5, 1959  
District Duquesne District, Santa Cruz Co. Engineer Axel L. Johnson  
Subject: Field Engineer's Report. Information from W. S. (Bud) Talcott.

References: Report of July 24, 1958 and previous reports.

Owners: Southern Copper Mining Co.  
Legal representatives - Morris & Malott, Globe Arizona

Lessee: W. S. (Bud) Talcott, Box 194 (Gateway Trailer Court) Nogales, Arizona.

Principal Minerals: Copper ore with some molybdenum.

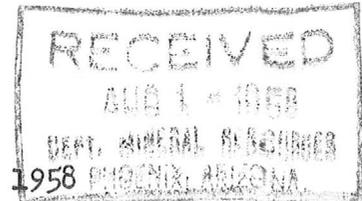
Present Mining Activity: Sinking shaft. 3 men working. Progress about 5 ft. per day.  
Shaft now down to a depth of 70 ft.

Past Mining Activity: Mr. Talcott reports that 4 diamond drill holes, totaling 400 ft., were put down last summer and fall by Vought and Cloeter. 1 of these holes was vertical, 1 was inclined 75 degrees, 1 inclined 55 degrees, and 1 inclined 32 degrees. Mr. Talcott reported the results of this diamond drilling as favorable.

Proposed Plans: Mr. Talcott reports that he is negotiating with Union Carbide Co. and Molybdenum Corporation of America for sale of his lease, and that he will know soon regarding the outcome of his negotiations.

Shaft sinking is in progress at the Santo  
of

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT



Mine Santo Nino Mine

Date July 24, 1958

District Duquesne District, Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Mine Report. Information from W. S. (Bud) Talcott

References: Reports of Feb. 12, 1958 & previous reports.  
Reports of George A. Ballam under dates of Oct. 18 & Sept. 30, 1942.

Location: Sec. 34 - T <sup>24.5</sup> 23 S - R 16 E. About 3 miles SW of the Bonanza Mine. Road for last 3 miles into the property is steep and rough.

Number of Claims: 5 patented claims

Owners: Southern Copper Mining Co., a subsidiary of ~~Miami-Copper Co., Miami, Ariz.~~ Lewisohn Interests - Gen. Dev. Co., 61 Broadway, N.Y.

Lessee: W. S. (Bud) Talcott, Box 194 (Gateway Trailer Court) Nogales, Arizona.

Contractor: Vought & Cloeter, Ltd., 2000 S. Freeway, Tucson, Arizona.  
Diamond drilling on contract.

Principal Minerals: Copper ore with some molybdenum.

Present Mining Activity: Diamond drilling on contract.

New Mine Workings: 1 vertical shaft -- 50 ft. deep sunk by Alberto De La Ossa on contract in Jan. - Feb. 1958. (See report of Feb. 12, 1958.)

Present Mining Operations: Vought & Cloeter, Ltd. started diamond drilling on the property 2 weeks ago. 2 drill holes, each 100 ft. deep, were drilled from the bottom of the 50 ft. vertical shaft, an EX core being used. They are, at present, drilling a 55 degree inclined hole from the surface. This is now down to a depth of 75 ft. on the incline, and is scheduled to go down an additional 100 ft. No additional drill holes have been planned at the present time.

# CERTIFICATE OF ASSAY

**Miller's Assay Office**

FOR **Hugo W. Miller**  
copies to **Talcott, Henderson, Axel Johnson**

**HUGO W. MILLER, Owner**  
**Registered Mining Engineer**  
Established in 1913 — Nogales, Arizona

Laboratory Number	Customer's Marks On Samples As Submitted	GOLD (Oro)	SILVER (Plata)	COPPER (Cobre) Percent	LEAD (Plomo) Percent			
		Troy Ounces Per Ton (2000 Lbs.)						
102704	Better disseminated chalcopyrite and pyrite copper ore from 48' level of new shaft being broken and hoisted 2-12-58. Large hard chunks, taken by Hugo W. Miller and Axel Johnson .			0.86%				

Note: Sample Pulps Kept Thirty Days in Case Further Analyses Desired.

Shop

Date February 13, 1958

1 oz. Troy has 31.1035 grams.

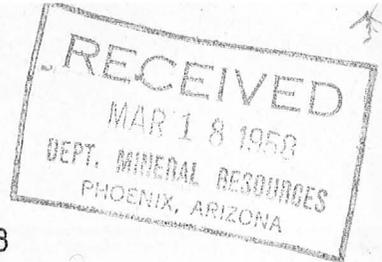
Charges .....

1 Kilo has 32.1507 oz. Troy

1 lb. avoirdupois has 14.583 oz. Troy.

*Hugo W. Miller*  
Assayer.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT



Mine Santo Nino Mine

Date Feb. 12, 1958

District Duquesne District --- Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Personal Visit & Information from Alberto De La Ossa.

References Reports of May 12, 1955 and Mar. 11, 1955.

Reports of George A. Ballam under dates of Oct. 18 & Sept. 30, 1942.

Location Sec. 34 -- T 23 S -- R 16 E. About 3 miles SW of Bonanza Mine, over rough and steep road. 24S

Number of Claims 5 patented claims.

*projected on Duquesne Quad map  
I appear to be Sec. 9.*

Owners Lewisohn Bros., New York City.

Lessees W. S. (Bud) Talcott, Gateway Trailer Court, Nogales, Ariz.  
C. M. Henderson, 2641 N. Winstel Blvd., Tucson, Ariz.

Sub-Contractor Contract for shaft sinking made to Alberto De La Ossa and Son, Lochiel, Ariz.

Principal Minerals Copper ore with some molybdenum.

Geology & Mineralization Vertical shaft being sunk in monzonite porphyry along a fault zone. For additional ~~if~~ information on the Geology, see reports of George A. Ballam under dates of Oct. 18, 1942 and Sept. 30, 1942.

Ore Values A large amount of milling grade ore, which is reported to average about 1.5 % Copper, with considerable molybdenum. A small amount of copper ore was mined by sublessees, about 1955, which ran from 5 % to 7 % copper.

Sample ~~tk~~ Feb. 12, 1958 in the shaft assayed  $\approx$  0.86 % copper (sample taken by Hugo W. Miller & Axel L. Johnson). This was taken from the 48' level of the vertical shaft now being sunk. The ore was a disseminated pyrite and chalcopyrite in the monzonite porphyry.

Ore in Sight & Probable Shipping grade ore is negligible. No estimate has been made of the Probable Milling Grade ore, as far as can be determined.

Milling & Marketing Facilities No mill on the property. Mill would be required.

Past History & Production See reports of George A. Ballam of Oct. 18 & Sept. 30, 1942.

Old Mine Workings See reports of George A? Ballam, as above.

New Mine Workings Vertical shaft, now down to a depth of 48', & scheduled to go to 81'.

Present Mining Operations Shaft sinking by Alberto De La Ossa & Son, who have the contract to sink a 5' x 7' vertical timbered shaft (2 compt) at \$20 per foot, with the lessees furnishing the mining equipment required for the work and all the timber, gas and supplies. Shaft is now down to a depth of 48', and scheduled to go down an additional 33 ft. Rock is monzonite porphyry along a fault zone. Average advance is one round for every two shifts, or an average advance of 1.25 ft. per shift.

Proposed Plans Mr. De La Ossa not informed regarding same. Evidently lessees are exploring to find a body of ore along the fault zone, adjacent to the shaft.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine ✓ Santo Nino Mine

Date May 12, 1955.

District Duquesne District ---- Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Present Status. Information from J. D. Mires, Sub-lessee

*See 2/12/58 9? 245*  
Location Sec. 34 -- T 23 S -- R 16 E. About 3 miles SW of Bonanza Mine.

Number of Claims 5 patented claims.

Owners ✓ Lewisohn Bros., New York City. (also owns Miami Copper)

Lessees ✓ Santo Nino Mining Co., Inc.,

✓ W. W. Patrick, Congress Hotel, Tucson, Ariz.

✓ W. S. (Bud) Talcott, Congress Hotel, Tucson, Ariz.

Sub-Lessees and Operators ✓ J. D. Mires, Box 914, Patagonia, Ariz.

✓ Armando Majalca, Washington Camp, Ariz.

Lessees, Santo Nino Mining Co., furnishes the mining equipment and dynamite.  
Sub-lessees and operators, Mr. Mires and Mr. Majalca, furnish the labor and fuel.

New contract made since my report of March 11, 1955. The Lessees, the Santo Nino Mining Co. now receive 40 % of the net smelter returns, and the Sub-lessees and operators, Mr. Mires and Mr. Majalca receive 60 % of the net smelter returns.

Principal Minerals ✓ Copper ore. Has some Molybdenum. A small amount of silver & no Gold.

Number of Men Employed 2 men for 3 to 4 days per week.

Production Rate Production stepped up since my last report of March 11, 1955.

Production now at the rate of about 100 tons per month. 100 tons were shipped in April to Phelps Dodge at Douglas.

Ore Values Ore Values have increased since my last report of March 11, 1955.

Operators now report that the ore shipped has averaged about 7 % Copper.

A large amount of low grade ore averages only about 1 1/2 % Copper, and is milling grade ore.

Ore in Sight (Blocked out ore) Operators report about 75 tons of ore blocked out.

Ore Probable No estimate has been made on same.

Milling and Marketing Facilities No mill on the property to mill the low grade milling ore. The lessees, the Santo Nino Mining Co. have been considering building a mill on the property to treat this low grade ore and to separate the copper and molybdenum.

Present Mine Operations Operators are stoping from the adit called the second level. They report stoping a vein, varying in width from 1 1/2 to 4 1/2 ft. This vein is now exposed for a length of 30 ft. and a height of about 25 ft.

Proposed Plans Operators intend to continue operations, as they were able to make a better contract with the Lessees, the Santo Nino Mining Co., and the grade of ore has increased also.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine Santo Nino Mine

Date March 11, 1955

District Duquesne District -- Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from J. D. Mires, sub-lessee.

Location Sec. 34 -- T <sup>24</sup> 23 S -- R 16 E. About 3 miles SW of Bonanza Mine.

Number of Claims 5 patented claims.

Owners Lewisohn Bros., New York City (also owns Miami Copper)

Lessees Santo Nino Mining Co., Inc.

W. W. Patrick, Congress Hotel, Tucson, Arizona

W. S. (Bud) Talcott, Congress Hotel, Tucson, Arizona. et, al.

Sub-lessees J. D. Mires, Box 914, Patagonia, Ariz.

Armando Majalca, Washington Camp, Arizona.

Lessees, Santo Nino Mining Co., furnishes the mining equipment and dynamite.

Sub-lessees, Mr. Mires & Mr. Majalca, furnish the labor and fuel.

Ore receipts from sale of ore is split 50% to lessees & 50 % to sub-lessees.

Principal Minerals Copper and Molybdenum.

Number of Men Employed 2 men for 3 to 4 days per week.

Production Rate About one carload of ore every 3 months. Since starting operations, in October, 1954, two carloads have been shipped to the Phelps Dodge smelter in Douglas. Sub-lessees reports ore to have run slightly over 5 %.

Ore Values Large vein reported to contain an average of 1 1/2 % copper, with almost an equal amount of Molybdenum. High grade ore mined by sub-lessees run about 5 % Copper.

Milling and Marketing Facilities No mill on the property to mill the ore. The lessees, the Santo Nino Mining Co., have been considering the proposition to build a mill on the property for treating the low grade ore, and separating the copper and molybdenum.

Remarks The sub-lessees, Mr. Mires and Mr. Majalca, are considering dropping their sub-lease, and quitting mining operations on the property, as they are not making any money, and they feel that they are paying too much of their gross receipts to the lessees, the Santo Nino Mining Co.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT



Mine Santo Nino

Date October 18, 1942

District Patagonia

Engineer George A. Ballam

Subject: Supplemental report

This property consists of 5 patented claims, Santo Nino, Santo Nino #1, #2, #3, and #5. It is situated about 3 miles southwest of the Duquesne mill and mine of Callahan Zinc Lead Co., and 5 miles north of the Cananea-Nogales branch of the Sud Pacifico de Mexico at Zorilla. From the Duquesne mill it is reached by a new road recently improved by blade, but which needs further improvement by bulldozer to give good access.

It is owned by the Southern Copper Mining Co. of New York City, a subsidiary of the General Development Co. Three months ago it was leased to Hugh B. Young, 120 Washington St., Nogales, and Fred T. Gardner, 735 Morley St., Nogales, on a sliding scale of royalties from 10% to 20% for ore values from \$25 to \$35. These men are working the property in a small way, having taken out about 40 tons of 10% copper and sorted about 2 tons of high-grade molybdenite. They have made no shipments as yet, and are handicapped by lack of equipment. This would be a typical case of eligibility for a small bank credit or operating loan.

The ore occurs as vein-like replacements of quartz monzonite on a contact with altered granite. Ore minerals are chalcopyrite and bornite in a gangue of unaltered monzonite. High-grade pockets of molybdenite occur with the copper, the molybdenite being also disseminated a considerable distance into the monzonite, while copper minerals are found in the granite wall.

The mine has been developed by three cross-cut tunnels, the lower and main tunnel being about six hundred feet in length. Beginning at about 400 ft. steeply inclined raises connect with the upper levels and four stopes, one of which extends nearly 300 ft. to the surface and an old shaft. Considerable diamond drilling has also been done the logs of which are undoubtedly in the company's possession. Considerable high-grade copper and molybdenite are in the old workings, in addition to numerous pillars which the present lessees propose to take. For new development, already started, another raise is up about 60' at a point about 300' from the portal of the lower tunnel to connect with a drift about 20' higher from the old workings, which has not been developed. The operators have been in this drift and believe that a considerable body of new ore is available. The vein is from one foot to six feet in width.

No information is available on early production from this mine, but it was a big producer prior to 1926-30 during which period 1,700,000 lbs. copper valued at \$300,000 were produced in addition to several cars of high-grade molybdenite. Most of the copper ore was hauled to Patagonia for shipment to the Copper Queen smelter at Douglas, as siliceous ore.

There are several good buildings on the property including a power house which formerly housed a diesel plant; bunk house, and several cabins all in good repair. There is ample water for domestic and mining purposes, coming from a cross-cut in the tunnel which has been bulkheaded off. Elevation 6,000 ft.

The present operators have a Sullivan 105 ft. portable compressor and 4 jackhammers, all old; track, mine car, and a pick-up truck. They have very little other equipment and are in need of capital to carry on this work as warranted by ore available.

*George A. Ballam*

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine ✓ Santo Nino

Date Sept. 30, 1942

District Patagonia

Engineer George A. Ballam

Subject: Production Possibilities Survey.

This property is situated in the Patagonia Mts. about 4 miles south of Washington Camp, and five miles north of the Cananea-Nogales branch of the Sud Pacifico at Zorilla. It is owned by the Southern Copper Co., and at present a couple of leasers, Hughes and Gardner are doing a little work on it.

The ore, values in chalcopryrite with considerable molybdenite, occurs as vein-like replacements of quartz monzonite with gangue of unaltered monzonite. Hugo Miller told me that there is a considerable body of 8 - 9% copper which should be taken out. He had a lease on the property at one time and shipped several cars of moly.

Development consists of cross-cut tunnel with steeply inclined raises to upper levels. Considerable diamond drilling has been done. From 1926 - 1930 nearly 2,000,000 # copper were ~~shipped~~ produced, the highly-siliceous ore going to the Douglas smelter.

Haven't yet been able to find out what Hughes and Gardner intend to do, or what kind of a deal they have with Ed Rossin (sic), but will go into it farther and make a supplemental report.

George A. Ballam

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine SANTO NINO

Date September 30, 1942

District PATAGONIA

Engineer George A. Ballam

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SANTO NINO

September 30, 1942

PATAGONIA

George A. Ballam

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Signed: George A. Ballam

W. Willis

June 4, 1941

Mr. A. S. Winther, General Manager,  
Miami Copper Company,  
Miami, Arizona.

Dear Mr. Winther:

I have your letter of May 30th in regard to information on the New Planet and Rosemont properties, together with copy of letter you received from Mr. Charles Willis.

It would be impossible to specifically answer the questionnaire enclosed with Mr. Willis' letter, because none of these properties has had any steady production for a great number of years, and the information available does not permit us to estimate on cost of production or on tonnage, available or prospective. We believe that in all these properties there is still ore to be mined in stopes and pillars, and that additional exploration would open up some new ore bodies.

Under the circumstances I think it is advisable to answer the Arizona Department of Mineral Resources in a general way, and to that end I give you the following information, not only on the New Planet and Rosemont, but also on the Southern Copper Mining Co.

NEW PLANET COPPER MINING COMPANY Location - PLANET, ARIZONA

History of Mining Operations at the Property:

Work performed by the General Development Company in 1909 and 1910 seems to have been as follows:

Incline shaft was put down to 783 feet.  
Vertical shaft was put down to 668 feet.  
Drifts and crosscuts, totaling 8300 feet, were driven and a raise of 165'. Also drilling amounting to 2900' was performed.

Development work was discontinued in 1910.

During 1914, about 382 tons of ore was shipped to the Humboldt Smelter from the dumps, assaying 11.5% copper. During the period July to September 1915, Albert B. Jones, former superintendent, took a lease and shipped about 780 tons of copper ore amounting to

about 176,000 pounds gross. During the period November 1915 to September 1917 about 18,680 tons of ore were shipped by the Northwest Leasing & Development Company under a lease.

The total shipments from the property amounted to 19,844 tons, with a net smelter return value of \$611,184.34, or about \$30.80 per ton. The average value of the 20,000 tons of ore shipped was probably in the vicinity of 7.9% copper.

Since 1917 there have only been some small amounts of ore extracted by lessees.

SOUTHERN COPPER MINING COMPANY location - Patagonia Mining District  
19 mi. east of Nogales, Ariz.

COPPER PRODUCTION

<u>Period</u>	<u>Tons</u>	<u>% Cu.</u>	<u>Gross value of production</u>
1918	4105	7.5	\$96,246.25
1922	489	7.5	3,262.50
1923	317	7.5	3,538.31
1926	524	6.78	5,737.24
1927	3001	8.32	43,134.91
1928	3500	8.78	56,145.67
1929	3930		63,946.23
1930	2212		18,803.91
1931	89		734.64

MOLYBDENUM PRODUCTION

<u>Period</u>	<u>Tons</u>	<u>Gross value of production</u>
1927	814	\$36,119.34
1929	92	6,378.97
1931	16	8,399.95
1932	17	334.12

ROSEMONT MINE location - Helvetia Mining District - Rosemont (near Vale)  
Arizona.

We know that from March 1900 to June 1901 the Mohawk Mine shipped 931 tons averaging 16% Copper, and in 1907 a carload of ore was shipped from the Mohawk dump which averaged about 6.5% Copper.

We also learn from our files that during the years 1916-1920 inclusive we received the following royalties on shipments from the Rosemont property:

June 4, 1941

<u>Year</u>	<u>Copper &amp; Silver</u>	<u>Zinc</u>
1916	\$15,214.78	
1917	26,377.66	
1918	8,837.35	2,832.55
1919	950.71	
1920	7,514.31	

\$8,894.81

From the royalty schedule in effect at that time and the price of copper, we estimate that the total net value of this copper was between \$250,000. and \$300,000.

The above information on the three properties does not answer the questionnaire specifically, as it is impossible for us to know what could be produced. At higher prices for copper, however, there would be some production from, say, the 1000 or 2000 tons of ore in pillars at Southern Copper Mining which probably would run around 7%<sup>copper</sup> there would be some production from some of the Rosemont claims, and perhaps a little production from New Planet.

In order to get this information to Mr. Willis as soon as possible, we are sending a copy of this letter to him direct.

Yours very truly,

EDGAR L. ROSSIN

ELR/F

MCC

Airmail

cc-regular mail

-Chas.F.Willis, ✓  
Phoenix, Ariz.

MEMORANDUM

SANTA MARIA MOLYBDENUM

Hugh T. Young, 120 Washington St., Nogales and  
Fred T. Gardner, 735 Morley Ave., Nogales, have lease from Southern Copper  
Mining Co. - H. M. Thompson, Pres., 61 Broadway, N. Y.  
Henry Kaufman, Secretary.

5 year lease - 10% on \$25 ore - 20% on iron -  $3\frac{1}{2}\%$  per # minimum on MoS<sub>2</sub>.

Want priority and bonus contract (on copper)  
Applied about October 1, 1942, on both and have not heard.

Have old 105' Sullivan Compressor  
4-old model jack hammers

Need 210' - 1R Compressor  
1 Rotary Stoper  
1 Liner and Mounting - 1 $\frac{1}{2}$  ton truck - Chevy.  
\$300 on road.

Would apply for Loan.  
Asked them to get reports from Southern Copper. Have prints showing workings.

Have 40 tons Cu-MoS<sub>2</sub> ore

10% Cu - 3 to 4% MoS<sub>2</sub>

Have 2 tons 40% plus MoS<sub>2</sub> (Sorted ore)

\$3.00 Haul on ore to Patagonia.

*Approved 1/19/45*

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10% Cu - 3 to 4% MoS<sub>2</sub>

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\$3.00 Haul on ore to Patagonia.

ADDITIONAL REFERENCES

See: Production Possibilities of the Marginal Copper Mines  
in Arizona, 1941, p. 101. (Southern Copper).

- | No. | Date                 | Remarks   |
|-----|----------------------|---|
| 1.  | 17-28-1914           | <u>WWI Began.</u>   |
| 2.  | 11-11-1918           | <u>WWI Ended.</u>   |
| 3.  | ND- -                | <u>This property consists of 5 Patented Lode Mine Claims: Santo Nino; Santo Nino No. 1, 2, 3 &amp; 5, encompassing 94.53 acres. It is located on the east side of Mt. Washington in unsurveyed Sec. 9, T.24S., R.16E., G&amp;S.</u>   |
| 4.  | - -1918<br>To- -1932 | Early records show that the Southern Copper Mining Company in the Patagonia Mining District, 19 miles east of Nogales, Az., produced \$291,550 of copper and \$51,238 of molybdenum. 7.5% to 8.78% Cu. [Compare (11)]   |
| 5.  | 09-01-1939           | <u>WWII Began.</u>  |
| 6.  | 06-04-1941           | 3-Pg. Letter from Edgar L. Rossin to Mr. A.S. Winther, Genl. Mgr. of Miami Copper Co., Miami, Az. - Ack. his letter of 05-30-1941 rel. <u>New Planet Copper Mining Co. at Planet, Az., Rosemont Properties, Helvetia Mining Dist. near Vale, Az.</u> Page 2, cites S. Cu Mining Co. data. [See (4)] Refs. letter from Charles F. Willis, Phoenix, Az., Az. Dept. Mineral Resources. None of the three properties has had any steady production for a great number of years. Info. avail does not permit us to estimate cost of production, tonnage available, etc.  |
| 7.  | 05-01-1942           | U.S. Postal Card from Rupert Beyerle at The River Store, Nogales, Az. to Charles F. Willis, Chairman of Bd. Governors, Dept. Mineral Resources, Phoenix, Az. - <u>Take the Santo Nino Mine off ADMR List of Mines For Sale. The company leased same to some party.</u>  |
| 8.  | 05-08-1942           | 1-Pg. Letter from J.S. Coupal, Dir. Dept. Mineral Resources, 413 Home Builders Bldg., Phoenix, Az., from Rupert Beyerle, The River Store, Nogales, Az. - Ack. his letter of 05-01-1942 (7). <u>Who has Leased the property?</u>   |
| 9.  | 05-12-1942           | 1-Pg Letter from Rupert Beyerle, The River Store, Nogales, Az., to J.C. Coupal, Dir. Dept. Mineral Resources, 413 Home Builders Bldg., Phoenix, Az. - Ack. (8). <u>Papers between the company and Lessee are not yet drawn up. Therefore Beyerle declined at present to name the Lessee or details.</u>   |
| 10. | 05-22-1942           | 1-Pg. Letter from J.S. Coupal, Dir. Dept. Mineral Resources, 413 Home Builders Bldg., Phoenix, Az., to Rupert Beyerle, The River Store, Nogales, Az. - <u>Is unable to find in Dept. Files a Mine Owner's Rept. on the Santo Nino Mine. Please advise.</u>  |
| 11. | 08-30-1942           | 1-Pg. Letter from Rupert Beyerle, The River Store, Nogales, Az., to Dept. Mineral Resources, 518 Title & Trust Bldg., Phoenix, Az. - <u>Santo Nino Mine has been Leased &amp; Bonded by Hugh Young &amp; Fred Gardner. Owners are the Southern Copper Mining Company, New York, N.Y. [Compare (4)]</u>  |
| 12. | 09-21-1942           | 1-Pg. Letter from Rupert Beyerle, The River Store, Nogales, Az., to J. Sam Coupal, Dir. Dept. Mineral Resources, 520-428 Title Trust Building, Phoenix, Az. - <u>Santo Nino Mine Lessors have 2 tons of very hi grade Moly. Where can they sell this ore? assays approx 50% MOS 2 &amp; 10% Cu.</u>   |
| 13. | 09-25-1942           | 1-Pg. Letter from J.S. Coupal, Dir. Dept. Mineral Resources, Phoenix, Az., to Rupert Beyerle, The River Store, Nogales, Az. - Ack. (12). <u>Suggests Lessees sell their moly and copper to Hawley &amp; Hawley, Box 151, Douglas, Az.</u>   |
| 14. | 09-30-1942           | 1-Pg. <u>Field Rept. on Santo Nino Mine</u> by George A. Ballam - Refs. (1926-1930) Production nearly 2,000,000 pounds copper were produced, the ore going to the Douglas Smelter, Az. Hugo Miller said a considerable body of 8%-9% Cu. should be taken out. <u>Young &amp; Gardner are the current Leasers. Devel. consists of cross-cut tunnel &amp; steeply inclined raises to upper levels. Considerable diamond drilling has been done. The ore - values in chalcopryrite with considerable molybdenite - occurs in vein-like replacements of quartz monzonite, with gangue of unaltered monzonite. Young &amp; Gardner have a deal with Ed Rossin. [Compare (16)]</u>  |
| 15. | 10-01-1942           | 1-Pg. Memo (Unsigned) on <u>Santo Maria Molybdenum</u> - Hugh T. Young, 120 Washington St. & Fred T. Gardner, 735 Morley Ave., Nogales, have 5-Yr. Lease from H.M. Thompson, President, Southern Copper Mining Co., 61 Boradway, N.Y. Henry Kaufman, Secy. <u>Would Apply for Loan; Have old 105' Sullivan Compressor, 4 old jack hammers; need 210' 1R Compressor, 1 Rotary Stoper, 1 Liner &amp; Mounting 1½ ton Chevy Truck; \$300 on road. \$3.00 ore haul to Patagonia. Have 40 tons Cu-MoS2 ore at 10% Cu &amp; 3%-4% MoS2; 2 tons 40%+ MoS2 (sorted ore).</u>  |
| 16. | 10-18-1942           | 1-Pg. <u>Supp. Field Rept. on Santo Nino Mine</u> , by George A. Ballum, Engr., Dept. Mineral Resources (to 14)- Owned by Southern Copper Mining Co. of New York City, subsidiary of Genl. Devel. Co. Three months ago it leased to Hugh T. Young and Fred T. Gardner of Nogales, Az. Mine developed by 3 cross-cut tunnels. Lower & Main Tunnel being about 600' long. At 400', steeply inclined raises connect with Upper Levels & 4 Stopes. One extends 300' to the surface and an old shaft. <u>The vein is from 1' to 6' wide. Early mine production [See (4)] (1926-1930) produced 1,700,000 pounds copper valued at \$300,000, plus several cars of hi-grade moly. Copper ore was hauled north to Patagonia for shipment southwest to the Copper Queen Mine Smelter at Douglas, Az. Buildings on proper incl. a powerhouse, formerly housed a diesel plant; bunk house; several cabins all in good repair. Ample water for domestic &amp; mining purposes from cross-cut in tunner; evel. 6,000'</u> |
| 17. | 08-14-1945           | <u>WWII Ended.</u>  |
| 18. | 03-11-1955           | 1-Pg. <u>Field Engineer's Rept.</u> , Dept. Mineral Resources, by Axel L. Johnson on <u>Santo Nino Mine</u> - Owner now Lewisohn Bros., New York City. Lessees are W.W. Patrick and W.S. (Bud) Talcott, both of Congress Hotel, Tucson, Az. Sub-Lessees are J.D. Mires, Box 914, Patagonia, Az., & Armando Majalca, Washington Camp, Az.; they furnish Labor & Fuel. <u>Split Ore Receipts from Ore Sale 50%:50% Lessees:Sub-Lessees. Produce about one carload ore every 3 months. Since starting operations in 10- -1954 shipped 2 carloads to Phelps Dodge Smelter in Douglas, Az. at 5%+ Cu. hi-grade. Sub-Lessees not making any money and are considering quitting.</u>   |
| 19. | 05-12-1955           | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by Axel L. Johnson - Lessees furnish equipment and dynamite; Sub-Lessees/Operators furnish labor & fuel.   |
|     | 05-11-1955           | <u>New Contract was made: Lessees get 40% &amp; Sub-Lessors get 60% of net Smelter returns. Production stepped up to 100 tons per month; 100 tons shipped to PD Smelter at Douglas, Az. in April. Operators are stop- ing from the Second Level Adit; vein width from 1.5' to 4.5'</u>  |
| 20. | 02-13-1958           | <u>Certificate of Assay</u> , by Hugo W. Miller, Assayer, Miller's Assay Office, Nogales, Az. - Cu Sample = <u>0.86% from chalcopryrite &amp; pyrite copper ore from 48' level of new shaft hoisted 02-12-1958, large hard chunks.</u>  |

- | No. | Date             | Remarks   |
|-----|------------------|---|
| 21. | 07-24-1958       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by Axel L. Johnson - Owners: Southern Copper Mining Co., a subsidiary of Lewisohn Interests, Genl. Devel. Co., 61 Broadway, New York City; Lessee: W.S. (Bud) Talcott, Box 194 Gateway Trailer Court, Nogales, Az.; Contractor: Vought & Cloeter, Ltd., 2000 S. Freeway, Tucson, Az. Diamond drilling on contract. New mine workings: 1 vertical shaft 50' deep, sunk by Alberto De La Ossa bet. January & February 1958. Vought & Cloeter, Ltd. started diamond drilling 2 weeks ago: 2 holes, each 100' deep, drilled from bottom 50' vertical shaft. Presently drilling 55 degree inclined hole from surface, down 75' & scheduled to go down another 100'.   |
| 22. | - 1958           | USDI USGS <u>Duquesne Topographic Quadrangle Map</u> , 4-Color Separation, Scale 1:24,000, or 2.64"/Mile - Shows Santo Nino Mine in Protracted NW4 Sec. 9, T.24S., R.16E., G&S with access road easterly to Duquesne Townsite. Plotted 5 Patented Mine Claims on it from USDA USFS Coronado National Forest Map.  |
| 23. | 02-05-1959       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by Axel L. Johnson - Present Mining Activity, sinking shaft, 3 men working, about 5' per day, now down to 70'. Last summer, 4 diamond drill holes totaling 400' by Vought & Cloeter: one vertical, one 75°, one 55°, one 32°. Lessee, W.S. Talcot is negotiating for sale of his least with Union Carbide Co. & Molybdenum Corp. of America.   |
| 24. | - 1960           | <u>Genl. Hwy. Map, Santa Cruz County, Az.</u> , by ADOT, Scale 1"/Mile xerographically enlarged to 1.5"/Mile - Shows Santo Nino Mine (x) in protracted NW4 Sec. 9, T.24S., R.16E., G&S, on NE flank Mt. Washington, top 7221 elev.  |
| 25. | - 1960           | <u>Geologic Map of Pima &amp; Santa Cruz Counties, Az.</u> , by Az. Bur. Mines, UofA, Tucson, Az, Eldred D. Wilson, Scale 1/375,000, or 1"/Township 36 Sections. - Shows Santo Nino Mine to be in Tertiary Diorite porphyry, granite.   |
| 26. | ND- 19??         | USDA USFS <u>Coronado Natinal Forest Map</u> , Scale 1"/Mile, 4-Color Separation - Shows 5 Patented Mine Claims of Santo Nino Group to be a boot-shaped association extending from near summit of Mt. Washington down its NE flanks on headwaters of San Antonio Canyon, drains E&SE into Mexico.   |
| 27. | 06-02-1962       | 4-Page Rept. by Charles H. Dunning, Mining Engr., Phoenix, Az., to Sam Makalla, Inspiration, Az. - On the Washington Cu-Molybdenum Group, a block of 37 unpatented claims covering a square shape a mile on a side approx. 2 miles SW from Washington Camp between 6,000' & 7,000' elevation. <u>The old Santa Nino (patented) Mine is an exception adjoining wester line of Washington Group. Its main development is a cross cut tunnel, started in barren monzonite granite. Dump indicated at least 1,000' of work. The tunnel is about 250' below the surface; a shaft and some intermediate levels are mentioned. Ore piles show specimens of hi-grade moly, some as high as 50%. Up on the mountainside the formation changes abruptly, into a flat-lying bed of brecciated porphyry; voids are prevalent - some natural, others leach cavities. It is an excellent host rock &amp; well mineralized with iron, Cu. &amp; moly. The flat layer appears to be at least 50' thick.</u> |
| 28. | 04-01-1970       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI QR - <u>Utah Constr. has Mine area under Option &amp; have staked many claims.</u>  |
| 29. | 06-30-1970       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by ? - <u>Utah Constr. Co. continued with geologic mapping &amp; drilling.</u>   |
| 30. | 10-01-1970       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI QR - <u>Utah Constr. &amp; Mining contd. exploration.</u>   |
| 31. | 12-31-1970       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI QR - <u>Utah Constr. &amp; Mining Co. still exploring area that adjoing Rosario-Simplot, on the south.</u>  |
| 32. | 04-01-1971       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI QR - <u>Utah Constr. &amp; Mining Co. continues exploring, etc.</u>   |
| 33. | 06-30-1971       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI QR - <u>Utah Constr. &amp; Mining Co. continues exploration.</u>  |
| 34. | 02-24-1972       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI WR - <u>Mine visit; no one around.</u>  |
| 35. | 06-18-1973       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by Kenneth A. Phillips - No sign of recent work at dump or old workings. <u>Considerable road building last 6 months for drill site access. Large group claims have been staked on Unpatented ground surrounding Santo Nino, by Utah International 12- 1972.</u>   |
| 36. | - 1973<br>- 1974 | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by GWI AR - <u>Utah Constr. continued drilling.</u>  |
| 38. | 12-19-1974       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by ? - <u>Mine Visited.</u>  |
| 39. | 05-14-1975       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by ? - Al Philipps, Geologist at Duquesne, said that <u>Utah Internatinal stopped drilling at Santo Nino property 4 or 5 months ago; all equipment was removed.</u>  |
| 40. | - 1972           | <u>Geologic Map &amp; Cross Sections of Nogales &amp; Lochiel Quadrangles, Santa Crus County, Az.</u> , by Frank S. Simons, USDI USGS Map 1-762, Multi-Colored <u>Santo Nino Mine falls in "Tg" = Granodiorite: light-gray to gray, medium to coarse-grained, equigranular to porphyritic; age determinations on hornblend showed 58,500,000 years old</u>  |
| 41. | 01-29-1982       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by MG WR - <u>The Hydrology Dept, UofA, Tucson has contract to study dry/wet conditions in mine workings which might serve as nuclear waste repositories.</u>  |
| 42. | 02-05-1982       | 1-Pg. <u>Field Engineer's Rept. on Santo Nino Mine</u> , by MG WR - <u>Canute Corp. now owns Santo Nino Mine. The Southern Cu. Mining Co. was dissolved, its assets trfd. to Canute. John J. Nash, Canute President; Ralph Cox, Vice PResident &amp; Secy. Nash &amp; Cox are Vice President &amp; 2d Vice President of Chase Manhattan Bank, 1211 Ave. of the Americans, New York City. Road to Santo Nino is in poor condition; main tunnel level in mine in good condition; mine is wet; narrow gage track badly rusted; no equipment at mine &amp; no mining activity.</u>  |
| 43. | 02-29-1982       | 1-Pg. <u>Field Engineer's Rept. on S. Cu. Mining Co.</u> , by MG WR - <u>Encompasses 5 Patented Claims = 94.53 Acres in Unsurveyed Sec. 9, T.24S., R.16E., G&amp;S.</u>   |
| 44. | 11- 1992         | <u>Pima/Santa Cruz Counties AzMILS Mine Maps, County Mine Map Series CM-10, Az. Dept. Mines &amp; Mineral Resources, 1502 W. Washington, Phoenix, Az. Pg. 15 is Santo Nino, wrongly in Sec. 8. Commodities: Cu,Mo, Ag,Au,Pb,Zn. Mils No. 77B, File in Mineral Museum.</u>   |