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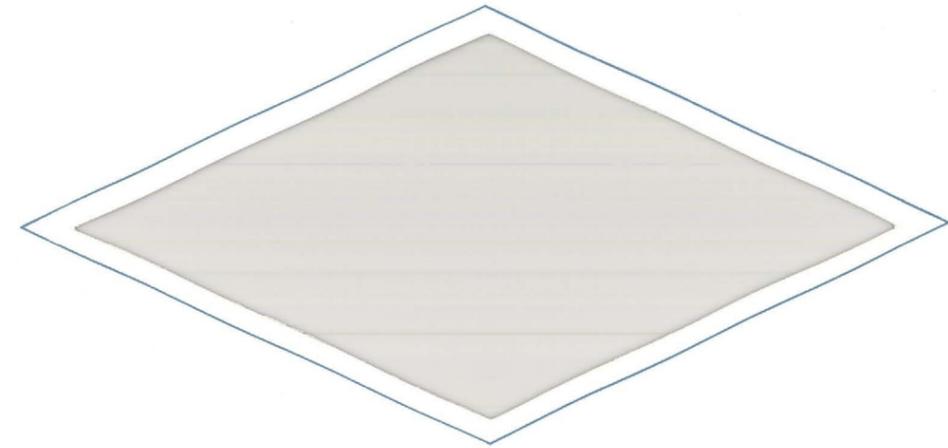
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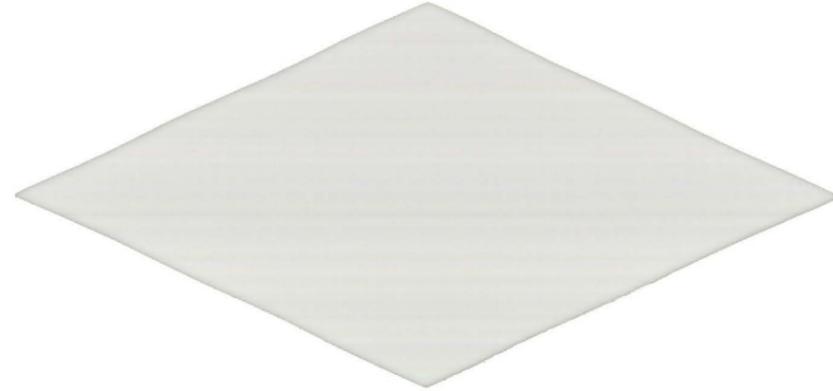
CORPORATION
A Pennzoil Company

4715 East Fort Lowell Road
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DUVAL SIERRITA CORPORATION

Production from Duval Corporation's Sierrita-Esperanza copper/molybdenum properties near Tucson, Arizona, has helped rank Duval as the second largest producer of molybdenum in the world and one of the five leading producers of copper in North America.



How the Duval Sierrita Project Came About

In the Sierrita Mountains some 20 miles south of Tucson, Arizona, and about 40 miles north of Nogales, Sonora, Mexico, Duval Corporation, in July 1964, acquired a large low-grade copper-molybdenum ore body adjacent to its Esperanza Property. The purpose of the acquisition was to provide additional reserves for the Esperanza Property which began operations in 1959.

In May, 1966, the General Services Administration (GSA) announced a program to encourage additional domestic production of copper in the interest of national security. The program, which was authorized by President Johnson in March, 1966, was formulated under authority contained in the Defense Production Act of 1950, as amended. Upon learning of the copper production expansion program, Duval Corporation entered into negotiations with the GSA for development of the Sierrita copper-molybdenum property under the program.

After more than a year and a half of negotiations, Duval Sierrita Corporation, a wholly-owned subsidiary of Duval Corporation, and the GSA signed contracts in November, 1967, for development of the Sierrita Property. Out of the total of \$100 million available to the program, Duval was assigned \$83 million as advances against future delivery of copper to the government at a fixed price of 38 cents per pound. Total cost of the

project exceeded \$190 million. Additional financing beyond the \$83 million was being provided to the extent of \$48.75 million by government-guaranteed V-Loans, with the remainder provided by Duval.

The \$83 million will be repaid by June 30, 1979, through deliveries to GSA of 218.4 million pounds of wirebar copper credited at the rate of 38 cents per pound. During this time, Duval Sierrita Corporation will sell on the open market its molybdenum and silver production plus such of its copper production as may be required to cover cash operating costs, interest and asset additions and replacements.

History of Duval Corporation

Duval Corporation was chartered in Texas on August 18, 1926, under the name of Duval Texas Sulphur Company. The Company acquired its name from the location of its first sulphur property in Duval County, Texas. In 1935, Duval commenced production of sulphur on a portion of Boling Dome in Wharton County, Texas, and this property was successfully operated until 1940. Duval commenced production at its third sulphur property, Orchard Dome in Fort Bend County, Texas, in 1938, and operated the property until 1970.

Duval embarked upon a program of exploration for potash in New Mexico in 1947, and in November of 1951 began mining potash from its Saunders Mine located near Carlsbad. Since then Duval has brought two other potash mines in the Carlsbad area into

Glossary

Ball Mill: a rotating, horizontal cylinder partially filled with steel balls and water that grinds the ore stored in the fine ore bin to free the valuable minerals from the waste rock.

Coarse Ore Pile: where the product from the primary crusher is stockpiled prior to being fed into the secondary crushers.

Concentrator: a plant where ore or metal is freed and separated from its containing rock or earth. The concentration of ores always proceeds in steps or stages, e.g.: crushing, sizing, and flotation to produce a concentrate.

Cyclone Classifier: a device for classification by centrifugal means of fine particles suspended in water, whereby the coarser grinds collect at and are discharged from the lower apex of the apparatus and the fine particles along with the water are discharged from a top opening.

Fine Ore Bin: a place of temporary storage for the product from the tertiary crushers ($\frac{1}{2}$ " sized ore) that will be fed into the ball mills in the concentrator.

Flotation: the process of separating valuable minerals from waste rock with the use of chemicals, reagents and air. (Reagents coating the ore particles are attracted to air bubbles which then float to the pulp surface and are skimmed off as concentrate.) Waste particles are not coated and are, therefore, not floated. Accordingly, a separation is accomplished.

Molybdenite: a black platy disulfide of molybdenum (MoS_2) which is processed to molybdenum trioxide and is used in steel alloys and electrodes of mercury vapor lamps.

Ore: a natural occurring mineral or mineral compound that can be mined at a profit.

Primary Crusher: a heavy duty dry crushing machine capable of accepting mine run ore (blocks of rock up to 4' in size) and reducing it to less than 6" pieces.

Reagent: a chemical or solution used to produce a desired chemical reaction or conditioning of the slurry prior to flotation.

Scalping Screen: a vibrating screen designed to separate coarse and fine ore so that the coarse fraction can be further crushed.

Secondary Crusher: the second stage of crushing (by machine) in which the product from the primary crusher is further reduced in size as part of the process to free the valuable minerals from the rock.

Slurry: a liquid mixture of finely ground particles of rock and minerals in water.

Slurry Blasting Agents: a dense, insensitive high velocity explosive of very high water resistance.

Spoil Bank: a pile or bank of waste rock or dirt.

Surge Bin: a compartment for temporary storage of ore which will assure a constant rate of supply to the crushers or grinding mills.

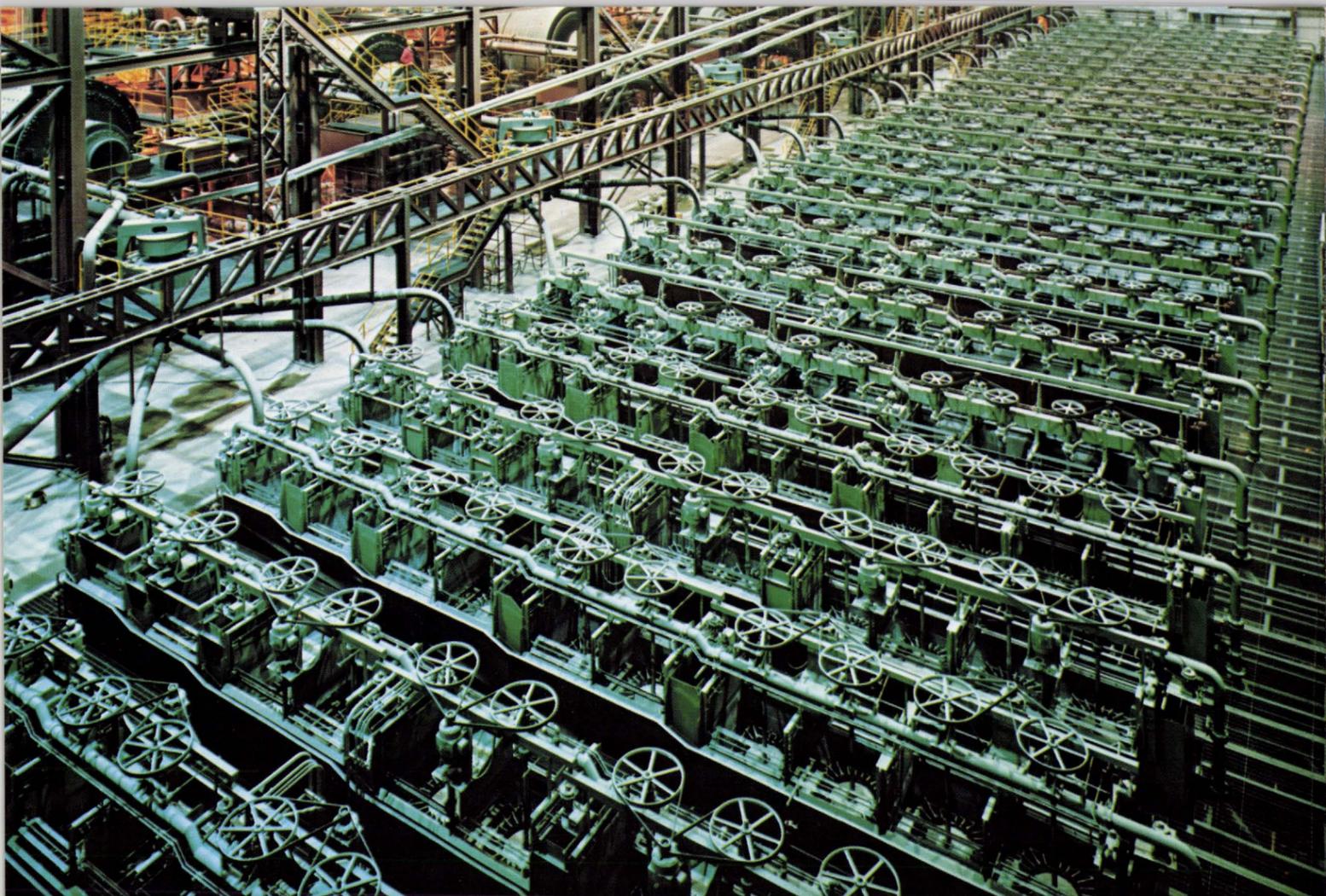
Tailing Pond: an impoundment or storage area for the waste rock and water from the concentrator that no longer contains mineral values of any significance.

Tailings: the finely crushed rock that no longer contains any mineral values. (Residue from the flotation process.)

Tertiary Crusher: the third stage of grinding by a machine in which the product from the secondary crusher is further reduced in size (to about $\frac{3}{4}$ ") as part of the process of freeing the valuable minerals from the rock.

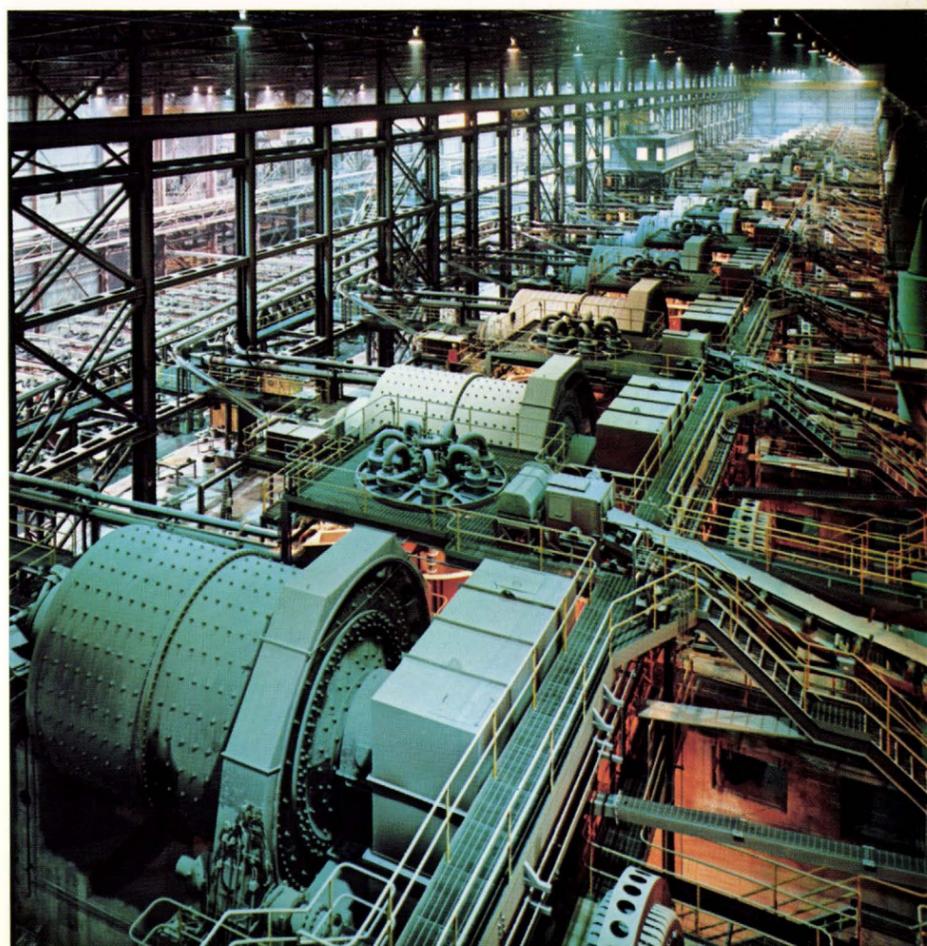
Thickener: a circular pond or impoundment that is used to reduce the amount of liquids from a liquid-solid mixture and permit the recovery of clear overflowing water for re-use in the process.

Wirebar Copper: a cast shape of copper which has a cross section approximately square with tapered ends designed for hot rolling to rod for subsequent drawing into wire and is approximately 99.99% pure copper.



The ground ore in an ore-water slurry, after being conditioned with reagents, is introduced into flotation machines which produce a low-grade (rougher) concentrate of copper and molybdenum materials. Further grinding and flotation is then carried out before the final concentrate is produced.

The process of flotation is used to concentrate the copper and molybdenum minerals. To accomplish this, the crushed ore must be further reduced in size by grinding. The ore from the fine-ore storage is wet-ground in 16 ball mills each measuring 16½ feet in diameter by 19 feet long and driven by 3000 HP motors.



operation—the Wills-Weaver Mine in 1961, and the Nash Draw Mine in 1964.

In March, 1959, the Company initiated production at its Esperanza copper-molybdenum property near Tucson, Arizona, and in 1964, brought its second copper-molybdenum property, Mineral Park, near Kingman, Arizona, into production. The Battle Mountain, Nevada, copper-gold-silver property was placed in operation in 1967.

Within a period of 24 months commencing in 1968, Duval brought four additional mining properties into production. These properties, representing an investment in excess of \$300 million, were the Fort Stockton, Texas, sulphur property and the Saskatoon, Saskatchewan, Canada, potash property, both brought into production in 1968; the Culberson County, Texas,

sulphur property brought into production in 1969; and the Sierrita copper-molybdenum property near Tucson, Arizona, where production commenced in the first quarter of 1970.

In 1950, the Company changed its name to Duval Sulphur & Potash Company and in 1963 to Duval Corporation. In 1930, United Gas Corporation acquired controlling interest in Duval Corporation.

In April of 1968, Pennzoil Company consolidated with United Gas Corporation to form Pennzoil United, Inc. The consolidated company name was changed to Pennzoil Company effective June 1, 1972.

Duval, now a wholly-owned Pennzoil Company subsidiary, continues to operate as a corporate entity.



Mining is accomplished by establishing a series of levels or benches, each being approximately 50 feet high. The first step in the mining cycle is the blasting of the various benches. To blast, rotary drills bore holes 59 feet in depth and nine to 12¼ inches in diameter. The holes are then loaded with explosives. A typical blast involving 40 holes breaks loose 200,000 tons of rock—enough material to keep one power shovel in production for approximately four days.

Sierrita Property

The Sierrita Property consists of over 13,000 acres. Included in this acreage are 143 unpatented mining claims which were purchased by Duval. Approximately 58 percent of the Sierrita ore body was acquired in the purchase of these claims. The remaining 42 percent of the ore body was controlled by patented mining claims owned by Duval. Duval has transferred these patented claims to Sierrita.

Exploration and Preliminary Development

A total of 178 test holes were drilled in order to delineate the Sierrita ore body and to test proposed waste dump areas. Some of the tests were drilled to check certain holes drilled by another mining company which had previously drilled 60 core tests in the area.

Ore Reserves

The exploration and preliminary development program delineated an ore body of 414 million tons with an average copper content of 0.35 percent (seven pounds per ton) and an average molybdenum content of 0.036 percent (0.72 pounds per ton). Subsequent development continues to expand this reserve. Engineering pit design indicates that a total of 634

a \$12 million expansion at the Sierrita Property. This expansion program, completed in 1971, increased the mining and milling capacity at the property to 72,000 tons per day. Subsequent changes and modifications have increased this capacity to 86,000 tons per day.

Crushing

Primary size reduction of the mined ore is achieved by two 60-inch by 89-inch gyratory crushers located near the south perimeter of the Sierrita open pit. The crushers, which reduce the mine ore to about 85 percent minus six-inch, have a total operating capacity of 5000 tons-per-hour. The crushed ore is transported by a 54-inch wide belt conveyor to a 40,000-ton coarse ore open storage—an overland distance of about two and one-half miles.

Feeder belts under the coarse ore pile collect the ore to feed the fine-crushing plant. Ore is first fed to four vibrating double-deck scalping screens ahead of four 84-inch secondary crushers. The secondary crusher product is again screened, and the oversize material is further reduced by ten 84-inch tertiary crushers operating in a closed-circuit system consisting of a 2400-ton surge bin feeding the crushers and vibrating screens. The finished product, essentially all minus half-inch, is transported to a 60,000-ton live capacity fine-ore bin located in the concentrator building.

Concentrating

The process of flotation is used to concentrate the copper and molybdenum minerals. To accomplish this, the crushed ore must be further reduced in size by grinding to achieve liberation of the mineral particles from the host rock.

The ore from the fine-ore storage is wet-ground in 16 ball mills each measuring 16½ feet in diameter by 19 feet long and driven by 3000 HP motors. The ball mills operate in a closed circuit with cyclone classifiers. The ground ore in an ore-water slurry, after being conditioned with reagents, is introduced into flotation machines which produce a low-grade (rougher) concentrate of copper and molybdenum minerals. The rougher concentrate is then re-ground in two 11-foot diameter by 15-foot-long regrind ball mills that are operated in a closed circuit with cyclone classifiers. The rougher concentrate is floated and re-floated to a final concentrate. A total of 662 flotation machines are used in the copper-molybdenum concentration. The tailing from the flotation process is thickened before disposal in four 350-foot diameter rake thickeners; the water, which is recovered from the slurry, is re-used in the process. The concentrate is thickened in 100-foot diameter thickeners.

The combined copper-molybdenum concentrate is then subjected to flotation to separate the two products. The concentrate is steamed and conditioned with

reagents before flotation. In the first flotation, the copper minerals are depressed and the molybdenum floated. The copper concentrate is the tailing from this flotation and, after thickening in a 125-foot diameter thickener, is de-watered in four drum filters and loaded in open gondola railroad cars for transporting to the smelter. The molybdenum is further concentrated by cleaning and re-cleaning stages of flotation. The final molybdenum concentrate is filtered, dried and stored for packaging for marketing as molybdenum sulfide or for roasting in two 23½-foot diameter multiple-hearth roasters. The roasted product, molybdenum trioxide, is packaged and marketed as technical molybdenic oxide.

Production

Annual metal production from the Sierrita Property amounts to 180 million pounds of copper, 14 million pounds of molybdenum and 850,000 ounces of silver. Duval Corporation ranks fifth among United States copper producers and is the second largest producer of molybdenum in the world.

Landscaping Program

Duval landscapes spoil banks and tailing dams from its copper operations. Utilizing a drip irrigation system, liquid fertilizers are injected into soil devoid of mineral value. Native plants and trees are then planted into the revitalized soil, blending the tailing dams with the adjacent countryside.

Employment

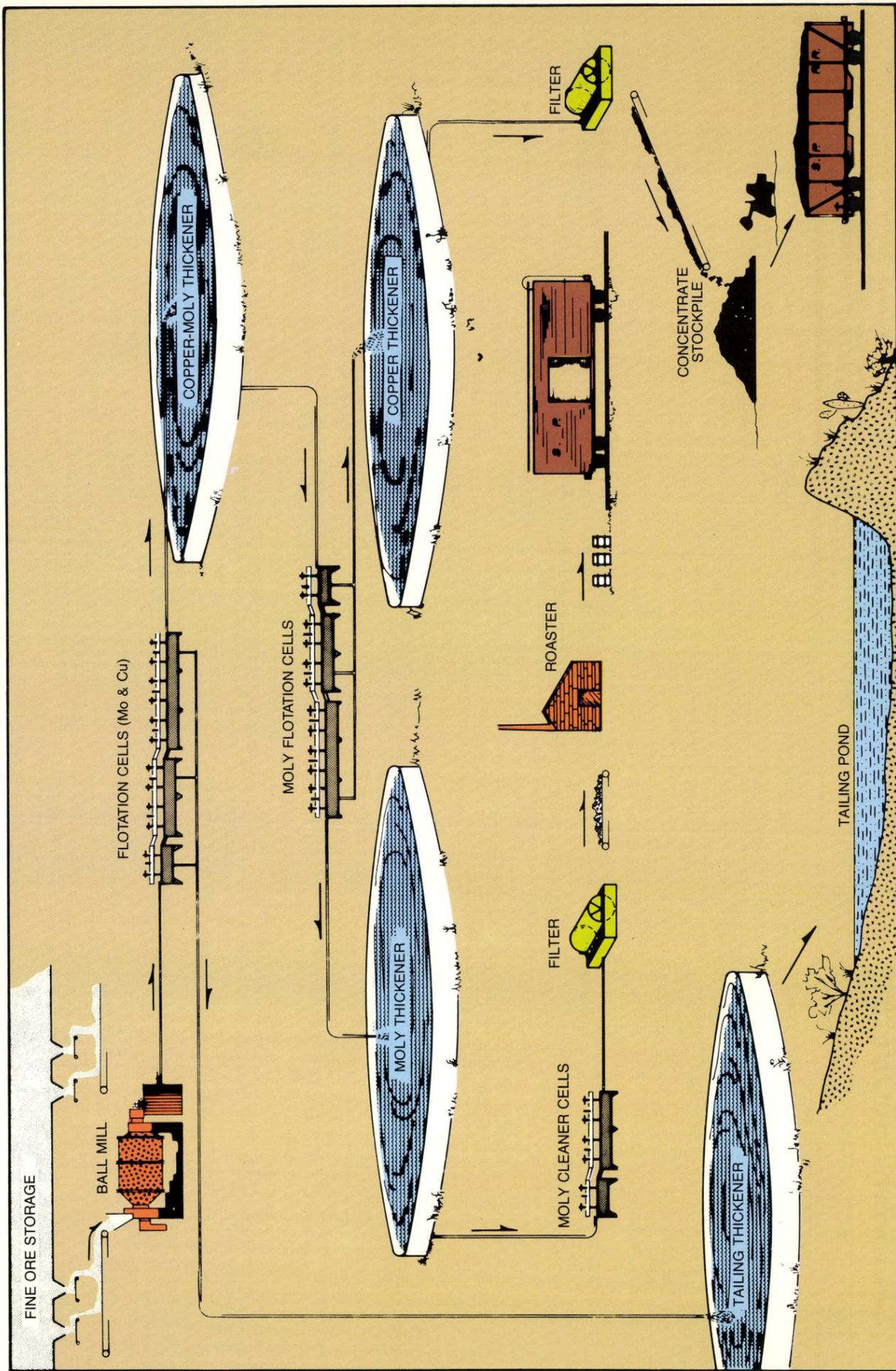
Peak employment during development of the Sierrita Property was 2400. Average employment during production is 1750.

Utilities

Electric power and natural gas is supplied by a local utility company. Power requirements are approximately 70,000 kilowatts or 50 million kilowatt-hours per month. This amount of power would supply a city of 100,000 population.

Natural gas requirements are 50 million cubic feet per month with most of the gas used to process the molybdenum minerals.

CONCENTRATING SEQUENCE



million tons of waste must be handled prior to and during the mining of the 414 million-ton ore reserve. This total of over a billion tons of ore and waste which will be mined, of which 131 million tons were removed during the pre-mine stripping operations, represents more than twice the tonnage excavated in the construction of the Panama Canal.

Mining

It is anticipated that the eventual perimeter of the Sierrita open pit will encompass an area of approximately 460 acres. As presently designed, the pit will ultimately reach a depth of 1850 feet below the highest elevation of the pit area prior to mining. Such an ultimate depth will represent a distance of almost one and one-half times the height of the Empire State Building.

Mining is accomplished by establishing a series of levels or benches, each bench being approximately 50 feet high. The first step in the mining cycle is the blasting of the various benches. To blast a bench, rotary drills drill holes 59 feet in depth and from nine inches to 12¼ inches in diameter.

Blast holes which contain water are loaded with a gelatin explosive in slurry form. Holes which are dry are loaded with a mixture of ammonium nitrate and fuel oil.

A typical blast consisting of detonation of the explosives in 40 blast holes requires 75,000 pounds of explosives to break 200,000 tons of rock. A blast of this size provides enough broken material to keep one power shovel in production for approximately four days.



Giant haul trucks used to transport the ore from the benches to the crusher have a rated capacity of 120 and 150 tons. They weigh approximately 110-140 tons empty. Fuel tanks hold 450 to 500 gallons of diesel oil and the 48-ply tires stand nine to ten feet high and weigh some 3000 pounds.

Mining Equipment and Facilities

The mining equipment features nine power shovels equipped with 15 cubic-yard buckets, 38 haul trucks of 120-ton capacity and 14 of 150-ton capacity. These shovels and trucks are among the largest presently used in the copper mining industry. In addition, six rotary blast-hole drills, 12 dozers and numerous other units such as motor patrols, fork lifts, cranes, water trucks, personnel busses and miscellaneous small trucks supplement the operation. Service facilities consist of two modern shops, steam cleaning pad, change room and offices.

Because the power shovels and haul trucks are among the largest used in the industry, some pertinent facts concerning these units are:

Power Shovels

- The weight of each shovel is approximately 450 tons.
- Shovels are rated at 750 HP and are electrically powered by 4160-volt alternating current motors.
- The 15 cubic-yard bucket has a capacity of approximately 23 tons.

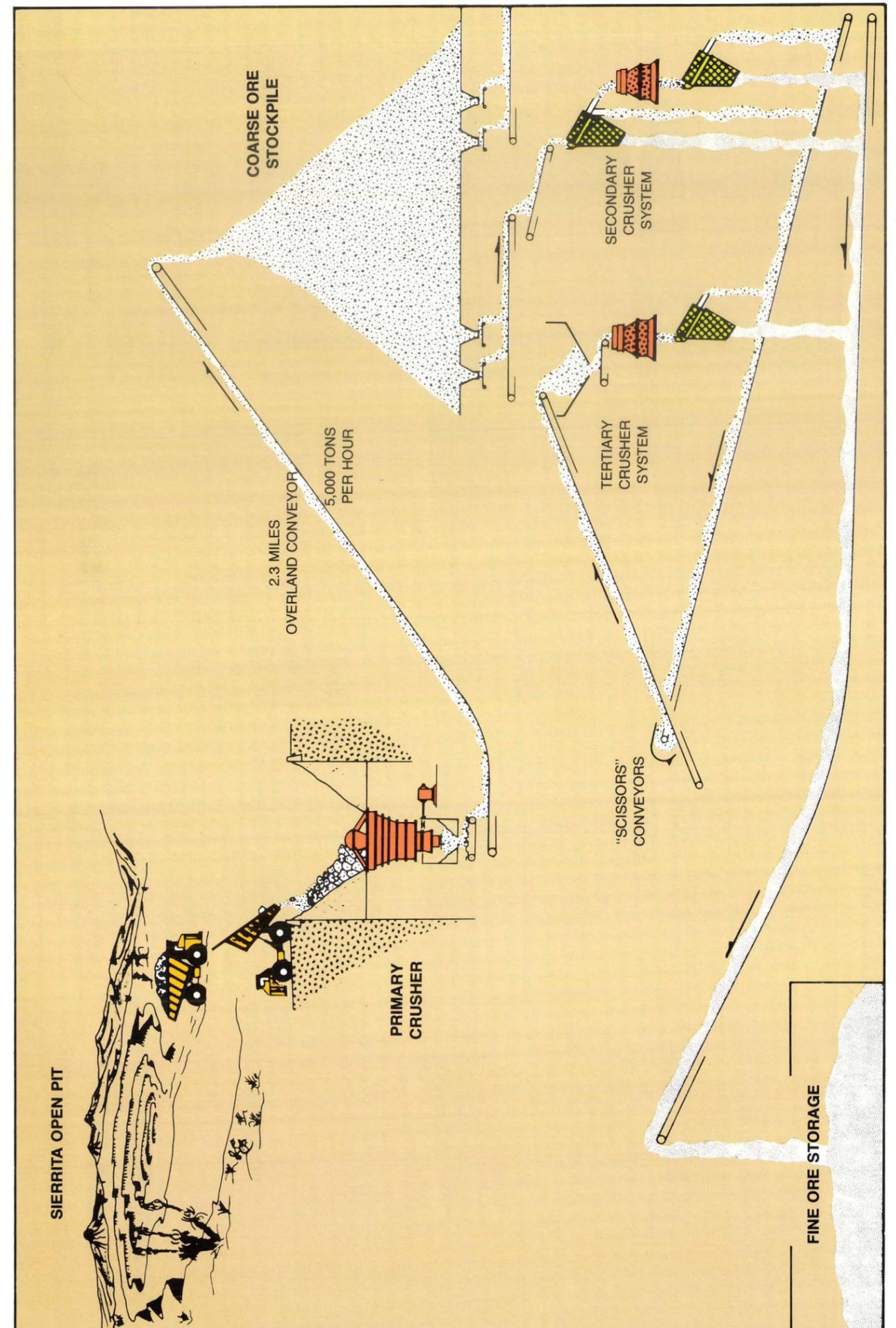
Haul Trucks

- The truck engines are 12 and 16 cylinder diesels rated at 1200 and 1600 HP.
- The truck engine drives a direct current generator, which supplies power to electric motor assemblies in the rear wheels.
- Trucks have a rated capacity of 120 and 150 tons. They weigh approximately 110-140 tons empty.
- Fuel tanks hold 450 to 500 gallons of diesel oil and the engines use about one gallon per mile under full-load conditions and level haul.
- Tires are 48-ply, nine to ten feet in diameter and weigh approximately 3000 pounds, depending on truck size.
- The expected life of each truck is about seven to ten years, after which replacement is anticipated.

Plant Facilities

The concentrator was designed for a capacity of 60,000 tons of ore per day. Its associated facilities cost approximately \$112 million. This capacity is greater than that of any single copper-molybdenum concentrator in North America. The construction of plant facilities, as originally designed, was completed by mid-1970. In May, 1970, an agreement was reached with the GSA for

CRUSHING SEQUENCE



A SYNOPSIS OF ALTERATION AND MINERALIZATION AT THE

SIERRITA AND ESPERANZA MINES

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February 12, 1973

A SYNOPSIS OF ALTERATION AND MINERALIZATION AT THE
SIERRITA AND ESPERANZA MINES

This paper, presented only as a preliminary study, is based almost entirely on field and drill hole data gathered from field mapping and drill logs, then transferred to 500-scale surface maps, bench maps, and sections. Laboratory work, including preparation and study of thin and polished sections, is necessary to provide definitive conclusions on the subject of mineralization and alteration.

Alteration found at Sierrita-Esperanza is similar to that found at other porphyry copper deposits, and includes potassic, phyllic, and propylitic zones. The alteration and mineralization sequence is far reaching, and must be considered as a large pattern including Sierrita, Esperanza, and mineralization found north of the two pits.

The alteration is characterized by potassium metasomatism with later retrograde propylitization superimposed upon it. Phyllic alteration and to a lesser extent argillic alteration are found only as remnants which were not destroyed by the retrograde alteration. The potassic alteration consists of orthoclase veining, orthoclase envelopes surrounding mineralized and unmineralized quartz veins, orthoclase flooding, and secondary biotite including fracture fillings, veinlets, replacements of hornblende, and pegmatitic masses. The suite of characterizing accessory minerals, especially anhydrite, are also present.

Commonly, secondary orthoclase is found in the quartz monzonite porphyry and Harris Ranch quartz monzonite while secondary biotite is the characteristic potassium mineral found in the quartz diorite-andesite. However, biotite does occur in the quartz monzonite porphyry and Harris Ranch quartz monzonite, and orthoclase in the quartz diorite-andesite. The potassic alteration zone forms a core which includes the northern half of the Sierrita pit, the northwestern

half of the Esperanza pit, and an area north of the Sierrita pit.

Phyllic alteration occurs irregularly, outside of the potassic zone. Sericite, quartz, and pyrite are characteristic. Sericitic alteration is found in Esperanza, east of the New Year's Eve shaft, in the southern half of the Sierrita pit, in the Amargosa Extension of the Sierrita pit and in the mineralized area north of the pits. Argillic alteration is scarce, and no well-developed zones are presently recognized.

Two periods of propylitic alteration are recognized. Original propylitic alteration is found up to several thousand feet away from the mine area. The propylitic zone extends for at least 2,000 feet west of the Sierrita pit and 3,000 feet north of the pit. The outer limit of the propylitic zone is not known. Both propylitic facies have the same mineral assemblage of epidote, chlorite, calcite, pyrite, and minor albite.

Retrograde propylitization is found throughout the ore body in varying degrees, although it is most pronounced in the quartz diorite in the northwestern quarter of the Sierrita pit. Possibly unique to the retrograde propylitization is the occurrence of the zeolite stilbite with minor heulandite. The zeolites occur exclusively as fracture fillings and are most abundant in the central portion of the Sierrita pit. Characteristic of the retrograde propylitization are chloritized secondary biotite, epidote and epidote-calcite veins cutting earlier mineralized fractures and veins. The relationship of the retrograde alteration to the regular pattern of hypogene alteration and mineralization is most clearly seen in the potassic zone, where the potassic alteration minerals are well preserved. Orthoclase veins are offset and cut by epidote veins. Epidote veins cut through orthoclase flooded rocks. Biotite filled fractures and veinlets are cut by epidote, and some secondary biotite has been chloritized.

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The scarcity of phyllic and argillic alteration facies may be explained by the retrograde phenomena, with those facies being destroyed by the epidotization and chloritization, and by the mafic nature of the host rocks which appears to have greatly expanded the stability field, and hence the geographic extent, of biotite with respect to sericite. Some remnants of phyllic and argillic alteration may be seen in thin sections being replaced by propylitic minerals (Laine, 1972). Retrograde propylitization minerals are indistinguishable from the original propylitic suite, but the retrograde propylitic alteration undoubtedly enriches the original propylitized zone.

Ore grade at Sierrita and Esperanza is based upon copper equivalent, currently copper assay plus 4x molybdenum assay, and ore zones therefore do not follow the alteration pattern exactly. However, by using the 0.2% and 0.3% Cu. isogrades, a rough correlation between ore mineralization and alteration can be made. Central to the potassic zone, a large area of <0.2% Cu. exists. This is proposed as a major portion of the barren core of Lowell and Guilbert. The >0.2% Cu. which surrounds the core includes a large portion of the potassic and phyllic zones, and is proposed as the ore shell. Areas of greater than 0.3% Cu. are usually indicative of shattered zones rather than alteration, although they do occur within the proposed ore shell.

Total sulfide content is low with an overall average from 2% to 3%. The pyrite to chalcopyrite ratio is approximately 1:1 overall. Copper mineralization occurs exclusively as fracture fillings and veinlets in quartz diorite, andesite, and Harris Ranch quartz monzonite. In quartz monzonite porphyry and in the breccia pipe, it occurs as fracture fillings, veinlets, veins, and disseminations. Disseminated chalcopyrite in the quartz monzonite porphyry is found replacing discrete specks of biotite. In the breccia pipe, it occurs as blebs in the biotitic matrix.

Molybdenite occurs in fractures as coatings, in crystalline rosettes in open fractures, in quartz veins, and rarely as disseminated grains. Molybdenite mineralization is younger than the copper mineralization with molybdenite veins cutting chalcopyrite bearing veins. The pattern formed by the molybdenite zones roughly follows the copper mineralization trends. Ore deposition must have occurred directly after the intrusion of the quartz monzonite porphyry, and the formation of the breccia pipe.

The alteration-mineralization pattern evolved at the Sierrita-Esperanza deposit differs from the model of a typical porphyry copper deposit of Lowell and Guilbert in the two major respects of shape and retrograde alteration.

Pre-ore shattering and contact effects are the prime factors in the localization of mineralization and alteration at Sierrita-Esperanza. The mineralization-alteration pattern developed in an elliptical northwest-southeast elongated shape, following the contact of the quartz monzonite porphyry with the pre-ore country rock. Mineralized fractures have preferred orientations at NNW and ENE. Ore zones trend NW at Sierrita, and ENE at Esperanza. Shattering is most pronounced in the Harris Ranch quartz monzonite and in the quartz diorite-andesite, and good ore zones exist in those rock types. Shattering in the Harris Ranch quartz monzonite and the quartz diorite-andesite is due to the intrusion of the quartz monzonite porphyry. Shattered zones in the quartz monzonite porphyry located near the breccia pipe appear to have formed with the pipe. Other shattered zones in the quartz monzonite porphyry are found along zones of structural weakness that trend from the breccia pipe into the southwest end of the Esperanza pit. Shattering in the breccia pipe is probably due to cooling and release of pressure within the pipe, and the renewed intrusion of quartz monzonite porphyry. Ore zones are coincident with the shattered areas within these rocks. The Triassic OX frame volcanics were resistant to shattering. No hypogene ore occurs within them.

SEQUENCE OF MINERALIZATION

The following is proposed as the sequence of mineralization and alteration at Sierrita-Esperanza:

1. Secondary orthoclase, biotite, and sericite, with quartz, pyrite, and chalcocopyrite were earliest minerals deposited. Purple anhydrite is also given an early relative age due to its intimate occurrence with the chalcocopyrite and pyrite. Original propylitization is contemporaneous with the potassic metasomatism. Molybdenite occurs alone, with quartz, and with pyrite and quartz. Rare fluorite is thought to be associated with the molybdenite. Galena, sphalerite and calcite occur with some chalcocopyrite and pyrite in veins found in the eastern portion of Sierrita and scattered throughout Esperanza.
2. Retrograde alteration consisting of epidote, chlorite, K-feldspar, calcite, pyrite, and possibly marcasite occurred after the main mineralizing period. Stilbite can be grouped with the retrograde alteration, but is definitely post retrograde epidote and chlorite. Pink anhydrite and gypsum are post stilbite. The anhydrite is possibly hydrothermal, and gypsum probably represents a supergene environment.

Recommendations for further studies in the area of alteration and mineralization are as follows:

1. A detailed thin and polished section analysis of alteration and ore minerals to delineate specific relationships.
2. A study to define pyrite to chalcocopyrite ratios and total sulfide content which will hopefully delineate a pyritic core and halo.

SEQUENCE OF MINERALIZATION - Cont'd...

3. An analysis of cross-cutting relationships between mineralized and unmineralized veins. This would give more specific information as to the relative stages of mineralization.

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MINERALIZATION CONTROL AT THE DUVAL
SIERRITA PROPERTY, PIMA COUNTY, ARIZONA

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March 6, 1973

MINERALIZATION CONTROL AT THE DUVAL
SIERRITA PROPERTY, PIMA COUNTY, ARIZONA

METHOD OF STUDY

Data for the mineralization study was derived from pit geologic mapping, rotary blast-hole assays, and development-exploration drillhole geology and assays. Pit mapping data, including rock type, structure, and mineralization occurrence, were plotted on 100-scale bench maps and 200-scale pit progress maps. Blasthole copper and molybdenum assays, spaced at 20-to 50-foot intervals, were plotted on 100-scale bench overlays, contoured, and color-coded for a visual representation of mineralization intensity and distribution. From these overlays, 200-scale pit progress maps were prepared. In addition, 100-scale copper and molybdenum three-bench composite maps were drawn outlining zones $>0.3\%$ copper and $>0.03\%$ molybdenum.

Rock type and copper-molybdenum assay data from development and exploration holes were plotted, contoured, and color-coded on 500-scale maps for alternating benches from the 3800 through the 2000. Hole spacing increased from approximately 250 feet on upper benches to about 500 feet on middle benches, and to greater than 500 feet on lower benches. From the 500 scale maps, a series of copper, molybdenum, and rock-type 200-scale cross-sections were drawn oriented both perpendicular and parallel to major mineralization trends.

GENERAL

The Sierrita-Esperanza orebodies comprise a single Laramide porphyry copper-molybdenum deposit with economic mineral concentrations occurring linearly along the margins of a Laramide quartz monzonite porphyry, both within the quartz monzonite porphyry and adjacent quartz diorite, andesite, breccia, Triassic Ox Frame

Continued ...

GENERAL - Cont'd...

volcanics and Jurassic-Triassic (?) Harris Ranch quartz monzonite. Mineralization zones parallel the contact at Esperanza (northeast) and Sierrita (northwest), forming a V configuration with a < 0.1% copper core, grade increasing again to the north and east in the Lofton Peak and Anglin McGee areas. Both properties reflect the major mineralization trend of the adjacent property through minor zoning.

The predominately hypogene Sierrita orebody is composed of two major parallel mineralization zones striking N40-60W, one of which connects with Esperanza at depth. The west zone occurs primarily in quartz diorite and Harris Ranch quartz monzonite, the east zone in quartz monzonite porphyry and breccia. Significant secondary enrichment occurred only along the east and southeast perimeter in the original West Esperanza area; all secondary ore tonnage has been mined.

The Esperanza orebody consists of a major mineralization zone striking N40-55E, and the southeast end of the east mineralization zone extending from Sierrita. It occurs principally in quartz monzonite porphyry, but with significant tonnages also in andesite and quartz diorite. Mineralization in the volcanics is negligible, with the exception of local secondary enrichment. Originally a secondary chalcocite-primary molybdenite orebody, most supergene-derived ore has been mined. The remaining portion of the orebody is predominantly hypogene.

Hypogene copper and molybdenum occur in the same general areas, with no obvious zoning relationship.

COPPER-MOLYBDENUM MINERALIZATION

Hypogene ore minerals are chalcopyrite and molybdenite. Mineralization control is

structural-lithological, as indicated by linear zonal geometry paralleling fault trends, contacts, and intrusions; by the association of hypogene mineralization with specific rock types, and by the predominantly fracture-controlled nature of the mineralization, minor disseminations occurring only in breccia and quartz monzonite porphyry. In these two latter rock types, economic mineral concentrations are present only in rock with extensive pre-mineral fracturing. Preference of mineralization for specific rock types was related to higher fracture intensities.

Hypogene copper is present along fractures in the quartz diorite, andesite, volcanics, and Harris Ranch quartz monzonite, occurring as fillings and in quartz veins and veinlets. The same control is present in quartz monzonite porphyry and breccia, but with additional copper present as disseminations and blebs. In the quartz monzonite porphyry chalcopyrite commonly replaces biotite, while in the breccia is present as blebs in the biotitic matrix. Disseminated mineralization is not in itself sufficient to produce ore-grade material unless associated with high molybdenum values.

Hypogene molybdenum occurs in all rock types as fracture fillings, and in quartz veins and veinlets. Disseminations are not common.

Volcanics, Harris Ranch quartz monzonite, quartz diorite, and andesite were in place and fractured prior to mineralization. The quartz monzonite porphyry and breccia may have been lightly mineralized by chalcopyrite during emplacement, followed by later chalcopyrite and molybdenite mineralization after ground preparation by fracturing. There was more than one period of fracturing as indicated by cross-cutting relationships and dissimilar fracture, veinlet, and vein mineral associations. The most obvious example is a period of late fracturing and subsequent stilbite-anhydrite-gypsum filling which occurred after completion of sulfide mineralization.

COPPER-MOLYBDENUM MINERALIZATION - Cont'd...

A study of the Sierrita pit by W. A. Rehrig and T. L. Heidrick (1972) showed mineralized fractures, veinlets, and veins to be systematic in attitude with a perpendicular pattern of N50-85E and N05-25W. The major mineral zones at Sierrita strike N40-60W, paralleling the contact between quartz monzonite porphyry and the intruded rocks. Secondary zones strike N45-60E, parallel to the major mineralization zone and related contact between quartz monzonite porphyry and intruded rocks at the adjacent Esperanza property. The major structural trend as determined from faults and dikes strikes N60-75E. In summary, the predominant trend of mineralized fractures strikes N50-85E, which parallels the major structural trend. Overall deposit zoning, however, strikes N40-60W paralleling the contact between quartz monzonite porphyry and the intruded rocks. Within this overall deposit zoning, secondary trends strike N45-60E paralleling the major Esperanza zoning trend. The minor trend of mineralized fractures striking N05-25W is not related to any obvious pit features.

COPPER OCCURRENCE AT SIERRITA - DATA FROM MINED BENCHES

General

Hypogene copper >0.2% occurs in quartz diorite, along the central quartz diorite-Harris Ranch quartz monzonite - quartz monzonite porphyry contact intersection, and in the breccia pipe. Harris Ranch quartz monzonite and quartz monzonite porphyry in general contain <0.2% copper. Secondary chalcocite mineralization was present in significant amounts only along the east and southeast perimeter as part of the original West Esperanza orebody. All secondary ore tonnage has been mined.

Quartz Diorite

Hypogene mineralization in the west and northwest sections of the pit is structurally

Quartz Diorite - Cont'd...

controlled by quartz diorite, which contains a N45W >0.2% copper zone generally paralleling the strike of the quartz diorite intrusion. Scattered areas <0.2% are present in this zone, increasing in frequency to the south. Concentration of mineralizing agents was by ground preparation through extensive stockwork fracturing, probably related in some degree to emplacement of adjacent quartz monzonite porphyry.

The 0.2% zone terminates to the east in quartz diorite along the quartz diorite-quartz monzonite porphyry contact, extends 200 feet into quartz monzonite porphyry on the north, terminates in quartz diorite 500 feet from Harris Ranch quartz monzonite to the northwest and 200 feet from Harris Ranch quartz monzonite to the southwest, and extends 200-500 feet into Harris Ranch quartz monzonite to the south. Overall dimension of the zone is 1200-1700 x 3600 feet.

Within the quartz diorite, a major subtrend is characterized by a series of >0.3% elongated pods striking N45-60E. The strike of these pods becomes more easterly trending to the south. They are not distinguished by large mappable features, but rather by an increase of mineralized fractures, veinlets, and veins. The largest of these zones occurs to the north adjacent to the quartz monzonite porphyry contact, strikes N45E, and measures 300x800 feet. It has been continuous with depth through five benches mined to date, with a vertical or near-vertical dip. To the south, near the center of the quartz diorite, a 50-200 x 600 foot >0.3% zone strikes N50E. Further south, a minor > 0.3% zone represented by one to four small pods on each of four benches strikes N60E for approximately 300 feet.

Quartz Diorite - Harris Ranch Quartz Monzonite-Quartz Monzonite Porphyry Intersection

The >0.2% quartz diorite zone extends 200-500 feet into Harris Ranch quartz monzonite to the south. Within this extension, a structurally controlled >0.3% hypogene zone 50-100 x 900 feet strikes N65E and dips vertically. It parallels a quartz latite porphyry dike located 50-150 feet to the south, while generally trending along the Harris Ranch quartz monzonite - quartz diorite contact 100-350 feet to the north. To the west are a large number of similar-striking quartz diorite dikes paralleling the predominant structural trend in the pit, indicating a zone of structural activity prior to or during emplacement of the quartz diorite.

On the east, this zone abuts perpendicularly against a second structurally controlled > 0.3% zone to form a T. This latter zone strikes N35W along the Harris Ranch quartz monzonite-quartz monzonite porphyry contact, penetrating into quartz diorite; its extension to the southeast parallels the contact for 700 feet. Farther southeast the contact curves to the south, with the mineralization zone continuing along the original S35E strike into quartz monzonite porphyry characterized by intermixed quartz diorite, Harris Ranch quartz monzonite, and Ruby Star granodiorite. The >0.3% zone is generally discontinuous, composed of pod-like bodies with an overall dimension of approximately 100 x 1700 feet. Dip is vertical or near-vertical as far as can be determined from available information.

The two zones forming the T are the upper expression of the main portion of the ore-body, expanding rapidly in size and increasing in grade with depth.

Breccia Pipe

Hypogene copper mineralization in the east portion of the pit is structurally and

COPPER OCCURRENCE AT SIERRITA - DATA FROM MINED BENCHES - Cont'd.

Breccia Pipe

possibly genetically controlled by the breccia pipe. The 0.2% contour closely follows its physical boundaries, generally within 100 and rarely over 200 feet, undulating in and out of breccia along the breccia-quartz monzonite porphyry contact. Scattered areas $< 0.2\%$ occur within the breccia. The overall dimension is 300-900 x 2800 feet. Strike is E-W, turning on the east end to S55E which trends toward the west end of the Esperanza orebody. Irregular areas $> 0.3\%$ within the 0.2% contour form an elongated zone approximately 200-300 x 1200 feet, with a strike identical to the $> 0.2\%$ zone. A breccia extension on the northeast edge of the pipe is associated with a 300 x 1000 foot $> 0.2\%$ zone striking N-S.

COPPER OCCURRENCE AT SIERRITA - DATA FROM DEVELOPMENT DRILLING

General

Hypogene chalcopryrite occurs in two major parallel zones, designated the Sierrita Zone and Amargosa Zone. The Sierrita Zone is more extensively mineralized; the Amargosa Zone extends into and becomes part of the Esperanza orebody. Both zones converge with increasing depth on the northwest end, while to the southeast they are separated by a relatively low-grade area. Their formation may be reasonably ascribed to structural parameters. There is no secondary mineralization below the 3850 bench.

Sierrita Zone

The Sierrita Zone, as delineated by the 0.2% contour, strikes N40-60W. On upper benches it extends from quartz diorite on the northwest through Harris Ranch quartz monzonite, terminating to the southeast in or adjacent to quartz monzonite porphyry. In general, the 0.2% contour parallels the quartz diorite-quartz monzonite porphyry and Harris

Sierrita Zone - Cont'd.

Ranch quartz monzonite-quartz monzonite porphyry contacts, with more intense mineralization in the Harris Ranch quartz monzonite and quartz diorite. Its dimension on the 3800 bench is 600-1800 x 3800 feet. The $>0.2\%$ zone increases in intensity and areal extent with depth to merge with the Amargosa Zone on the east, covering most of the pit area.

The Sierrita Zone, as delineated by the 0.3% contour, strikes N40-60W. It increases in length with depth along the zonal strike in the form of an inverted V, plunging 25-30 degrees to the northwest and 25-40 degrees to the southeast.

Measuring 40-100 x 900 feet as presently exposed on the 3800 bench, the $>0.3\%$ zone increases to 1000 x 2000 feet by the 3500 bench. Grade increases from 0.3 - 0.4% to 0.3 - 0.8%, becoming essentially constant below the 3500 bench. Size continues to gradually increase to approximately 1400 x 4000 feet on the 2600 bench.

Beginning with the 3300 bench, the northwest end of the Sierrita and Amargosa Zones are connected by an erratically occurring cross-zone striking approximately N45E. The area between the two zones on the south is consistently characterized by low copper content of 0.1 - 0.2%.

The $>0.3\%$ zone occurs principally in Harris Ranch quartz monzonite. Its east boundary follows the Harris Ranch quartz monzonite - quartz monzonite porphyry contact, entering only occasionally into quartz monzonite porphyry. There is no contact control for the west edge. The northwest edge generally parallels the Harris Ranch quartz monzonite - quartz diorite contact, plunging 25-30 degrees northwest. Control for the southeast edge, which plunges 25-40 degrees to the southeast, may be related to the overlying Ox Frame Volcanics.

Sierrita Zone - Cont'd.

On upper benches, the >0.3% zone initially increases in Harris Ranch quartz monzonite along the Harris Ranch quartz monzonite - quartz monzonite porphyry and Harris Ranch quartz monzonite - quartz diorite contacts. These areas correspond to the T intersection described previously. Below the 3600 bench, the zone extends 400-1000 feet into quartz diorite. More intensively mineralized areas of 0.4 to >0.6% are generally concentrated in the central and northern sections along the Harris Ranch quartz monzonite - quartz diorite contact. Large areas <0.3% are present in the south half of the zone, apparently plunging about 40 degrees to the southeast.

Within the V-shaped quartz diorite intrusion, the Sierrita Zone is represented by a series of >0.3% pods which seem to align in a discontinuous zone plunging approximately 25 degrees southeast. This area abuts the >0.3% zone in the Harris Ranch quartz monzonite to form an essentially tabular zone with a V configuration, plunging southeast 25-40 degrees.

Secondary trends strike N40-60E, corresponding to those of the major mineralization zone and related quartz monzonite porphyry - intruded rock contact at the adjacent Esperanza property.

Amargosa Zone

The Amargosa Zone, which links the Sierrita and Esperanza orebodies, is incompletely outlined by development drilling. It was originally exploited in the southern end of the Esperanza pit and later in West Esperanza because of high copper values associated with secondary chalcocite enrichment. Most secondary ore tonnage has been mined.

Amargosa Zone

As delineated by the 0.2% contour, the Amargosa Zone strikes N45-60W paralleling the adjacent Sierrita Zone, expanding dimensionally from 400-1400 x 6400 feet on the 3800 bench to at least 2200 x 7400 feet on the 3000 bench where data is insufficient to define exact limits.

The Amargosa Zone extends from quartz monzonite porphyry and breccia on the northwest to andesite and quartz diorite on the southeast, with quartz monzonite porphyry in the center. With few exceptions, the breccia pipe is confined within the 0.2% contour, although it is not the northwest limit to the >0.2% zone. In this same general region, areas of >0.3% occur both in quartz monzonite porphyry and breccia with no preferential association.

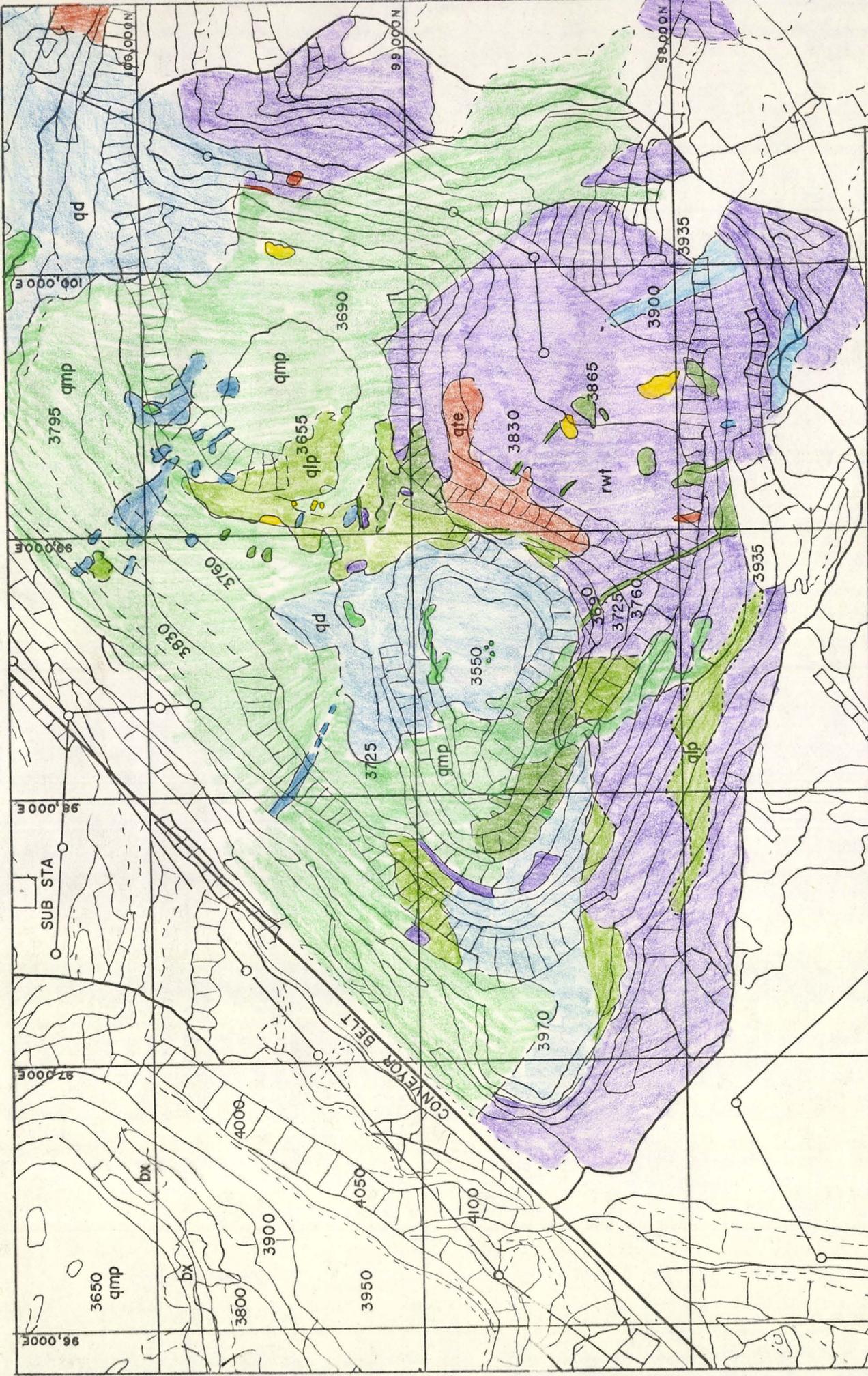
The breccia pipe itself, as determined from pit mapping, measures 300-900 x 2800 feet. The lowest drillhole intercept is on the 2800 bench, for a continuous minimum vertical depth of 1200 feet. Actual bottom is not known due to wide hole spacing on lower benches. The pipe does, however, decrease in horizontal dimensions with depth.

Generally, areas >0.3% occurring within the >0.2% zone are not as large as in the Sierrita Zone, nor as well defined due to the wide hole spacing. A major exception occurs on the southeast end in the Esperanza pit, where a hypogene area measuring 400-800 x 1700 feet on the 3800 bench is zoned by rock type. Geologically, the area consists of a quartz monzonite porphyry core surrounded by andesite-quartz diorite, which in turn is bounded by rhyolite welded tuff. Copper grade decreases from >0.4% in the andesite-quartz diorite to 0.3-0.4% at the quartz monzonite porphyry contact, and to <0.3% near the center of the quartz monzonite porphyry. Grade increases to 0.3-0.4% as the opposite

BIBLIOGRAPHY

Lowell, J. D., and Gilbert, J. M., 1970, Lateral and vertical alteration-mineralization zoning in porphyry copper ore deposits: ECON. GEOL., v. 65, p. 373-408.

Rehrig, W. A., and Heidrick, T. L., 1972, Regional fracturing in Laramide stocks of Arizona and its relationship to porphyry mineralization: ECON. GEOL., v.67, p.198-213.

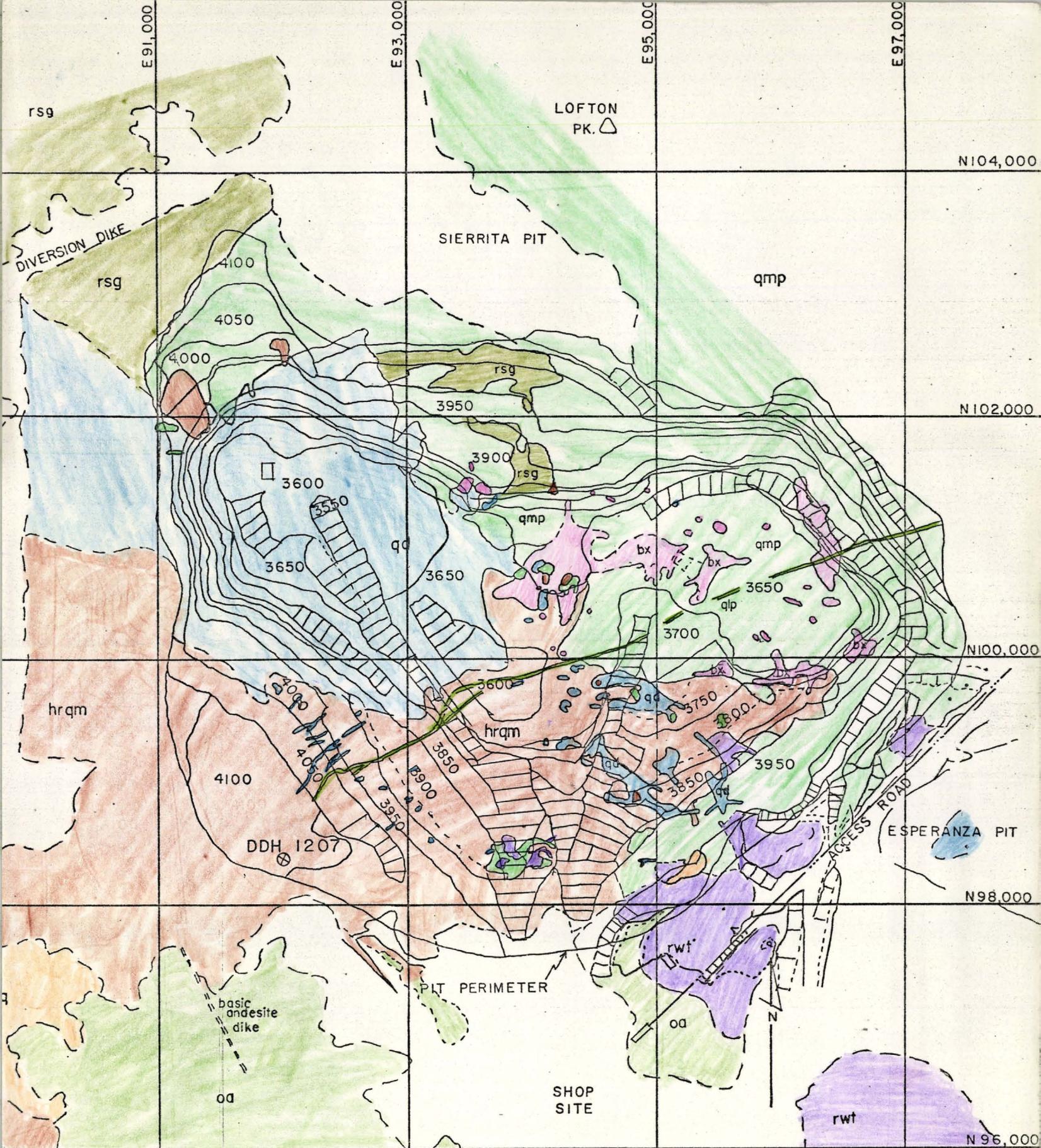


DUVAL CORPORATION

ESPERANZA PIT GEOLOGY

SCALE: 1"=500'
 GEOLOGY BY: R.J.W
 I.P.G. C.D.I. J.C.M.
 DATE: March 15, 1975
 DRAWN BY: J.C.M.

EXPLANATION	
Qal	Alluvium, waste dump, etc.
bx	Breccia Pipe
qip	Quartz latite porphyry
qmp	Quartz monzonite porphyry
oa	Oxframe andesite
qte	Quartzite
rwt	Oxframe rhyolite welded tuff
hrqm	Harris ranch quartz monzonite
qd	Biotite quartz diorite



EXPLANATION

- | | | | |
|---|------------------------------|---|---------------------------------|
|  | - Alluvium, waste dump, etc. |  | - Oxfame andesite |
|  | - Aplite |  | - Biotite quartz diorite |
|  | - Breccia Pipe |  | - Harris Ranch quartz monzonite |
|  | - Quartz latite porphyry |  | - Oxfame rhyolite welded tuff |
|  | - Quartz monzonite porphyry |  | - Quartzite |
|  | - Ruby Star granodiorite | | |

DUVAL SIERRITA CORPORATION

SIERRITA PIT GEOLOGY

SCALE: 1"=1000'

DATE: February 6, 1975

GEOLOGY BY: RAM, BLW, DWL, FWM, CAO, CDI, RJW

DRAWN BY: JCM.

J. HARRY FIELDMAN
1150 West Prince Road #102
Tucson, Arizona 85705

Tel: 888-6272

September 26, 1974

ESSEX INTERNATIONAL, INC.
Attention: Mr. E. Grover Heinrichs
Assistant Manager of Exploration
1704 West Grant Road
Tucson, Arizona 85705

Dear Grover: RE: W 1/2 Sec. 36, Twn. 17, So. Rge. 12 Ea.
TWIN BUTTES - Pima County, Arizona

I enjoyed our chance meeting of last week and my thanks to you for giving me your time in consideration of my project.

You suggested a written proposal to Essex on how we might work out an offer on our State Exploration Permit Lease No. 22344 on the NW 1/4 of Sec. 36.

I have talked this over with William Lundby, my partner, and he said he would agree to any equitable proposal to assign all rights providing a drilling program was done with proof of mineral discovery as the target for conversion from our lease, all or any part of the 160 acres to State Mineral Leases.

The exploration records in the State Department on the NE 1/4 of Sec. 36, by Anaconda, show proven mineral in sufficient value to constitute a mineral discovery as evidenced by the granting of Mineral Lease No. 452, covering all of the NE 1/4 except the pre-existing patented mining claims.

Since getting the above mentioned mineral lease, Anaconda, according to records, attested that the mineral discovery was at a depth which would not lend itself to open pit mining and on this premise applied for a commercial lease over the surface of the same area covered by the mineral lease which they are retaining. The commercial lease was then assigned to Anamax where, as you know, they are now constructing the new oxide leaching plant.

My purpose in recounting Anaconda's dual lease holdings is that we assume their mineral discovery probably extends into our quarter section so we would also be entitled to mineral leases and underground mining may be feasible or if disproved by drilling, then we would of course qualify for a commercial lease to use the surface for dumping.

To: Essex International, Inc.

Att'n: Mr. E. Grover Heinrichs

Page 2

Grover, when I discussed Rose Samms and Pete Revello's mining claims joining us, mostly in the SW 1/4, where there are old workings and outcroppings of oxide copper, for the possibility of a good bread and butter operation, you brought up the question where waste or possibly mill tailings could be dumped if you used most of the Rosey Claims for operation.

We believe that our quarter section with Rosey's claims would provide sufficient land for a medium size operation. Together they may have a quantity of commercial grade ore to satisfy all the needs of a manufacturer of copper products to warrant the investment. Some years ago Naragansett Wire and Cable Company advised me and my associates, at that time, they were looking for their own source of copper and, as you know, they took an interest in the Lakeshore Project which turned out to be too big for them so it was sold to Hecla.

In regard to Rose and Pete's mining claims, you will note by the enclosed letter to them that the negotiation for purchase of their mineral rights is just a basic outline but it does have the possibility of firming up to a deal. Rosey will verify that A. S. & R, Bowman, Anaconda, Anamax and others have tried to buy her land and mineral rights without success but it seems like I may have a chance, possibly because I have been a friend of the family for about fifteen years. Believe me, it is sensitive ground as all who tried to make a deal have found out.

As you will note, I am only representing Rosey and Pete and there is no finder fee arrangement, sort of a mutual benefit understanding.

If Pete's, Rosey's and our property hinge on each other for a profitable project, then in my opinion it would make our holdings of equal value to theirs. If this be the case, particularly if mineral leases are obtained, then our asking price and terms would be the same as finally accepted by them. However, there are variables to this because it is State Land and so governed by different conditions.

What I would like to do, Grover, is get together with you some day soon and walk over our quarter section. Also, at that time, have you talk with Rosey and Pete, so to get your own insight of possible ways and means for negotiation with them if Essex decides to go ahead.

ENCLOSURES

- No. 1. Copy of my letters to Pete and Rosey and to my attorney, Will Dees, dated same day as this writing.

To: Essex International, Inc.
Att'n: Mr. E. Grover Heinrichs

Page 3

No. 1. COPIES OF LETTERS

No. 2. Map of Samms-Revello Mining Claims.

I want to call to your attention that Arthur Jacobs has done all the work on these claims, locating them and assessment work. He also amended the claims owned by A. T. & T., surrounding their microwave tower and does their assessment work. In the event of a negotiation, the A. T. & T. claims may also have to be considered.

No. 3. Copies of affidavits of labor, recorded in 1973, covering the Prosperity Group of Rosey and Pete's claims, the two claims of Rosey only and the three claims belonging to A. T. & T.

No. 4. BLM supplemental plat of Section 36.

No. 5. Copy reductions of Mineral Surveys, Numbers 2642, 2643 and 4375 and Section Plat showing names and general area of ownership in the section quarters.

No. 6. Excerpt sheets from Arizona State Land Department Prospecting Permit No. 22344. The lease is in force to the 13th day of December 1977. Renewal attached for current years assessment work expiring December 13, 1974. Please note assignment sheet, Lundby to Fieldman and Motel, 1/3 each and final assignment dated August 19, 1974, Motel to Fieldman his 1/3 interest. Vested interest in the lease is now 1/3 to Lundby and 2/3 to Fieldman.

No. 7. Copy of report of most recent exploration work for renewal of lease.

No. 8. I am also including some former reports of exploratory work done on the quarter section when I held it under my former company's name, AREX. I have had this quarter section under lease continually since 1964, under different permit numbers by allowing it to expire and then re-applying. The result of this has been the accumulation of various studies of shallow drilling and geophysical surveys that now seem to add up to encourage deep drilling. Annual work by Lundby on Permit No. 19126, annual work by Dr. Dirk Den-Baars, Permit No. 10967. Also map of magnetometer survey by Karl H. Kuendert, dated 1965.

* * * * *

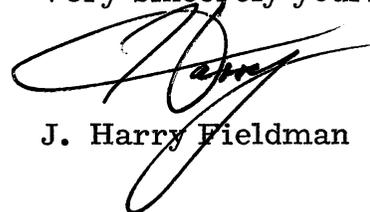
To: Essex International, Inc.
Att'n: Mr. E. Grover Heinrichs

Page 4

Make whatever copies of the enclosures you may desire for your permanent file and then return when convenient.

I would appreciate your acknowledgment of this letter, and I shall be looking forward to a phone call from you when we can get together for lunch and a visit to the property.

Very sincerely yours,

A handwritten signature in black ink, appearing to read "J. Harry Fieldman", written over a horizontal line.

J. Harry Fieldman

JHF:nb

Encs: As listed and numbered

cc: LUNDBY

October 4, 1974

Mr. J. Harry Fieldman
1150 W. Prince Rd. - #102
Tucson, Arizona 85705

Re: West 1/2 Sec. 36T, 17S, R12E
Twin Buttes Mining District
Pima County, Arizona

Dear Harry:

Enclosed you will find your data, Items 1 through 8, sent to me on Sept. 26, 1974. Thank you for the use of it and your letter proposal.

At the moment it does not look favorable that Essex can get involved in your proposed project. However, I will continue to try, as the opportunity presents itself, to review the data with my principals.

Please feel free to deal with others on the property if you have the occasion to do so; and again, I want to thank you on behalf of Essex for allowing us to review the data.

Very truly yours,

E.G. Heinrichs
Assistant Exploration Manager

ESSEX INTERNATIONAL, INC.

EGH:td
enclosures

cc: R.E. Holt

ESSEX

ESSEX INTERNATIONAL, INC.
1704 WEST GRANT RD., TUCSON, ARIZONA 85705
PHONE (602) 624-7421

October 4, 1974

Mr. J. Harry Fieldman
1150 W. Prince Rd. - #102
Tucson, Arizona 85705

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Very truly yours,

E.G. Heinrichs
Assistant Exploration Manager

ESSEX INTERNATIONAL, INC.

EGH:td
enclosures

cc: R.E. Holt ✓
Ret 10/4/74

No. 1

J. HARRY FIELDMAN
1150 West Prince Road #102
Tucson, Arizona 85705

Tel. 888-6272

September 26, 1974

Willis R. Dees, Attorney at Law
3rd Floor - United Bank Building
120 West Broadway
Tucson, Arizona 85701

Dear Will:

Some weeks ago I visited with you regarding the drawing up of an agreement for me to represent Pedro N. Revello and Rose R. Samms for the sale of their mineral rights.

I am enclosing a copy of my letter to them which briefly outlines just the basic terms that I discussed with Rosey and which she seemed agreeable to accept pending approval by her brother Pete.

Before going ahead with a lease option agreement to purchase with me as representative, I think I would prefer at this time just a preliminary letter of intent from Rosey and Pete to me stating basics only and setting forth the amount of time they will allow me to bring them a buyer.

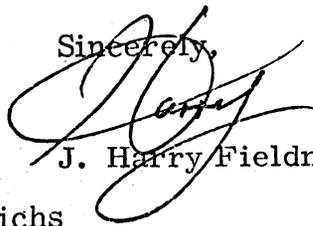
I expect to be talking with Rosey and Pete this coming Sunday and will shortly thereafter be in touch with you as to their suggestions.

Enclosed is a reduction of a map showing the Samms-Revello Mining Claims, I have a blow-up of this, colored in, and copies of their claim location notices as amended with copies also of their affidavits of labor. All pertinent data for reference to an agreement will be given to you as soon as necessary.

Also enclosed is a copy of my letter presenting this property for consideration by Grover Heinrichs and from this writing you will get a better understanding of the objectives.

Thank you, Will, for your help and advice and I send you my best wishes and regards.

Sincerely,



J. Harry Fieldman

JHF:nb

cc: Samms-Revello, and Grover Heinrichs

Encls: Copy of letters to Samms-Revello,
and Heinrichs

P. P. No. 22344

Date December 14, 1972

STATE LAND DEPARTMENT

STATE OF ARIZONA

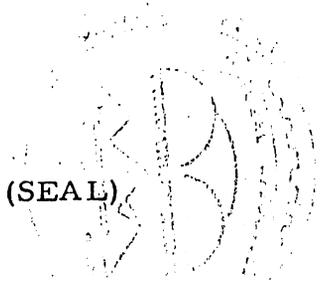
PROSPECTING PERMIT

(To prospect for minerals other than oil and gas upon State lands)

The STATE OF ARIZONA grants to WILLIAM LUNDBY, the exclusive right, for a period of one (1) year from date, subject to renewals as hereinafter set forth, but in no event beyond the 13th day of December, 19 77, to prospect for minerals other than oil and gas on the State land hereinafter described upon the following expressed conditions which are a part of the permit, the same as though set forth over the signatures of the parties.

STATE OF ARIZONA

By [Signature]
for State Land Commissioner



(SEAL)

By _____
Director, Land Division

Signed in the County of Pima, State of Arizona, on the 21st day of December, 19 72.

(Sign Here) [Signature]
Permittee

(This permit is issued in duplicate)

STATE LAND DEPARTMENT
STATE OF ARIZONA

No. 6

RENEWAL OF

PROSPECTING PERMIT NO. PP 22344

PERMIT IS HEREBY RENEWED FOR THE PERIOD OF:

EFFECTIVE DATE

EXPIRATION DATE

12/14/73

12/13/74

APPROVED DATE

12/10/73



BY J. C. Ryan
For: STATE LAND COMMISSIONER

THIS FORM MUST BE ATTACHED TO PERMIT

(This permit is issued in duplicate)

ASSIGNMENT OF PERMIT

Phoenix, Arizona January 5, 1973

The application of WILLIAM LUNDBY and ELDA LUNDBY, his wife
for permission to assign Permit No. 22344 and the application of J. HARRY
FIELDMAN and CLAUDE L. MOTEL for the assumption of said Permit,
having been duly considered this 5th day of January, 1973,
and without waiver of State rights which may exist against the permit assigned, and
with this consent not to be construed as initiating any new rights in assignee of
permit, consent is hereby given for the assignment applied for and it is ordered
that the said Permit No. 22344 and all rights thereunder be and are hereby
transferred to the said WILLIAM LUNDBY, J. HARRY FIELDMAN, and CLAUDE L. MOTEL,
each an undivided 1/3 interest

2238 E. Hedrick Dr.
Tucson, AZ 85719

J. C. Hayden
for State Land Commissioner

By _____
Deputy State Land Commissioner

ASSIGNMENT OF PERMIT

Phoenix, Arizona August 19, 1974

The application of Claude L. Motel and Berenice Motel, his wife
for permission to assign Permit No. 22344 and the application of J. Harry Fieldman
^{a 1/3 int. in} J. Harry Fieldman for the assumption of said Permit,
having been duly considered this 19th day of August, 1974,
and without waiver of State rights which may exist against the permit assigned, and
with this consent not to be construed as initiating any new rights in assignee of
permit, consent is hereby given for the assignment applied for and it is ordered
that the said Permit No. 22344 and all rights thereunder be and are hereby
transferred to the said WILLIAM LUNDBY, a 1/3 undivided interest; and
J. HARRY FIELDMAN, a 2/3 undivided interest.

1150 W. Prince Rd. #102
Tucson, Az. 85705

J. C. Hayden
for State Land Commissioner

By _____
Deputy State Land Commissioner

ASSIGNMENT OF PERMIT

Phoenix, Arizona _____

The application of _____
for permission to assign Permit No. _____ and the application of _____
for the assumption of said Permit,
having been duly considered this _____ day of _____, 19____,
and without waiver of State rights which may exist against the permit assigned, and
with this consent not to be construed as initiating any new rights in assignee of
permit, consent is hereby given for the assignment applied for and it is ordered
that the said Permit No. _____ and all rights thereunder be and are hereby
transferred to the said _____.

William Lundby

GEOLOGIST

8840 WRIGHTSTOWN RD.

TUCSON, ARIZONA 85715

(602) 885-0941

November 28, 1973

Arizona State Land Department
Title & Records Section
No. 408 - 1624 West Adams
Phoenix, Arizona 85007

CERTIFIED MAIL - RETURN RECEIPT

#006537

Att'n: Mr. Walter V. Murphy, Manager

RE: P.P. No. 22344

Dear Mr. Murphy:

Enclosed is my check in the amount of \$25.00 per statement for the renewal fee on Prospecting Permit No. 22344. Also enclosed herewith, as listed, is the following pertinent data:

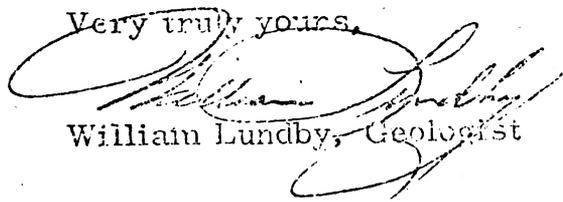
- Arizona State Application for Renewal
- Bond Continuation Certificate
- Plate showing Geophysical Survey Stations
- Affidavit of Performance of Annual Exploration Work
- Copies of paid Statements for co-partners share of \$1,800.00 costs for Exploratory Work

Please be informed that the total costs exceed the required renewal expenditure. Not included are expenses incurred by my co-partners for their time and mileage while assisting me in my field work.

Mr. Gary Bennett, Land Manager for Anamax Corporation, cooperated by granting me access for the exploratory work on that portion of our Prospecting Permit leased land (400' along eastern edge of NW 1/4 Sec. 36) to which the Arizona State Land Department has granted Anamax a surface right-of-way. Mr. Bennett has also agreed to install a gate for access to the area northwest of the New Twin Buttes Road for the purpose of moving in drill equipment for the continuation of our exploratory work.

Thank you for your service in the processing of this renewal.

Very truly yours,

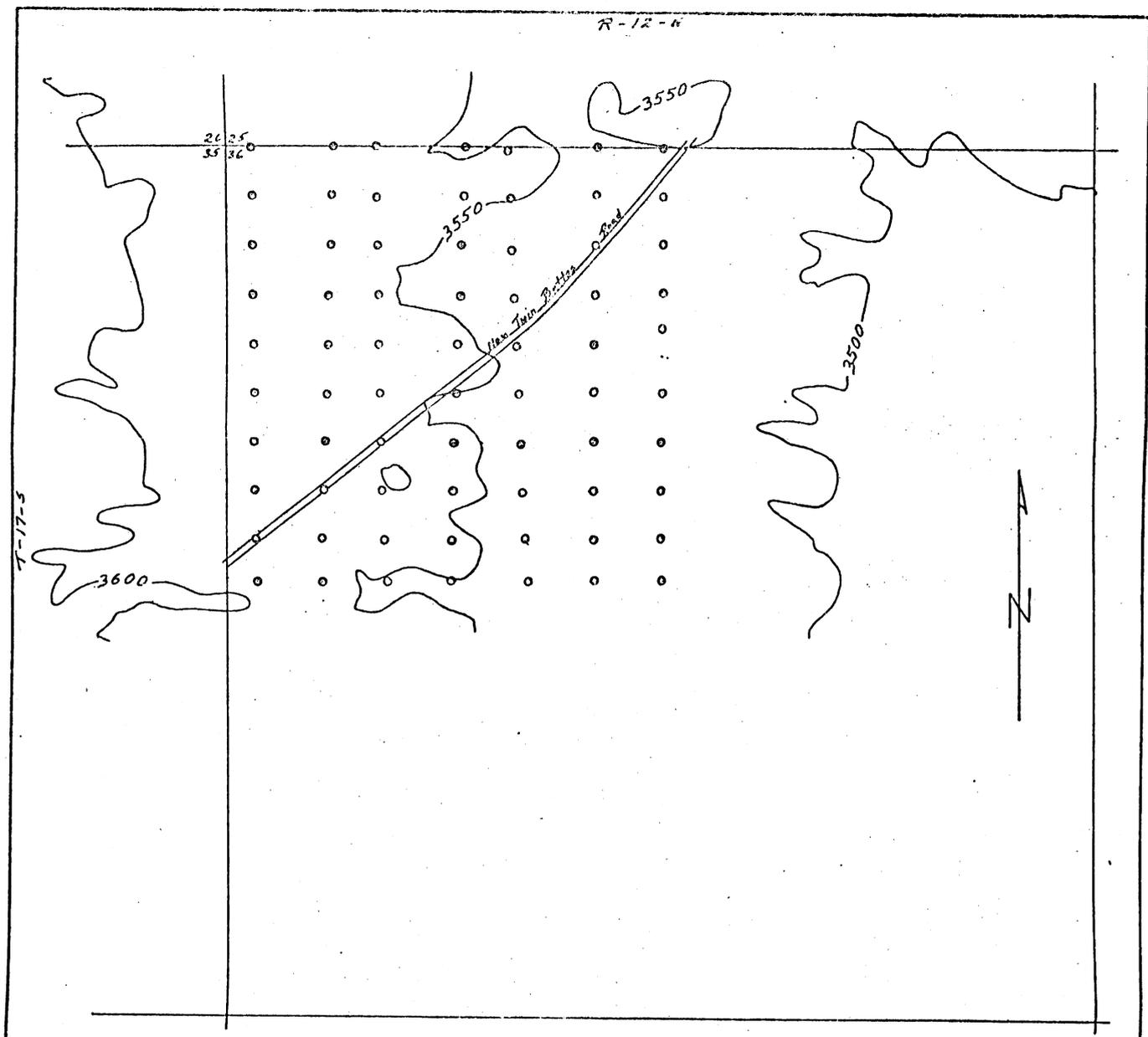


William Lundby, Geologist

WL:nb

Encl: As listed

cc: J. Harry Fieldman and
Co-partners



• - Magnetometer survey stations

Arizona State Prospecting Permit #22344
 NW 1/4 Section 36
 T-17-S, R-12-E
 Pima County, Arizona

Vertical Intensity Magnetometer Survey
 McPhar M-500A, No. 6513
 11/24/73 W. Lundby
 1" = 600'

J. HARRY FIELDMAN
1150 West Prince Road #102
Tucson, Arizona 85705

Tel: 888-6272

September 26, 1974

ESSEX INTERNATIONAL, INC.
Attention: Mr. E. Grover Heinrichs
Assistant Manager of Exploration
1704 West Grant Road
Tucson, Arizona 85705

Dear Grover: RE: W 1/2 Sec. 36, Twn. 17, So. Rge. 12 Ea.
TWIN BUTTES - Pima County, Arizona

I enjoyed our chance meeting of last week and my thanks to you for giving me your time in consideration of my project.

You suggested a written proposal to Essex on how we might work out an offer on our State Exploration Permit Lease No. 22344 on the NW 1/4 of Sec. 36.

I have talked this over with William Lundby, my partner, and he said he would agree to any equitable proposal to assign all rights providing a drilling program was done with proof of mineral discovery as the target for conversion from our lease, all or any part of the 160 acres to State Mineral Leases.

The exploration records in the State Department on the NE 1/4 of Sec. 36, by Anaconda, show proven mineral in sufficient value to constitute a mineral discovery as evidenced by the granting of Mineral Lease No. 452, covering all of the NE 1/4 except the pre-existing patented mining claims.

Since getting the above mentioned mineral lease, Anaconda, according to records, attested that the mineral discovery was at a depth which would not lend itself to open pit mining and on this premise applied for a commercial lease over the surface of the same area covered by the mineral lease which they are retaining. The commercial lease was then assigned to Anamax where, as you know, they are now constructing the new oxide leaching plant.

My purpose in recounting Anaconda's dual lease holdings is that we assume their mineral discovery probably extends into our quarter section so we would also be entitled to mineral leases and underground mining may be feasible or if disproved by drilling, then we would of course qualify for a commercial lease to use the surface for dumping.

To: Essex International, Inc.

Att'n: Mr. E. Grover Heinrichs

Page 2

Grover, when I discussed Rose Samms and Pete Revello's mining claims joining us, mostly in the SW 1/4, where there are old workings and outcroppings of oxide copper, for the possibility of a good bread and butter operation, you brought up the question where waste or possibly mill tailings could be dumped if you used most of the Rosey Claims for operation.

We believe that our quarter section with Rosey's claims would provide sufficient land for a medium size operation. Together they may have a quantity of commercial grade ore to satisfy all the needs of a manufacturer of copper products to warrant the investment. Some years ago Naragansett Wire and Cable Company advised me and my associates, at that time, they were looking for their own source of copper and, as you know, they took an interest in the Lakeshore Project which turned out to be too big for them so it was sold to Hecla.

In regard to Rose and Pete's mining claims, you will note by the enclosed letter to them that the negotiation for purchase of their mineral rights is just a basic outline but it does have the possibility of firming up to a deal. Rosey will verify that A. S. & R, Bowman, Anaconda, Anamax and others have tried to buy her land and mineral rights without success but it seems like I may have a chance, possibly because I have been a friend of the family for about fifteen years. Believe me, it is sensitive ground as all who tried to make a deal have found out.

As you will note, I am only representing Rosey and Pete and there is no finder fee arrangement, sort of a mutual benefit understanding.

If Pete's, Rosey's and our property hinge on each other for a profitable project, then in my opinion it would make our holdings of equal value to theirs. If this be the case, particularly if mineral leases are obtained, then our asking price and terms would be the same as finally accepted by them. However, there are variables to this because it is State Land and so governed by different conditions.

What I would like to do, Grover, is get together with you some day soon and walk over our quarter section. Also, at that time, have you talk with Rosey and Pete, so to get your own insight of possible ways and means for negotiation with them if Essex decides to go ahead.

ENCLOSURES

- No. 1. Copy of my letters to Pete and Rosey and to my attorney, Will Dees, dated same day as this writing.

To: Essex International, Inc.
Att'n: Mr. E. Grover Heinrichs

Page 3

No. 1. COPIES OF LETTERS

- No. 2. Map of Samms-Revello Mining Claims.
I want to call to your attention that Arthur Jacobs has done all the work on these claims, locating them and assessment work. He also amended the claims owned by A. T. & T., surrounding their microwave tower and does their assessment work. In the event of a negotiation, the A. T. & T. claims may also have to be considered.
- No. 3. Copies of affidavits of labor, recorded in 1973, covering the Prosperity Group of Rosey and Pete's claims, the two claims of Rosey only and the three claims belonging to A. T. & T.
- No. 4. BLM supplemental plat of Section 36.
- No. 5. Copy reductions of Mineral Surveys, Numbers 2642, 2643 and 4375 and Section Plat showing names and general area of ownership in the section quarters.
- No. 6. Excerpt sheets from Arizona State Land Department Prospecting Permit No. 22344. The lease is in force to the 13th day of December 1977. Renewal attached for current years assessment work expiring December 13, 1974. Please note assignment sheet, Lundby to Fieldman and Motel, 1/3 each and final assignment dated August 19, 1974, Motel to Fieldman his 1/3 interest. Vested interest in the lease is now 1/3 to Lundby and 2/3 to Fieldman.
- No. 7. Copy of report of most recent exploration work for renewal of lease.
- No. 8. I am also including some former reports of exploratory work done on the quarter section when I held it under my former company's name, AREX. I have had this quarter section under lease continually since 1964, under different permit numbers by allowing it to expire and then re-applying. The result of this has been the accumulation of various studies of shallow drilling and geophysical surveys that now seem to add up to encourage deep drilling. Annual work by Lundby on Permit No. 19126, annual work by Dr. Dirk Den-Baars, Permit No. 10967. Also map of magnetometer survey by Karl H. Kuendert, dated 1965.

* * * * *

J. HARRY FIELDMAN
1150 West Prince Road #102
Tucson, Arizona 85705

Tel. 888-6272

September 26, 1974

Mr. Pedro N. Revello
Mrs. Rose R. Samms
Sasabe Star Route
Box No. 23A
Tucson, Arizona 85736

Dear Pete and Rosey:

My thanks to you both for letting me copy the map of your Prosperity Group Mining Claims and I also thank you for considering me to represent you for the sale of your mineral rights.

Rosey, when I was at your home some weeks ago, we talked over the price and terms that you would be willing to accept for your claims and you thought that Pete would also agree with you.

You may remember that you asked if I brought you a buyer, would you have to pay me for my service and I told you no. We both understand that I intend to include my 160 acres in the Northwest quarter of Section 36, that joins your claims, in any sale I may make for you and that is why I am not asking any payment for my services

I spoke to my attorney, Willis R. Dees, and briefly outlined the terms that we talked over. He suggested, before writing up the agreement, that he would like to prepare a letter in regard to your acceptance of the selling price and terms and that you both agree for me to represent you. So you and Pete talk it over and if it is all right, I will ask Mr. Dees to send you the letter.

The following are just the main points of the proposal we discussed for the sale of your mineral rights.

The mineral rights are covered by ten (10) unpatented U. S. Federal Lode Claims located partly in the Southwest quarter of Section No. 36 and partly in Section No. 35 in Township 17 South and in Section No. 1 in Township No. 18 South in Range 12 East, Twin Buttes Mining District, Pima County, Arizona. The claims are known as The Prosperity Group and recorded as follows:

<u>Name of Claim</u>	<u>Book</u>	<u>Page</u>
Prosperity East Fraction	2459	247 (Rose only)
Prosperity Wedge	2476	393 (Rose only)
Prosperity (South Partition) "Amended"	2880	159
Prosperity No. 2 (North Partition) "Amended"	2880	160
Prosperity No. 4 (North Partition) "Amended"	2880	161
Prosperity No. 3	937	308
Prosperity No. 5	937	310
Prosperity No. 6	937	311
Prosperity No. 7	950	189
Prosperity No. 8	950	190

Division of purchase price and royalty will be on the basis of the total ownership of two (2) claims by Rosey only, and the balance of the eight (8) claims by Pete and Rosey, two parts of payments going to Rosey only and balance divided equally.

Lease, one year with option to buy for \$200,000.00. For two (2) claims to Rosey - \$40,000.00 plus \$80,000.00 - her half on the eight (8) claims and \$80,000.00 to Pete--his half.

Advance payment for one (1) year of exploration rights, to determine value of the claims, shall be \$10,000.00 with no further payments for the first year. The same division as above to Pete and Rosey \$2,000.00 to Rosey only plus \$4,000.00 additional to Rosey and \$4,000.00 to Pete.

Payments starting the second year shall be a minimum of \$1,000.00 per month payable \$600.00 to Rosey and \$400.00 to Pete.

Royalty on production shall be 5% against the purchase price of \$200,000.00 payable monthly with the minimum of \$1,000.00 per month as stated above, whichever figure is highest.

The above is just a brief outline of our talk and, of course, I know that you mentioned the protection of your home and improvements during exploration or mining and also if the property is rejected that all holes, cuts, unnecessary trails or other changes due to the operation will be covered up and put back in the best natural condition, that it previously was, as is possible.

Suggestions from you and Pete on what you want to include in the agreement will be considered and whatever is necessary to protect your interest will be done.

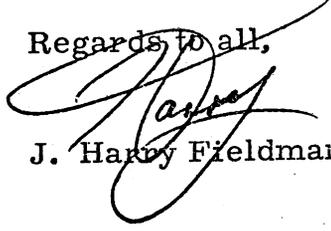
To: Pedro N. Revello and Rose R. Samms

Page 3

Thanks again for working with me as I am sure that the best deal for both of us will be made because your land and my land can be offered separately but used for the benefit of one project.

I am mailing this to you with a copy to your brother Pete, also to Will Dees and my geologist, William Lundby.

Regards to all,


J. Harry Fieldman

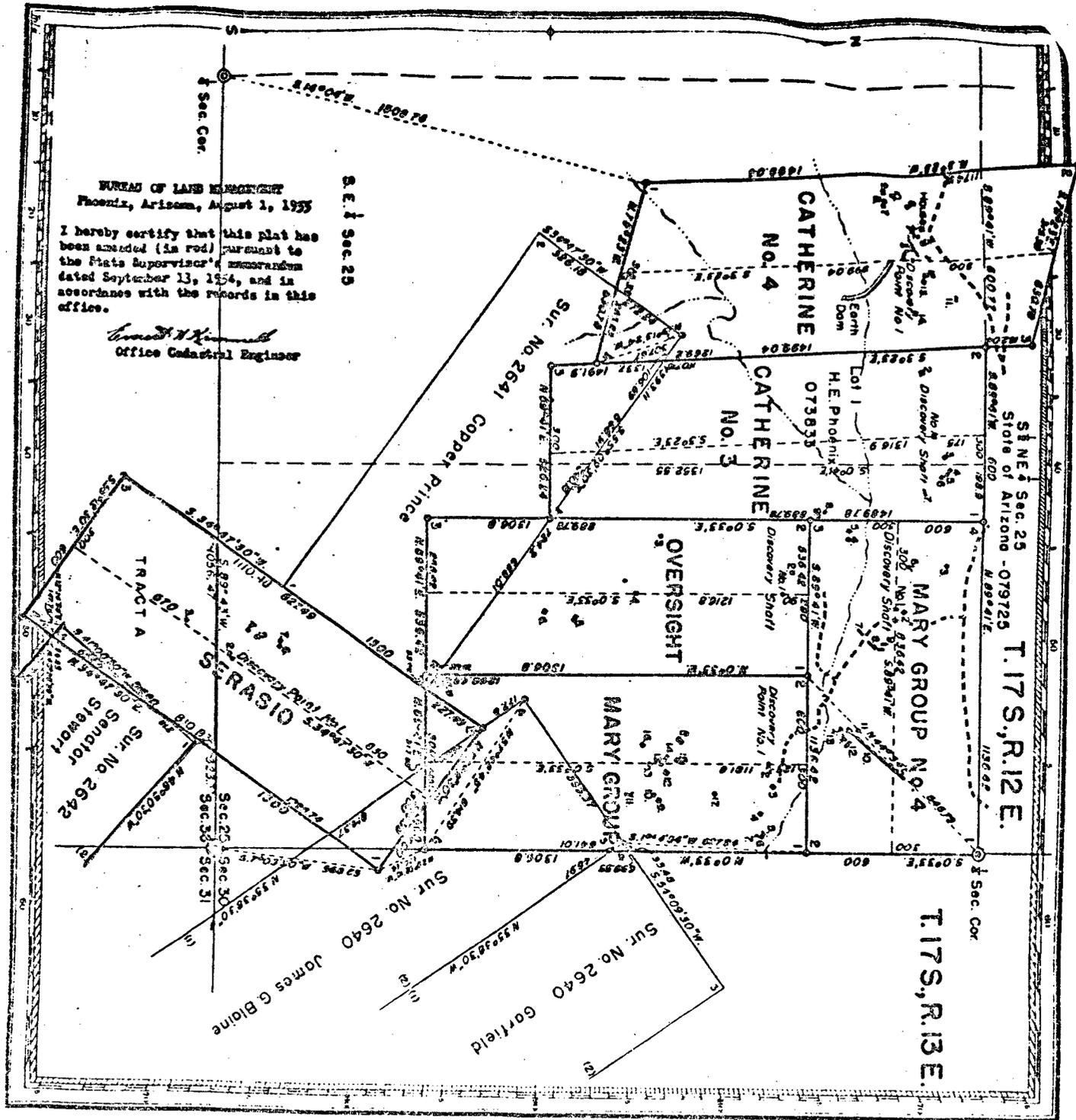
JHF:nb

cc: Pedro N. Revello
Box #51 Tucson - Nogales Star Route
Sahuarita, Arizona 85629

Willis R. Dees, Attorney at Law
3rd Floor - United Bank Building
120 West Broadway
Tucson, Arizona 85701

William Lundby
8840 East Wrightstown Road
Tucson, Arizona 85715

BC: Essex



BUREAU OF LAND MANAGEMENT
Phoenix, Arizona, August 1, 1953

I hereby certify that this plat has been amended (in red) pursuant to the State Supervisor's memorandum dated September 13, 1954, and in accordance with the records in this office.

James H. ...
Office Cadastral Engineer

MINERAL SURVEY
NO. 4375
ARIZONA

CLAIM OF
MICHAEL SERASIO

KNOWN AS THE
**OVERSIGHT, SERASIO,
MARY GROUP, MARY GROUP NO. 4,
CATHERINE NO. 3 AND
CATHERINE NO. 4 LODES**

SITUATE IN
Secs 29 & 36, T.17S., R.12E.,
& Sec. 30, T.17S., R.12E., S.12E.,
PIMA COUNTY
Pima Mining District
Arizona Land District

0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
Feet
Magnetic Declination, 14°30'E

Surveyed, April 7 to May 29, 1953
By T. N. Stevens, Mineral Surveyor

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Division of Cadastral Engineering
Albuquerque, New Mexico, May 20, 1953

I hereby certify that this plat of Mineral Survey No. 4375, Arizona, is strictly conformable to the field notes of said survey which have been examined and approved.

Robert B. ...
Office Cadastral Engineer

Sheet No. 1

NW 1/4

T105, R12E.

Sec 36

Copper Eagle No. 2

STATE MINERAL LEASE
OF STATE COMPANY MINING
M. L. HILSON
STATE OF ARIZONA PLANT

T105, R13E.

Sec 37

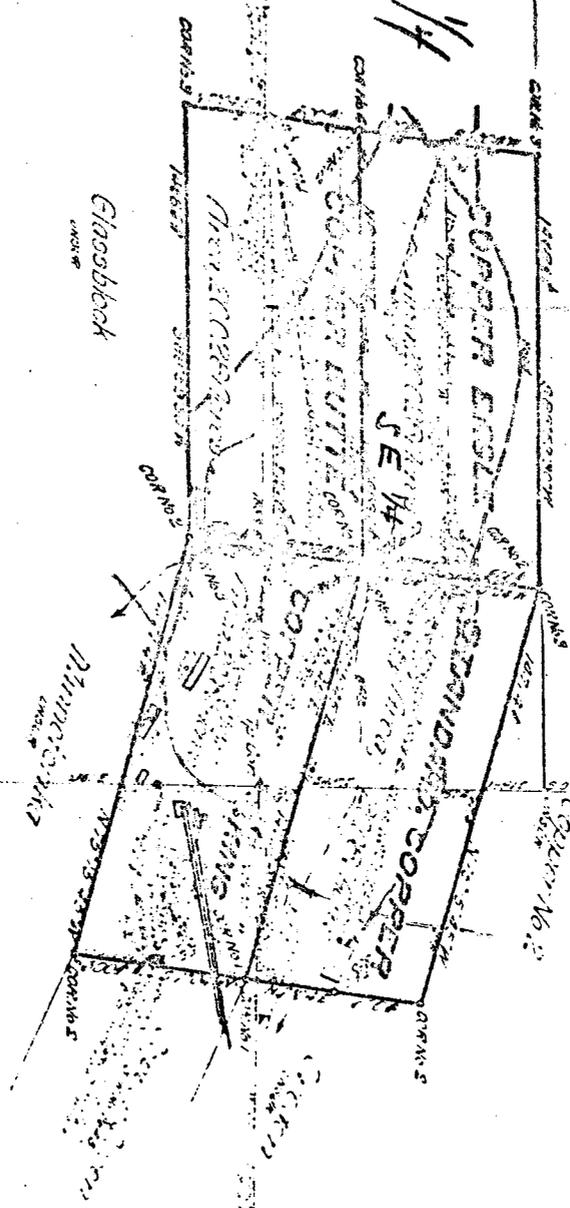
Unknown Claim

SW 1/4

T105, R12E.
Sec 1

Glassblock

Mineral Rights



T105, R13E.
Sec 6



Mineral Claim No. 26423

LOT NO. 1
PIAT

KNOWN AS THE

STATE MINERAL LEASE
OF STATE COMPANY MINING
M. L. HILSON
STATE OF ARIZONA PLANT

BY JOHN HILSON

Witness my hand and seal of the State of Arizona this 1st day of July 1908.

WITNESSED my hand and seal of the State of Arizona this 1st day of July 1908.

John Hilson

The Original Field Notes of the Survey of the Mining Claim of M. L. Hilson, known as the 'Glassblock' Claim, are on file in the office of the State Engineer at Phoenix, Arizona, and are open to the inspection of all persons interested in the same.

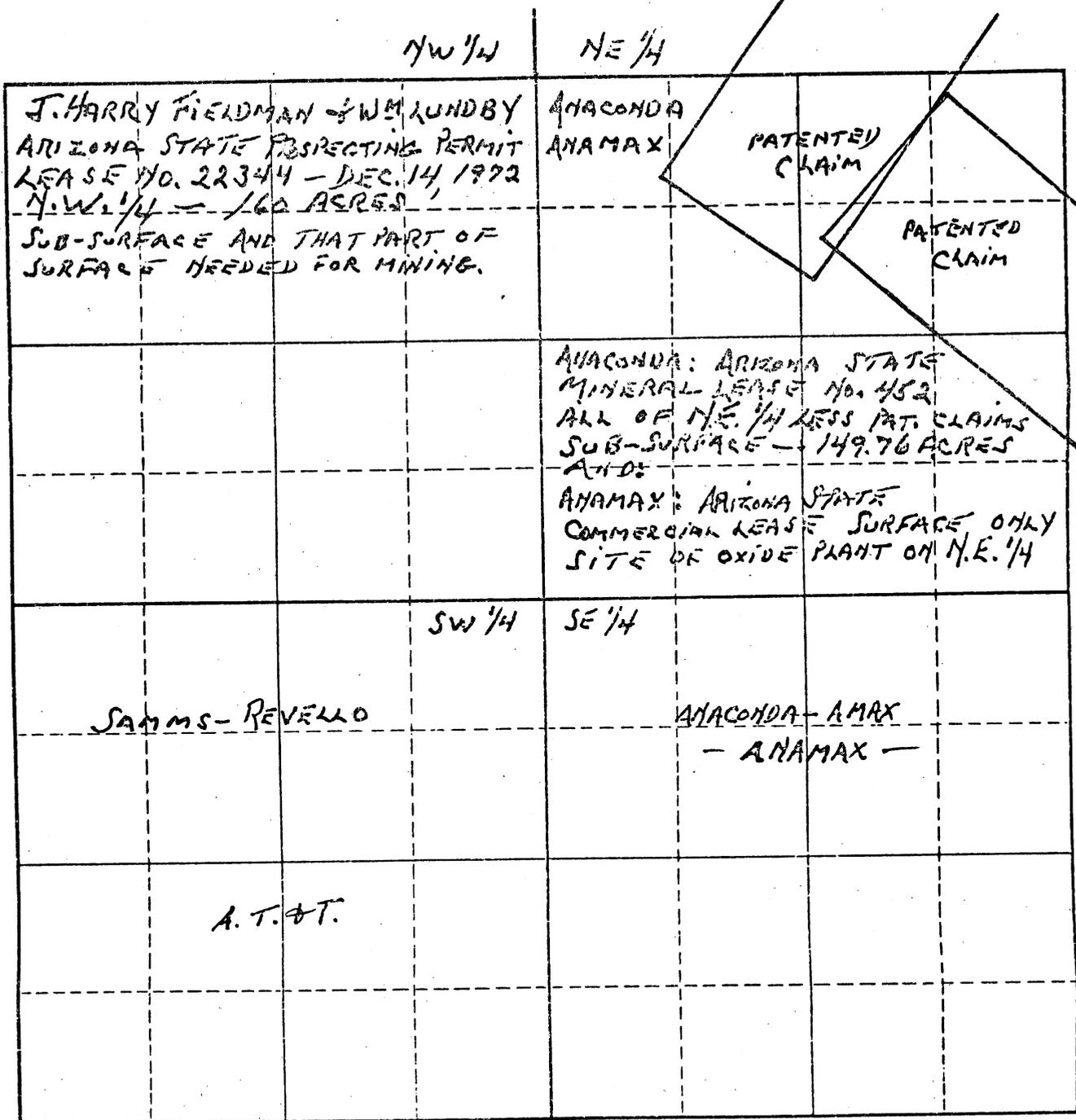
From which this plat has been made under my direction, and a true and correct copy of the same has been made and is on file in the office of the State Engineer at Phoenix, Arizona, and is open to the inspection of all persons interested in the same.

Witness my hand and seal of the State of Arizona this 1st day of July 1908.

John Hilson

State Engineer

Section 36 Township 17 So. Range 12 Ea.

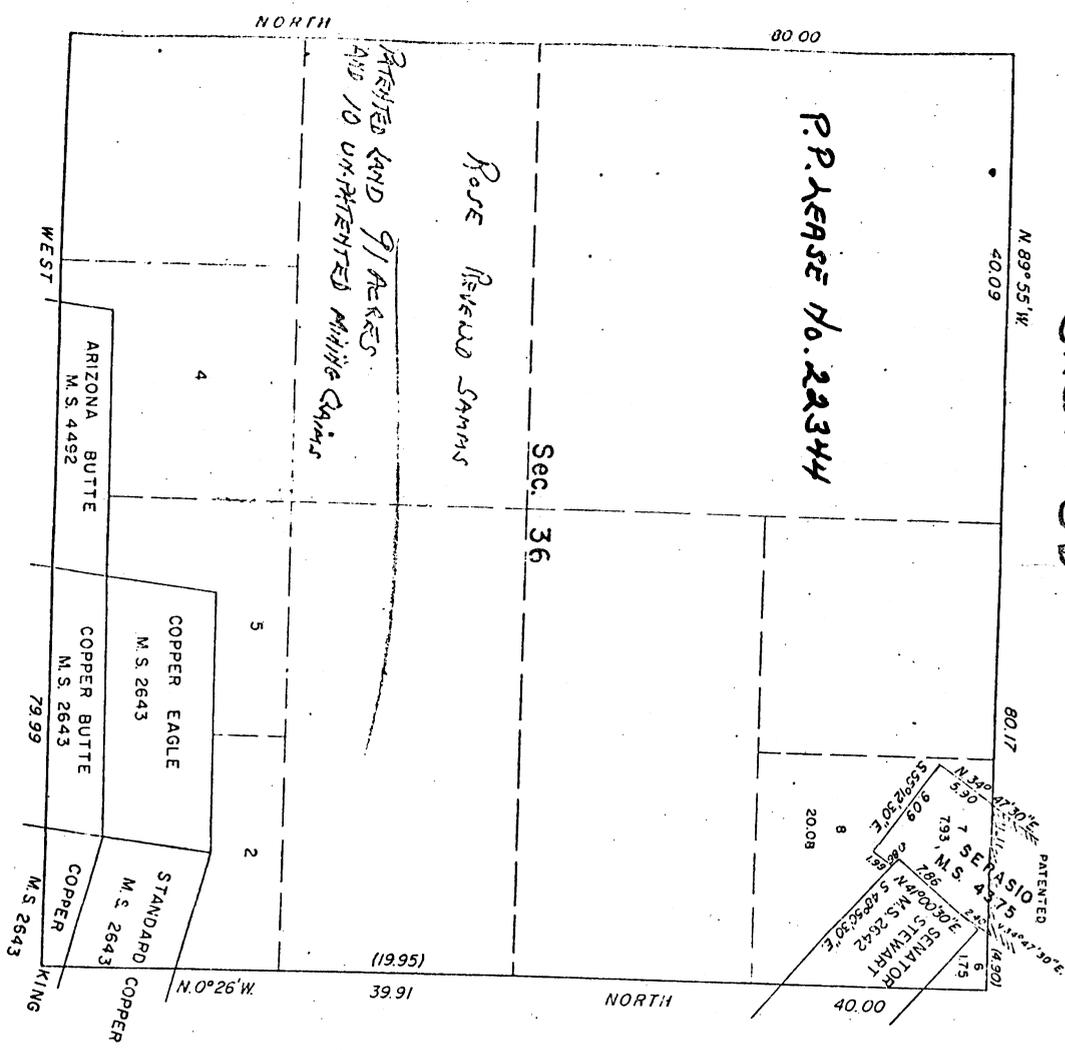


800 400 0 800 1600 2400 Feet

5280 Feet	} 1 Mile	66 Feet	} 1 Chain	43560 Sq. Ft.	} 1 Acre	
320 Rods						
1760 Yards						
80 Chains						

Scale: N/A

T. 17 S. R. 12 E. A. SUPPLEMENTAL PLAT
 SEC. # 36



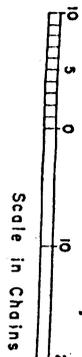
This plat showing amended lotlines created by the re-
 regulation of Mineral Survey No. 4375 in section 36, T.
 17 S., R. 12 E., Gila and Salt River Meridian, Arizona,
 is based upon the plats approved January 29, 1973, Jan-
 uary 29, 1991, and the plat accepted March 15, 1993.

UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 Washington, D. C. September 26, 1993

For the Director

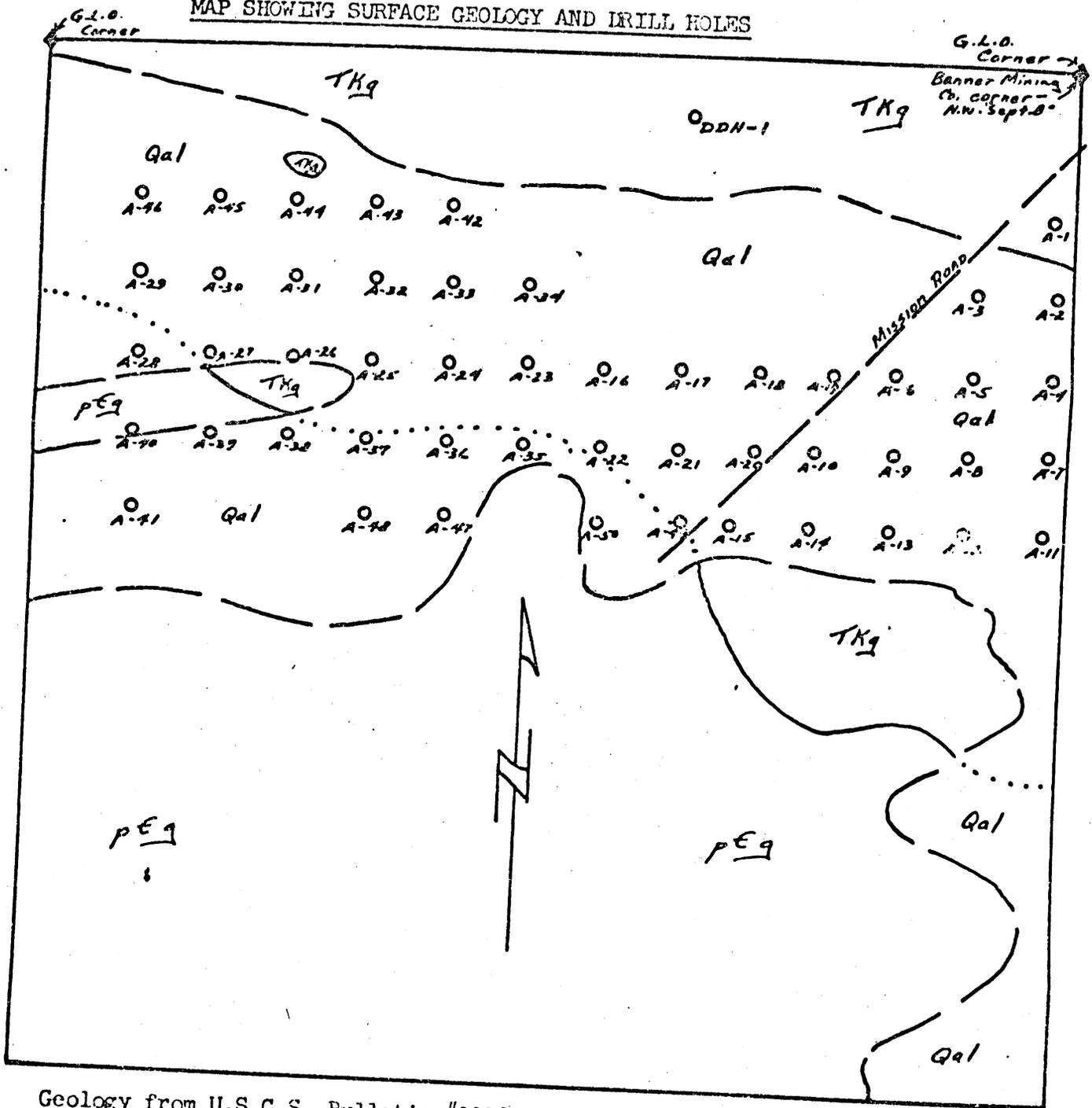
Richard Brown

Acting Chief, Division of Engineering



Now No. 12344
 Arizona State Prospecting Permit No. 19126; NW $\frac{1}{4}$ section 36, T 17 S,
 R 12 E, G&SR&M, Pima County, Arizona, 160 Acres.

MAP SHOWING SURFACE GEOLOGY AND DRILL HOLES



Geology from U.S.C.S. Bulletin #1112 - Plate 1 and geologic reconnaissance-
 (1964 - 1965).

Scale: 1" = 400'

W. Lundby

September 7, 1971

Qal - Alluvium

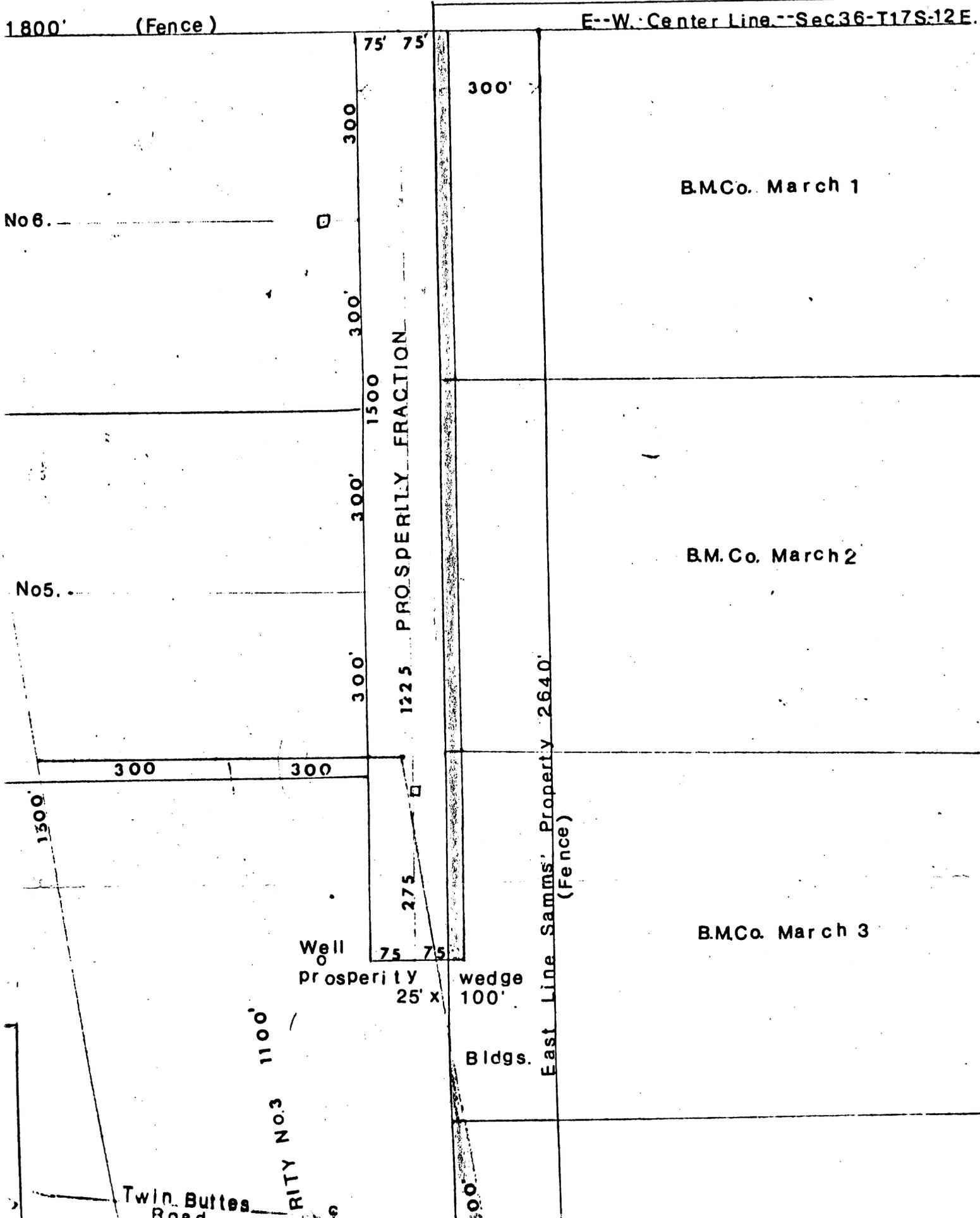
TKg - Laramide granitic rocks.

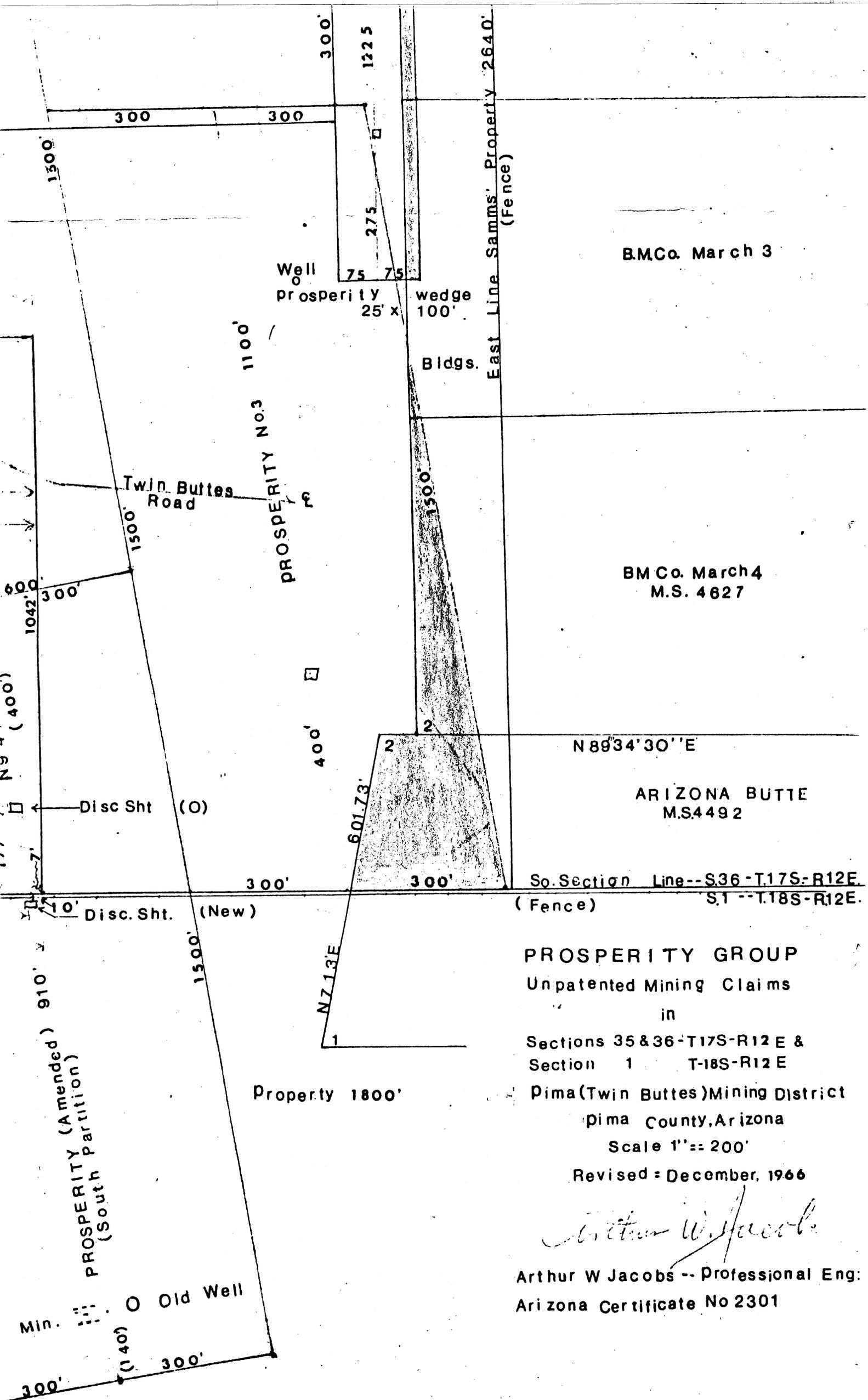
pCg - pre-Cambrian granites, minor schist and hornfels.

○ - Auger drill holes.

○ - Proposed drill hole (minimum depth 600 feet).

STATE LAND





BM Co. March 3

BM Co. March 4
M.S. 4627

N 89° 34' 30" E

ARIZONA BUTTE
M.S. 4492

So. Section Line--S36-T17S-R12E
(Fence) S.1--T.18S-R12E.

PROSPERITY GROUP
Unpatented Mining Claims
in

Sections 35 & 36-T17S-R12 E &
Section 1 T-18S-R12 E

Pima (Twin Buttes) Mining District
Pima County, Arizona
Scale 1" = 200'

Revised = December, 1966

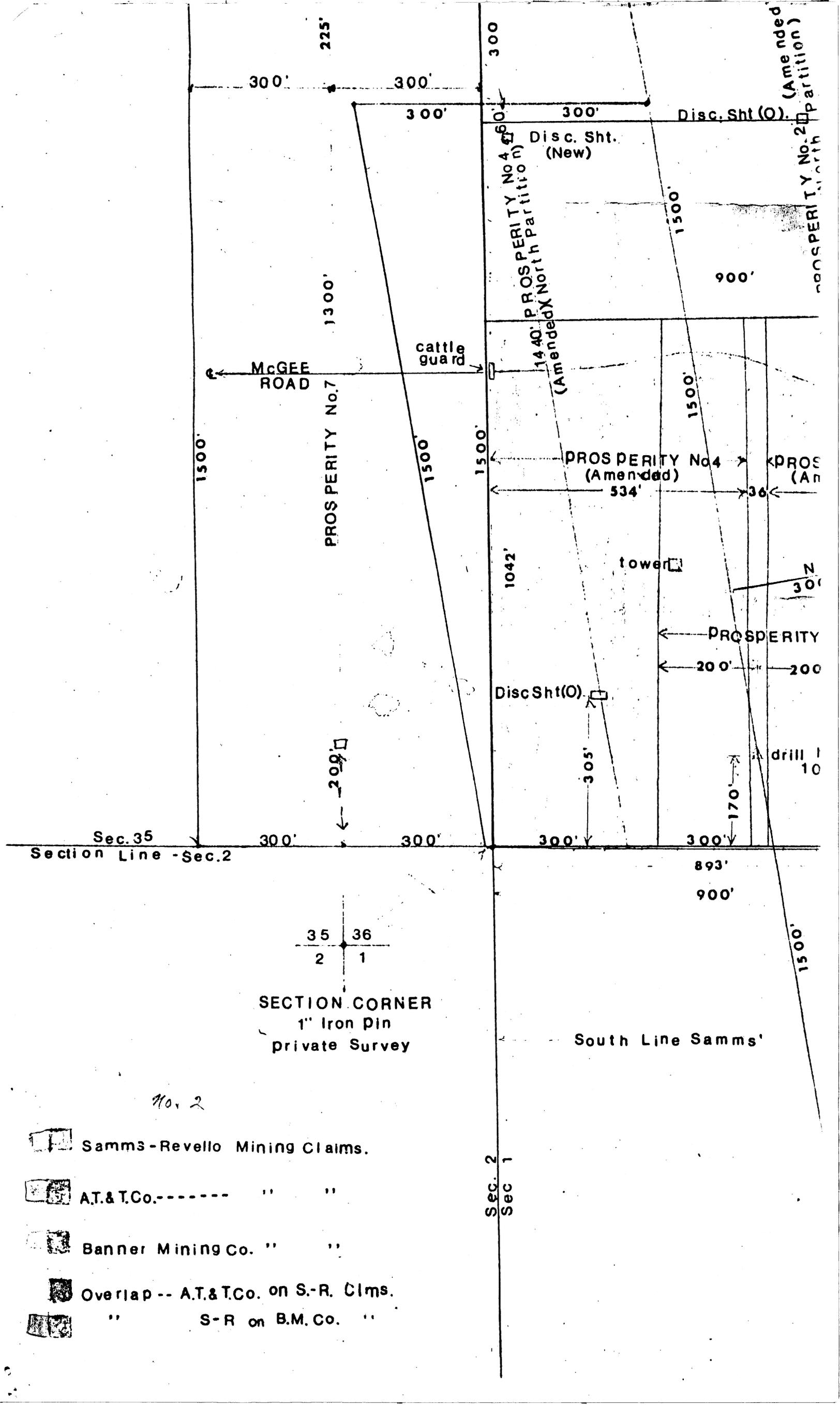
Arthur W. Jacobs

Arthur W Jacobs -- Professional Eng:
Arizona Certificate No 2301

Property 1800'

Min. (140') O Old Well

300' 300'

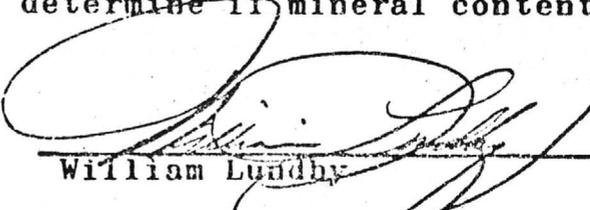


-  Samms-Revello Mining Claims.
-  A.T.&T.Co.----- " "
-  Banner Mining Co. " "
-  Overlap -- A.T.&T.Co. on S.-R. Clms.
-  " S-R on B.M. Co. "

That the purpose of said drilling was to collect bedrock samples for geochemical assay in areas covered by alluvial material in order that (1) concealed rock contacts might be more accurately determined, and (2) geochemically anomalous zones might be traced through covered areas. Such work was conducted using proper techniques of the science of geology as related to the search for and the discovery of mineral deposits.

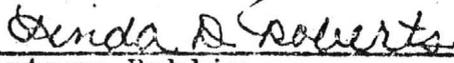
That 50 auger holes (24" in diameter) were drilled to bedrock in areas where alluvial cover was generally less than 8 feet in thickness. Cuttings were collected from the bottom of each hole and a portion was washed for logging purposes and compositing for spectrographic analysis, the remainder being bagged for assay by American Analytical and Research Laboratories, 3226 East 46th. Street, Tucson, Arizona for geochemical assaying of copper and molybdenum content.

A review of current geochemical results and previous work done in the area suggests a concentration of future drilling in the Laramide granite exposed chiefly in the northern half of the permit area because (1) Laramide granitic rocks have been proven to be favorable host rocks for primary and secondary mineralization in the Twin Buttes district, and (2) previous drilling indicated pyrite increasing with depth and very encouraging copper and molybdenum values near the northern boundary of the permit area. Therefore, a drill hole with a minimum depth of 600 feet is recommended at site DDH-1 (see Exhibit "A") to further test economic mineralization possibilities and determine if mineral content might increase with depth.



William Lundby

Subscribed and sworn to before me this 7th. day of September, 1971



Sandra D. Roberts
Notary Public

My commission expires 2-12-74



DEN BAARS & ASSOCIATES
MINERAL EXPLORATION AND RESEARCH CONSULTANTS

DPS. DIRK DEN BAARS
CONSULTING GEOLOGIST
ARIZONA REG 4132

July 20th, 1968

6318 EAST HAYNE STREET
TUCSON, ARIZONA
AXTEL B-3551

DRILL HOLE LOG

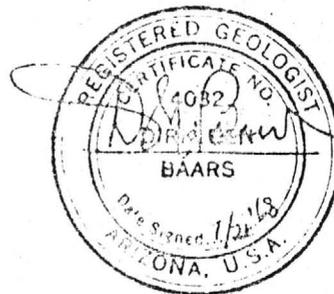
HOLE No. 1

AREX
State Prospect Permit No. I0967
NW $\frac{1}{4}$ Section 36, T 17 S, R 12 E, G93RM
Type : Churn drill

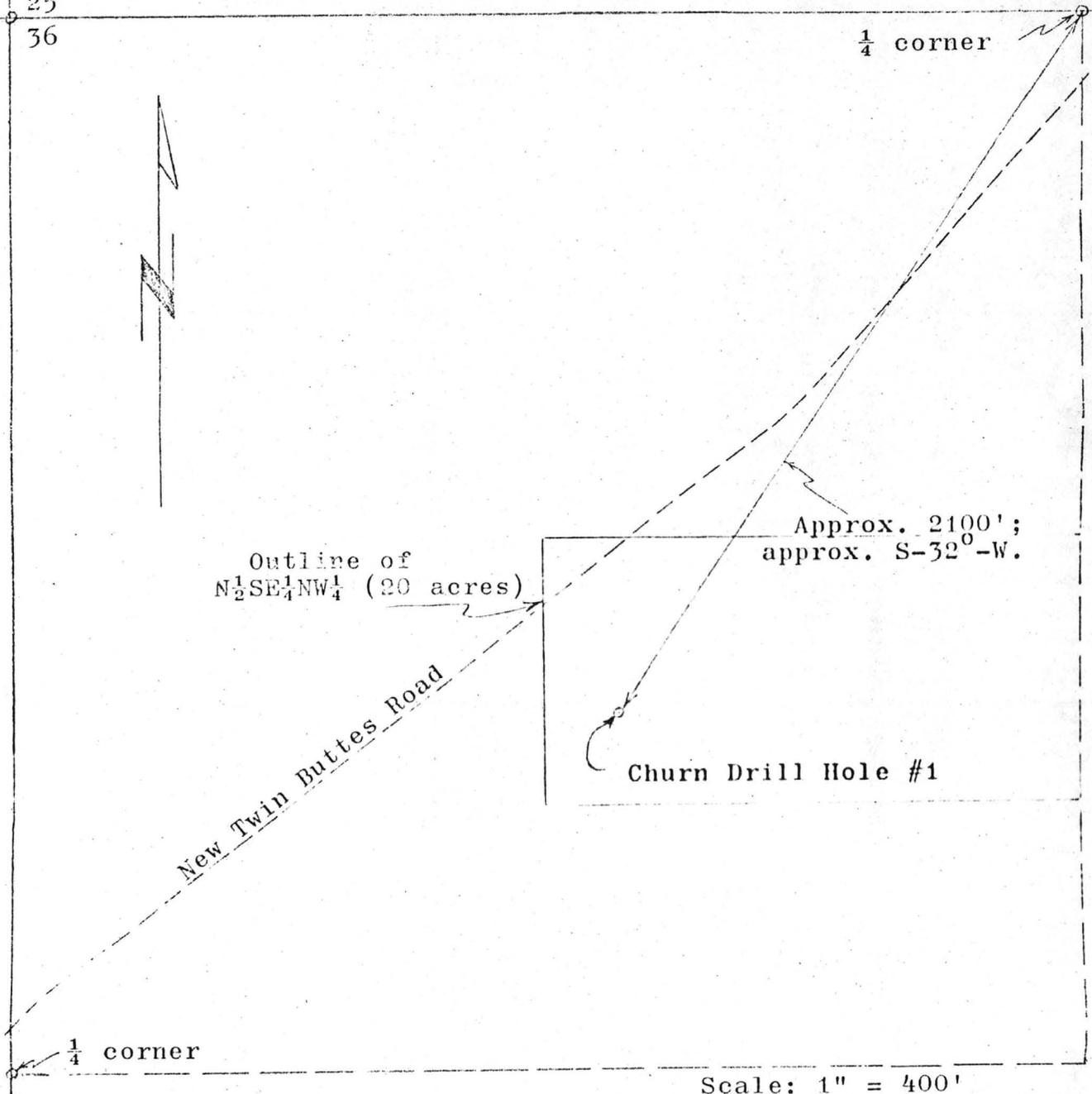
From-to

- 0 - 10 Precambrian granite, trace of pyrite, magnetite
- 10 - 20 Precambrian granite, quartz veinlets, trace of Pyrite
- 20 - 30 Precambrian granite, trace of pyrite, magnetite, quartz
- 30 - 40 Same Pc. granite, iron oxide, some pyrite and magnetite
- 40 - 50 Same Pc. granite, trace of pyrite, iron oxide, magnetite
- 50 - 60 Same Pc. granite, quartz veinlets, trace of pyrite
- 60 - 70 Same Pc. granite, trace of malachite, some pyrite
- 70 - 80 Same Pc. granite, some Pyrite and magnetite
- 80 - 90 Pc. granite and dark schist, iron oxide, pyrite
- 90 - 100 Black schist, quartz, pyrite, malachite and chrysocolla
- 100- 110 Black schist and Pc. granite, iron oxides, pyrite
- 110- 120 Pc. granite and dark schist, trace of magnetite, pyrite
- 120- 130 Pc. granite, quartz veinlets and schist, some pyrite
- 130- 140 Pc. granite and schist, some pyrite and magnetite
- 140- 150 Pc. granite, iron oxides, quartz, pyrite and magnetite
- 150- 162 Pc. granite, iron oxides, some pyrite and magnetite

This hole will be continued with a diamond drill after casing is placed to bottom.



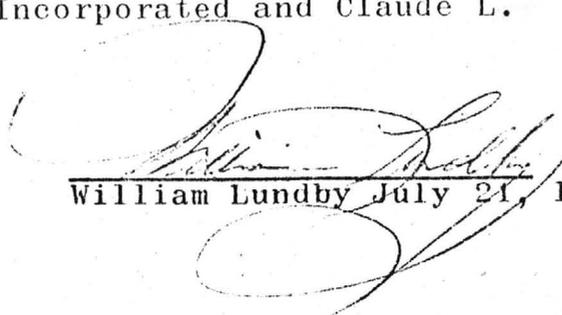
26 25
35 36



Scale: 1" = 400'

SURVEY PLAT - Drill hole location for Arizona State Prospecting Permit #10967; NW¹/₄ section 36, T-17-S, R-12-E, G&SRM. (Permittees are AREX, Arizona Exploration Company Incorporated and Claude L. Motel)

Surveyed by William Lundby, Geologist


William Lundby July 21, 1970

Basic findings were that the drillhole is located in Pre Cambrian granite, close to the contact with the laramide granodiorite to the north. This contact has not been penetrated at the depth of 162 feet. Numerous inclusions of schist and quartzite can be observed in the granite which show minor occurrences of pyrite and magnetite.

No contacts with sedimentary rocks of Palaeozoic age were observed in the area covered by this prospect Permit but could be present in the north half of this quarter section where most contacts are obscured by alluvial cover. The granodiorite is exposed mostly along a ridge forming the north boundary of this section but little sulphide mineralization or quartz veining was observed in the field, except for iron oxides mostly in the vicinity of a previous drillhole at the north west corner of this section.

I am aware that AREX, Arizona Exploration Co., Inc. has an agreement with Thomas Q. McCray, the driller, which calls for the present hole to be deepened to a depth of not less than 800 ft. in the new current year of the Permit, after renewal has been granted. It is possible that ore grade mineralization is present at depth of 400 ft. or deeper, depending on whether or not the drill bit will penetrate favorable hostrocks along the contact with the laramide granodiorite. It is understood that the affiant shall be consultant for the continuation of drilling program.

Dirk Den Baars

Dirk Den-baars

Subscribed and sworn to before me this 22nd day of July, 1968.

Thomas Q. McCray
Notary Public

My Commission expires _____

My Commission Expires July 6, 1971

AFFIDAVIT OF LABOR PERFORMED AND IMPROVEMENTS MADE

STATE OF ARIZONA)
) ss.
COUNTY OF PIMA)

ARTHUR W. JACOBS, being first duly sworn, deposes and says, that he is a citizen of the UNITED STATES and more than twenty-one years of age, and resides at 379 South Craycroft Road, Tucson, Arizona, and is personally acquainted with the following described unpatented mining claims situated in the Pima (Twin Buttes) Mining District, Pima County, Arizona, the location notices of which are recorded in the Office of the County Recorder of Pima County, at Tucson, Arizona:

<u>Name of Mining Claim</u>	<u>Book</u>	<u>Page</u>
Prospectivity "A"	2879	573
Prospectivity "Abandoned"	2879	573
Prospectivity No. 4	2879	575

That during the annual assessment year beginning September 1, 1972 and ending September 1, 1973, at least THREE HUNDRED - - (300.00) DOLLARS worth of work and improvements were done and performed upon said claims, not including the location work, by and at the expense of THE AMERICAN INTERNATIONAL MINING COMPANY, a New York Corporation, owner of said unpatented mining claims for the purpose of complying with the laws of the United States pertaining to annual assessment work, and Francisco Revollo and Arthur W. Jacobs, a Registered Mining Engineer were the men employed by said owner and the labor upon said claims, and did said work and improvements.

That the work performed consists of a surface cut 43' L x 31' W x 11' H requiring the breaking and removal of more than 1,000 cubic feet of rock.

That the above mentioned unpatented mining claims form a continuous group and that the work done was for the benefit of all the claims in the group.

Arthur W. Jacobs
Arthur W. Jacobs

Subscribed and sworn to before me this 10th day of July, 1973

My commission expires _____

William H. [Signature]
Notary Public

379 Craycroft Rd

69230

USA Page 100
[Signature]
[Signature]

51176

4587 Page 358

1973 AUG 22 PM 1 24

STATEMENT OF LABOR PERFORMED AND IMPROVEMENT MADE

STATE OF ARIZONA)
COUNTY OF PIMA) ss.

ROSE R. SAMES, being first duly sworn, deposes and says that she is a citizen of the United States and more than twenty-one years of age, and resides at Twin Buttes, Pima County, Arizona and is personally acquainted with the following described/mining claims: situated in the Pima (Twin Buttes) Mining District, Pima County, Arizona, the location notices of which are recorded in the Office of the County Recorder of Pima County, at Tucson, Arizona:

<u>Name of Claim</u>	<u>Book</u>	<u>Page</u>
Prosperity (South Partition) "Amended"	2880	159 -
Prosperity No. 2 (North Partition) "	2880	150 -
Prosperity No. 4 (North Partition) "	2880	161 -
Prosperity No. 3	937	308 -
Prosperity No. 5	937	310 -
Prosperity No. 6	937	311 -
Prosperity No. 7	950	189 -
Prosperity No. 8	950	190 -

THAT during the annual assessment year beginning September 1, 1972 and ending September 1, 1973, at least EIGHT HUNDRED DOLLARS (\$800.00) worth of work and improvements were done and performed upon said claims, not including the location work, by and at the expense of PEDRO M. REVELLO and ROSE R. SAMES, owners of said mining claims for the purpose of complying with the laws of the United States pertaining to annual assessment work, and that G.B. SEASLER, drilling contractor was employed by the owners and he and his employees labored upon said claims, and did said work and improvements:

THAT the work performed consists of 115 feet of diamond core drilling, and other expenses were incurred for materials and supplies.

THAT the claims above mentioned unpatented mining claims form a contiguous group and that the work done was for the benefit of all the claims in the group.

Rose R. Sames
Rose R. Sames
Donald J. Smith
Notary Public

RECORDED AND INDEXED BY COUNTY CLERK
THIS 22nd DAY OF AUGUST 1973
BY DONALD J. SMITH
4587-358

STATE OF ARIZONA)
) ss.
 COUNTY OF PIMA)

ROSE R. EAMES, being first duly sworn, deposes and says that she is a citizen of the UNITED STATES and more than twenty-one years of age, and resides at Twin Buttes, Pima County, Arizona, and is personally acquainted with the following describes unpatented mining claims situated in the Pima (Twin Buttes) Mining District, Pima County, Arizona, the location notices of which are recorded in the Office of the County Recorder of Pima County, at Tucson, Arizona:

<u>Name of Claim</u>	<u>Book</u>	<u>Page</u>
Prosperity East Fraction	2459	247
Prosperity Wedge	2476	393

THAT during the annual assessment year beginning September 1, 1972 and ending September 1, 1973 at least TWO HUNDRED DOLLARS (\$200.00) worth of work and improvements were done and performed upon said claims, not including the location work, by and at the expense of ROSE R. EAMES, owner of said mining claims for the purpose of complying with the laws of the UNITED STATES pertaining to annual assessment work, and that FRANCISCO REVELLO was employed by the owner and he labored upon said claims, and did said work and improvements:

THAT the work performed consists of a dug trench 43' L x 4' W x 3' D and that more than 500' cubic feet of rock were drilled, blasted and excavated.

THAT the above mentioned unpatented mining claims form a contiguous group and that the work done was for the benefit of all the claims in the group.

SUBSCRIBED and SWORN to before me
 this 24th day of July 1973.

My commission expires July 9, 1976

Rose R. Eames
 Rose R. Eames

Francisco Revello
 Notary Public