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12/19/89

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: KORN KOB

ALTERNATE NAMES:

PIMA COUNTY MILS NUMBER: 263

LOCATION: TOWNSHIP 12 S RANGE 17 E SECTION 23 QUARTER NE  
LATITUDE: N 32DEG 22MIN 46SEC LONGITUDE: W 110DEG 34MIN 14SEC  
TOPO MAP NAME: BELLOTA RANCH - 15 MIN

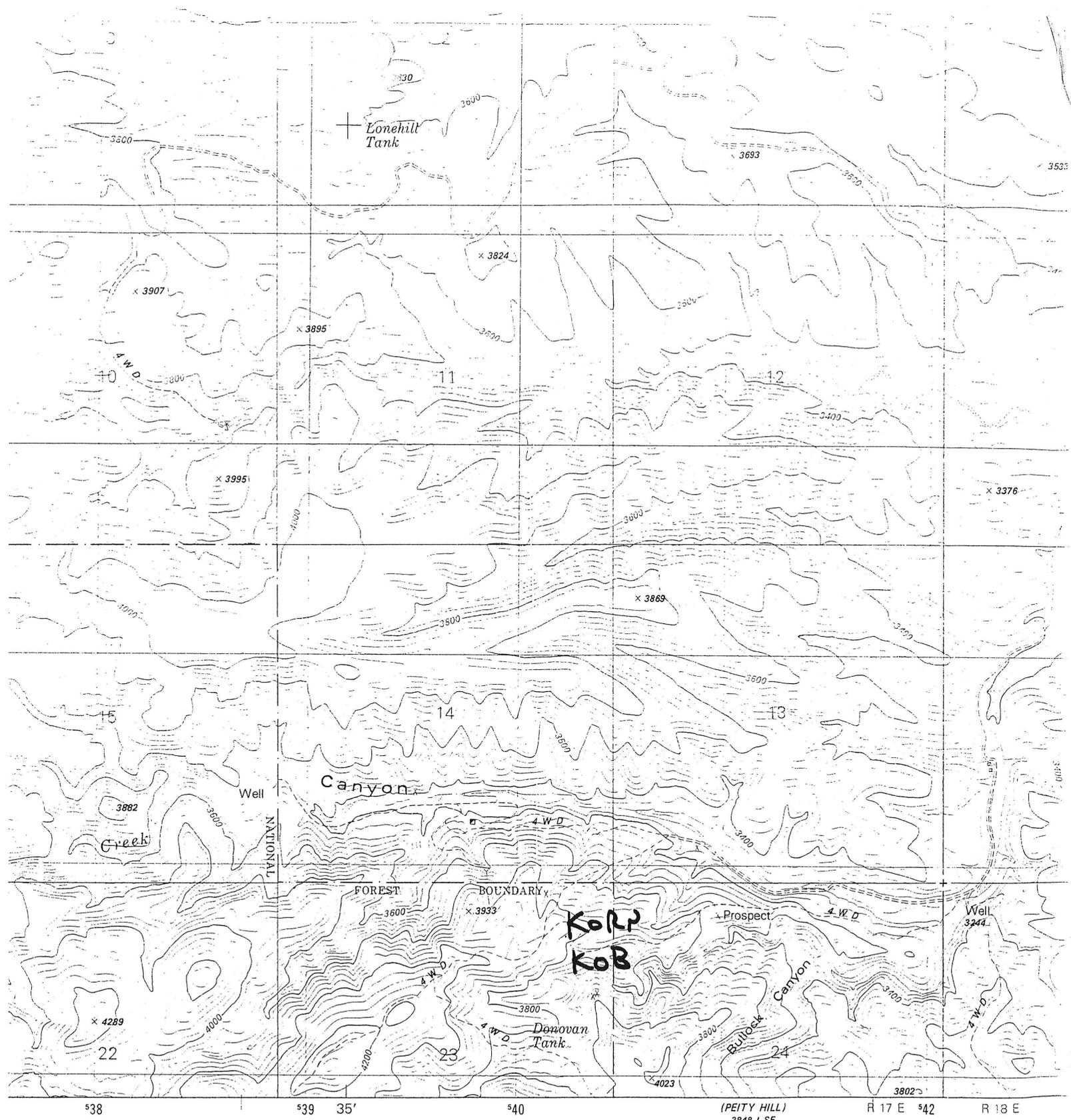
CURRENT STATUS: EXP PROSPECT

COMMODITY:

COPPER OXIDE  
SILVER  
ZINC

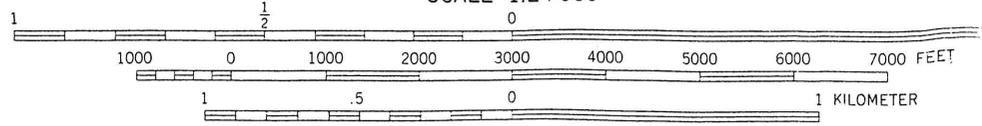
BIBLIOGRAPHY:

ADMMR KORN KOB FILE  
CLAIMS EXTEND INTO SECS 24, 25, 14, 15, 22  
WILSON, JOHN, GEO & MINERALIZATION OF THE  
KORN KOB MINE AREA, PIMA CO U OF A THISIS,  
1977

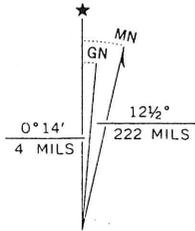


38 39 35' 40 (PEITY HILL) 3848 1 SE R 17 E 42 R 18 E

SCALE 1:24 000



CONTOUR INTERVAL 40 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



UTM GRID AND 1981 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

T 12 S R 17 E

BUEHMAN CANYON 7.5

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA. A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

## Verbal Information Summary

### ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

Mine File: KORN KOB, Pima Co.

Information from: Dirk Den Bars, Vice President

Company: Keystone Minerals

Address: 6318 E, Haynes St.  
Tucson AZ, 85710

Phone: 602-747-9551

#### **Summary of information received, comments etc.:**

Recent events have forced A. F. Budge (Mining) Limited to drop their lease on the Korn Kob copper skarn deposit. An 80 hole drilling program they conducted during the last two years has confirmed reserves of 18 million tons grading ~.4% acid soluble copper available in 2 separate deposits, north and south. Geologic and geochemical work in the area also generated additional targets including a gold prospect on the northern portion of the property. Work contracted to Mountain States Engineers refined the metallurgical extraction data and recovery flow sheet. The consulting group Mintech made a reserve study generating several mine models from the data, generally using a 1.5 to 1 strip ratio.

The property is available for lease/purchase at this time. Unidentified parties were reported to be beginning discussions to option the property. Voluminous data held by Keystone Minerals is available for review, but the company does not want to make it public due to the intense scrutiny that the environmentalists in Tucson and the Forest Service have given the project already.

**Nyal J. Niemuth, Mining Engineer**

**March 27, 1992**

KoRNKOB

KEYSTONE COPPER OXIDE PROJECT  
[REDACTED] Summary Document

Prepared by: Dirk Den-Baars  
V.P & Geologist  
Keystone Minerals, Inc.

Updated, September 1993

Tucson, September 15th, 1993

History and Acquisition.

The Keystone project property is located approximately 30 miles North-East of Tucson, on the NE flank of the Santa Catalina Mountains, in T 12 S, R 17 E, G&SRM and about 20 miles south of the Magma Copper Smelter at San Manuel.

Presently Keystone is maintaining one hundred Lode mining claims, covering the copper oxide ore deposits and their extensions. Prospecting in the area began at the turn of the century. The Korn Kob Mining Co., drilled some holes with steam powered rigs and sank a shaft of about 200 ft. deep with development workings on the 100 ft. level. The company operated from 1912 to 1916, producing only about 90 Tons of ore of 6 % copper with 1.5 ounces of silver per Ton.

Geology.

The copper oxide ores are well exposed on the surface in three adjacent locations called the North Pit area, the South Pit area and the Donovans Camp area.

The ore occurs in a massive but highly fractured dark brown Skarn and Tactite with outcrops as wide as 400 ft. The orezone dips to the North-east at about 35° and with a Granite porphyry contact to the West and at depth. In sequence to the east are Meta sediments of possible Abrigo, Martin and Escabrosa formation.

Mineralization of copper has been completely oxidized and occurs as Chrysocolla, Tenorite, Cuprite and Cupriferous Iron and Malachite. Primary sulphides are virtually absent. The intense fracturing even at depth seems to have been responsible for the total oxidation of the deposits. Other minerals in the ore are Garnets, Magnetite, Hematite, varying amounts of Quartz, Biotite, Epidote, Chlorite, Actinolite, Tremolite, Diopside, Muscovite and Sericite.

Throughout the Skarn, copper is fairly even distributed with grades averaging between 0.3% to 0.6% total copper with minor amounts of silver and zinc. Upsection the Skarn is transitional to light grey siliceous Tactite ore and then to varycolored marble.

Downsection below the Skarn is a light to dark grey Schist, the upper 30 ft of the schist carries as much as 0.5% copper, however the lower part of the unit is generally barren. The Schist section is thought to be a slide plane of the flat faults which occur in a large area to the North-west and also to the South-east. The contact Metasomatic relationship is thought to be of Tertiary or Laramide age, with younger Diorite porphyry dikes along the contacts and to the North-west.

### Ore Reserves.

Exploration drilling during the last twenty years consisted of more than 111 drill holes with a total footage of about 36,646 ft. Most were Reverse Circulation drill holes with Diamond core holes and Rotary drilling making up the total.

Geologic maps and logs were prepared and also were summarized and computerized for ore reserve tonnage figures. Acid consumption tests were done on core and cuttings from most drill holes at intervals of 5, 10 or 20 ft. North and South pit areas evolved because of faulting between the two areas. The Donovans camp area is located about 1500 ft. south-east of the south pit area but has not been drilled to date.

Geologic ore reserves are presently 40 to 45 million Tons of 0.35% soluble copper in the two drilled areas. Geologic potential for increasing these reserves has been estimated from doubling the present tonnage to possibly exceeding 100 million tons. These observations were made by outside Geologists as well. This includes the three adjoining target areas that have remained undrilled but have good showings of Skarn and copper.

Proven mineable reserves have been computed for the two pit areas at more than 20 million tons of 0.42% soluble copper, with a strip ratio of 1.5 to 1.0 waste to ore. The remainder of the deeper ore can be leached "in situ" with recoveries estimated at around 50%.

### Metallurgy.

Hydro metallurgical testing was done by Holmes & Narver; the Colorado School of Mines Research Foundation and more recently by Mountain States R & D, of Tucson. Average Acid consumptions have been reported to be about 10 lbs/ per lbs of copper.

Column Leach tests were carried out on drill core composite samples from the North and South pit areas of the property which were representative of the ore reserves. Composite No.1 from the South pit core samples leached with a copper recovery of 72.89% and Acid consumption of 11 lbs/ per lbs of Cu. Composite No.2 from the North pit core gave 75.37% recovery and acid consumption of 5Lbs/ per lbs of copper. These tests were conducted by Mountain States R & D over a period of 30 to 40 days leaching time. The SX - EW testing at the Colo. School of Mines were favorable.

### Data on File.

Keystone has many reports on file, including all the drill logs and the original Certified analysis, Geologic maps and sections. Surface and underground sample maps, Pre feasibility studies, Pit designs, Leach Test reports, water sample Analysis, Biological studies and also a Fatal Flaw study, which included an Assessment of the permitting procedures. No major problems were indicated in that study.

Public Meeting.

A Public meeting was held on the property in 1990 by the US Forest Service, with many in attendance, including members of the Sierra Club, Defenders of Wildlife, the Audubon Society, and the Ariz. Department of Fish and Game. No specific problems or objections to our Mining plans were raised at that meeting, but opposing views and letters were received later, which was expected.

Waterwell.

Keystone drilled and cased a 10" water well near the North pit area which was tested at 150 GPM over a period of 8 hours. Draw down at 150 GPM was about 90 ft. to the 195 ft. level, with an almost immediate recovery at termination of the test. Water level is at 108 ft. normally. This well is registered with the State of Arizona Water Dept. in the name of Keystone Minerals, Inc. A second well was drilled about 3500 ft. east of the first one, in the area of a possible Plant site, Abundant water was encountered at 115 ft. depth. This well however was not cased or tested but indicates water availability is good.

Other Information.

1. The property is located about 3 miles north of Piety Hill where our road splits off of Redington road which is Pima county maintained and gives access to the paved road at San Manuel.
2. Available sources of Sulphuric Acid are either the Magma Smelter at San Manuel at 22 miles distance by road or the Asarco Smelter at Winkelman at 54 miles distance by road.
3. Electric Power might be available from a 115 KV powerline at the San Pedro river, located seven miles North-east of the property.
4. Preliminary information indicates that the Magma Copper Company might be interested in buying Copper Sulphate from our property for use at their 180 T/day SX-EW plant. After closure of their oxide pit there will be solutions from the "in situ" leaching and from the existing large heaps, but these will be in a declining mode.

Keystone Minerals, Inc.

Keystone is a closed Arizona Corporation with complete ownership of the Mineral rights of 100 Registered Lode Mining claims, held free and clear of any liens or Royalty Interests.

The company is interested in a Joint Venture or a potential Purchaser with prior mining experience and producing properties who will bring the property in production using conventional Heap leaching and SX-EW methods at a scale of 20 Tons a day of Kathode copper or more, Also with reasonable work commitments to futher the development and increase the copper oxide ore reserves while producing copper.

XXXXXXXXXXXX

Phelps Dodge did some work on it about 1916.

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Paul Kayser was preparing drill sites at the Korn Kob mine near Redington. FTJ WR 9/25/70

---

El Paso Natural Gas is reported to be drilling at the Korn Kob mine in Buehman Canyon, Bellota Ranch quadrangle. GWI QR 12/31/70

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I visited Mr. <sup>P</sup>Dirk Den-Baars, owner of the Korn Kob oxide copper mine and acquired reports and maps on this property to be placed in the Department files. REL WR 10/1/73

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MG WR 5/10/85: Have learned that both Professor Kim Yong of the University of Arizona and Newmont Exploration Ltd. did feasibility studies of the Korn Kob, oxide-copper deposit in Pima County.

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MG WR 8/26/85: Discussed the Korn Kob copper deposit (Pima Co) with Mr. Dick Den-Baars (c), a part owner. He said that with approval of the other owners, he would give the department a summary report on the deposit. He feels at this time a solvent extraction-electrowinning operation at the Korn Kob would require at least 75-cent copper.

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NJN WR 8/23/85: Mr. Dirk DenBaars (c) reports that recent study indicates the Korn Kob oxide copper deposit (Pima Co) could be leached in place. It apparently lies on a relatively impermeable schist.

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NJN WR 3/11/88: John Gutierrez (card) Zone Geologist with the Forest Service, reported that Keystone Minerals Inc (card), 6318 E. Haynes Street, Tucson, AZ 85710, 747-9551 will be starting an operation at the Korn Kob (file) Pima County. There is an existing file, but the AZMILS record needs corrections. It is located at T12S R17E Sec 23 NE, not at the location listed. Keystone reports that they have 11 million tons of copper oxide mineralization plus silver and zinc credits. They are reportedly planning a copper leach operation. The company holds the Kob and other claims in surrounding sections, 24, 25, 14, 15 and 22.

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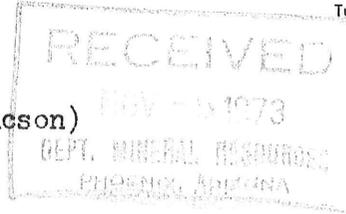
STATE OF ARIZONA  
DEPARTMENT OF MINERAL RESOURCES  
MINERAL BUILDING, FAIRGROUNDS  
PHOENIX, ARIZONA 85007

November 1, 1973

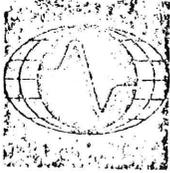
Please reply to:

Rm. 106, State Office Building  
415 West Congress  
Tucson, Arizona 85701

To: John H. Jett, Director  
From: R. E. Lehner, Field Engineer (Tucson)  
Subject: Korn Kob Mine Data



Transmitted herewith are data on the Korn Kob Mine which I have acquired from Mr. Dirk DenBaars. These data are for the Phoenix files. A similar and separate copy of these data are retained in the Tucson files.



HEINRICHS GEOEXPLORATION COMPANY

806 WEST GRANT ROAD, TUCSON, ARIZONA 85703, P.O. BOX 5964, PHONE: (602) 623-0578

GEOEX JOB # 575

Copy No. 3 of 4

PROJECT PROGRESS

KAYSER - KORN KOB

PROJECT A023 P1-970

PIMA COUNTY, ARIZONA

For

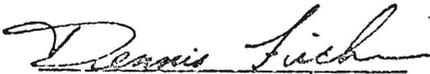
ESSEX INTERNATIONAL INC.

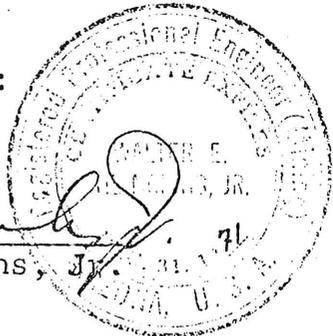
1704 West Grant Road  
Tucson, Arizona 85705

January 1971

By:

Approved By:

  
D. Fischer

  
W.E. Heinrichs, Jr.  


  
T. Griepentrog  
Geologist

  
D.B. Codley  
Senior Geologist  


## **KORN COB MINE**

Copper oxide ore body, 8 million tons of 0.5% proven ore, with low stripping ratio, near smelter and acid plant. Deep sulphide potential. For sale or joint venture, contact:

### **KEYSTONE MINERALS, Inc.**

(602) 298-3551

Dirk Den-Baars, Pres.

6318 E. Hayne St.

Tucson, Arizona 85710

*PAYDIRT 7/23/73*

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Drill Logs and Copper Assays for Holes KK-1, 2, 3, 4, 4A, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 and 23.	

Materials In Pocket

Three Point Strike and Dip Calculations  
Bellota Ranch Quadrangle showing the project area  
Sketch of Target Area as determined at the Conclusion  
of Phase I drilling  
Composit cross section normal to general Tactite  
Strike  
Claim Map  
Map showing Roads, Elevations and Mine Workings  
Map showing Drill Hole Locations  
Surface Geology and Topographic Map  
Plan Map of Adit showing Copper Assays

## INTRODUCTION

Initial appraisal field work of the Korn Kob prospect was authorized by Mr. Howard Lanier of ESSEX International, Inc., in September 1970. This followed a GEOEX Preliminary Investigation Report to ESSEX dated 20 August 1970. This report primarily recommended a two phased program of preliminary reconnaissance type sampling and/or drilling.

The two phased drilling program recommended in "Preliminary Investigation" for the Kayser Korn Kob, Project AO 23 Pl-970, has been completed and the following is an outline of the work accomplished in each phase and a summary evaluation of the findings.

### PHASE I

Phase I consisted of the following:

1. A field investigation conducted by Dennis Fischer.
2. Road construction and drill site preparation by Paul Bryant of Bryant Construction Company, Superior, Arizona.
3. Rotary Rock Bit drilling by Loman Exploration Company of Moab, Utah.
4. Sample analysis by Southwestern Assayers and Chemists of Tucson, Arizona.

The primary objective of Phase I was to determine continuity, character, tonnage and grade of ore-type mineralization in the Korn Kob area, and endeavor to establish its possible extent in a preliminary manner.

Eleven holes totalling 2373 feet were drilled between September 25, 1970 and October 8, 1970. Evaluation of this drilling revealed that ore grade mineralization was, indeed, present. The pattern of drilling showed two primary target areas. One, the northern area, was near the old Guggenheim No. 1 Hole and the other, the southern area, was located about 1500 feet to the south (see sketch attached).

A third tactite zone was drilled to the west of the

northern occurrence. Holes 9 and 10 showed this tactite to be weakly mineralized.

## PHASE II

This Phase consisted of:

1. Panelling of the Area for Air Photo controls.
2. Construction of additional roads and drill sites by Bryant Construction Company.
3. Rotary Rock Bit and Percussion drilling by Loman Exploration Company.
4. Sample analysis by Southwestern Assayers and Chemists with selected cross analysis by Rocky Mountain Geochemical Corporation.
5. The staking and filing of 43 additional claims labeled KK 1 through KK 43, as shown on the attached claim map.
6. The opening, mapping and sampling of the 650' adit which comprises the upper workings of the old Korn Kob Mine.
7. Mapping in detail the surface geology in the immediate target areas.

The second phase of drilling was layed out to test the continuity of the target areas and to try to determine if a linkage existed between the two. The pattern of drilling was also intended to establish the ore body boundaries while lending itself to rough computations of ore reserves.

Thirteen holes totalling 3816 feet were drilled between October 21, 1970 and December 2, 1970. Evaluation of this drilling revealed that the southern target area was quite large and exhibited good continuity over a considerable area. As can be seen from the surface geology overlay, the ore body has a surface outcrop approximately 400 feet wide, is capped by siliceous limestone to the northeast and underlain by schist to the southwest. Three point calculations based on the findings of drill holes KK 3, 4, 4A, 7, 14, 17, 18

20, 21 and 23 show the general trend of the body to be about N-50-W with a dip to the northeast between 15 and 47 degrees from horizontal.

This mineralized tactite zone is daylighted to the northwest by a deep draw. Its southeastern extent has not yet been determined and the body may extend to or beyond the vicinity of Donovan's Camp.

The northern target area was found to be smaller, more complex geologically, and perhaps of slightly higher grade. A linkage between this and the southern zone, while probable, could not be firmly established. The southern zone is consistently underlain by Schist and seems to pinch out under the limestone capping to the northeast. The northern zone, however, is underlain by both schist and andesite porphyry. Myriad slickenslides are seen in the adit indicating a variety of fault movements between the two target zones. Also, the andesite porphyry dike, traced between the two target areas on the surface geology overlay, is thought to have considerable bearing with regard to ultimate geologic interpretation, and total ore reserves.

#### RECOMMENDATIONS

If production feasibility studies indicate that the physical and chemical properties of the ore zone are sufficiently amiable to mine and beneficiate economically, the following additional drilling is recommended.

1. Drilling in the southern zone should be aimed at delineating the tactite zone in the direction of Donovan's Camp. Confirmation of the existence of this zone would require a minimum of four holes to an approximate combined depth of 1200 feet.

In addition to the southeastern extension, the tactite zone needs to be defined to the northwest. A three hundred foot hole, due north of KK3, would be valuable for tonnage calculations, subsurface geologic information and pit design.

2. A series of holes in the northern zone are needed to further establish the extent of mineralization. Hole number KK1 showed a favorable intersection of 200 feet.

The Guggenheim No. 1 Hole also had a favorable ore grade intersection. In view of these two holes and wall assays obtained from the one hundred foot level of the Korn Kob mine, additional drilling could delineate another large tactite zone. A minimum of four holes is needed to evaluate this area (approx. 1300 feet combined). Hole KK 16 should be deepened to 440 feet in order to verify the assays obtained in the workings below.

3. Additional holes should be drilled as needed by ESSEX to reliably establish tonnage and pit design. This should be consistent with the amount of development and production capital to be initially committed and all of the relevant risk factors involved.

Also, it is recommended that the upper 650' adit be extended along its present bearing until penetration is made through the andesite porphyry in which it presently terminates. Information thus acquired may be invaluable in solving the complex geologic relationship between the two ore zones. It will also be a valuable asset to have access to the lower levels of the Korn Kob mine. This will involve dewatering and timbering portions of the drifts.

## GEOLOGY

The Korn Kob is a contact metamorphic copper occurrence. The geology is very complex with respect to stratigraphy and structure. The major rock types in the area are the Abrigo formation, (Bolsa) quartzite, schist, granitics to gneisses and dikes of andesite porphyry, aplite, diabase and quartz.

The Abrigo limestone in the Korn Kob area is silicified and contains wollastonite and calcite. The limestone, which overlies the Bolsa quartzite with gradational contact, is the host for tactite mineralization. Stratigraphically the tactite overlies a sericite schist and grades upward into the siliceous limestone. The upper contact is very irregular as would be expected in a contact metamorphic zone. The ore zone ranges from thirty to four hundred feet wide at the surface and appears to narrow with depth to the northeast.

In southern Arizona, the Abrigo formation includes facies of quartzite in its upper part due to changes in depositional environment. Because of varying degrees of alteration and complex structural control, the author is not certain as to the identity of the quartzite. Therefore, the quartzite may be Bolsa or a facies of Abrigo or some of both. The quartzite members in the area are recrystallized and impregnated with varying amounts of quartz, epidote, chlorite and garnet. Copper assay values in the quartzite are small (< 0.2%) with few exceptions.

### Tactite Mineralogy:

The principal copper mineralization seems to be associated mostly with the garnet, chlorite schist or tactite. The tactite consists of considerable amounts of magnetite and hematite. The copper mineralization occurs primarily as cupriforous iron oxide and chrysocolla ( $\text{Cu SiO}_3 \cdot 2\text{H}_2\text{O}$ ). Traces of malachite and tenorite were noted in small amounts. With the exception of a few grains of pyrite and chalcopyrite, sulfides were totally lacking. Semi-quantitative x-ray fluorescence analysis conducted by Hazen Research Incorporated, showed a composite tactite sample to consist of approximately .36% copper, 9.1% iron (mostly non-magnetic) and 1.8% manganese. The balance being silicates, carbonates and some phosphates (apatite).

The tactite zone is consistently underlain by schist. The surface exposure of schist varies in thickness from twenty to two hundred feet. It is light grey, reddish brown and green in color. The schist is essentially all sericite however, there are biotite and actinolite facies. Locally the schist contains thin lenses of quartz. Where the schist overlies the granitics the contact is gradational from schist into a gneiss. The schist is unmineralized and provides a good indicator in exploration drilling. The schist is underlain by quartzite and granitic rocks (granite to granite-diorite).

The schist-quartzite contact is not well defined and very often is obscured by talus. The quartzite is locally strongly garnetized and intruded by epidote and quartz. The strongest introduction of epidote and quartz occurs in the quartzite which overlies the granitics while the strongest concentration of garnet occurs where the quartzite is more closely associated with the tactite. The possibility exists that the quartzite to the east is a facies of the Abrigo while the quartzite to the west and south of the tactite is the Bolsa. This is merely speculation as much faulting has occurred. The contact between the quartzite and the granitics is again very difficult to map. The two rock types have merged to produce a gneissic texture with varying composition.

The granitic rocks which underlie the Paleozoics are gneissic near the contact and strongly weathered. The intrusives are believed to be of Laramide age (25-45 million years) and range in composition from granite to granite-diorite. Most of the intrusives are high in potash feldspars thus putting them closer to the diorite series.

In addition to these major rock types, the area is marked by numerous dikes of andesite porphyry, diabase, aplite and quartz. The most prominent one being a nearly east-west striking andesite porphyry (Turkey Track) approximately twenty feet wide. The Turkey Track is characterized by a high potassium content and two pyroxenes (predominantly epidote). Some specimens show veinlets of epidote which are probably a result of deuteric process rather than post mineralization. Turkey Track andesite in the Redington area has been dated at approximately twenty six million years old. The other dikes appear to be of similar age and mark the latest igneous activity. None of the dikes are mineralized.

Structure in the area is very complex and obscure. The tactite zone is believed to be a result of Paleozoic sediments thrust over a granitic mass. A six hundred foot adit into the tactite - schist zone offers a good look at subsurface movement. The zone is highly fractured and displays numerous slickensides with as many as three directions of movement. A thrust fault would account for the complexity in the schist-tactite zone. A regional photo shows the drainage to be strongly controlled by block faulting. Several other faults were noted but show little displacement (or showed no evidence of lateral extent).

### DISCUSSION

The origin of ore emplacement at the Korn Kob is questionable. The mineralization is believed to be middle to late Laramide which coincides with most of the major copper occurrences in Arizona. The Paleozoic sediments have previously been thought to be a result of thrusting from the east. This is very possible however, another explanation exists.

Looking at the Pima county geologic map, the eastern and northeastern sides of the Catalina range are flanked with Paleozoic sediments. These sediments go from the Apache group on the west to Cretaceous rocks in the San Pedro Valley. This sequence would suggest that the sediments were intruded, uplifted and, in part, eroded off of the underlying granitic rocks. In particular, the Korn Kob Paleozoics may well be a remnant surrounded by younger igneous rocks. Samples taken from the quartzite-granitic contact strongly suggest an igneous contact. Had the sediments been in place and later intruded by Laramide intrusives, the limestone would be mineralized with the associated contact metamorphic mineralogy. Subsequent or contemporaneous with mineralization the schist zone could provide a slide plane and account for the complex movement. The movement would be down or eastward thus giving an apparent thrust appearance.

The other theory would have the Paleozoics thrust over the granitics. The literature is vague as to the origin of mineralization. The metamorphic zone could be produced by anamorphism, however, the presence of copper minerals would probably require igneous intrusives to introduce mineralizing solutions. The sediments may have been thrust over Precambrian granites and later intruded by Laramide rocks.

The complexity of the tectite occurrence is not solved nor are all of the questions answered. An effort has been made to solve some of the key questions as well as to air hypothetical situation. Detailed petrologic work would be needed in the contact zones to determine the actual sequence of events.

## CONCLUSIONS

Evaluation and interpretation of all presently available information on the Korn Kob elicits the following conclusions:

1. Upwards of 20 million tons of 0.43% copper ore in oxidized form has been delineated. Additional ore of similar grade may exist and could be proven by the drilling program recommended herein.

2. The possibility of other types of mineralization in the area should not be ruled out. The fact that Laramide granitics were intruded into, or adjacent to, the existing Abrigo limestones gives reason to consider the possibility of replacement deposits similar to those occurring at Bisbee, the old San Xavier area, and other high grade deposits such as found in the Empire and Whetstone Mountains. Also, the proximity to the San Manual Mine indicates that mineralizing fluids have penetrated the area. This fact indicates that other deposits may be found in this region.

Structurally, the hypothetical thrust together with E-W and N-S trending dikes indicate optimum localizing conditions for possible primary sulfide mineralization at depth. These features commonly accompany large porphyry copper deposits in the Southwest.

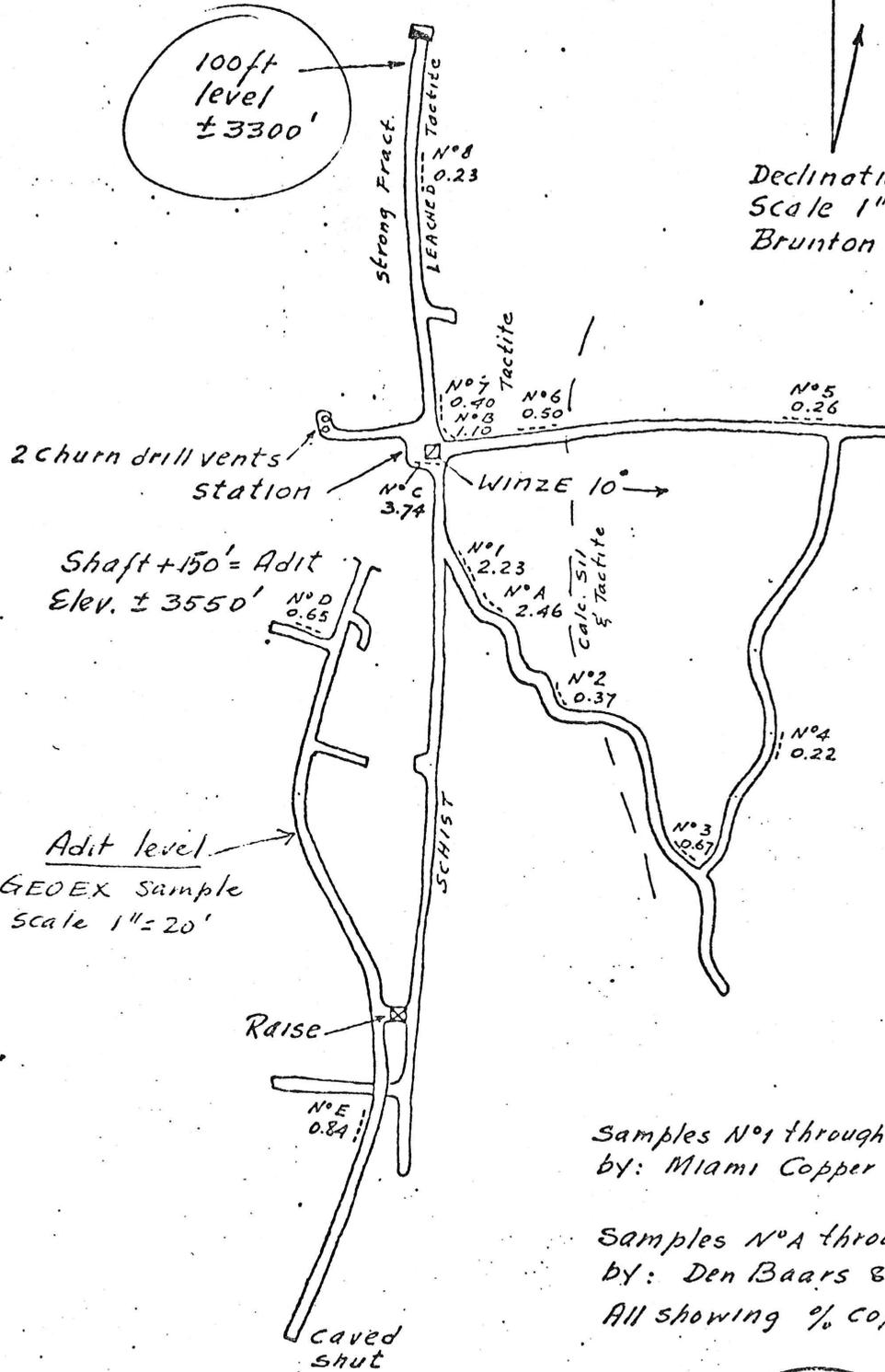
Possible significance of this occurrence with respect to sulfide ore in the immediate vicinity or regionally nearby, should not be ignored. However, proper work to follow up this potential may be difficult and expensive. This is because of inaccessibility over the rough terrain, geologic complexity, and possible thick post mineral cover in some places. Primary regional reconnaissance of the area will be essential to the efficiency of any such effort and it must be thorough and comprehensive to assure success. At least some preliminary work of this type is recommended before ESSEX abandons efforts in this district.

Korn Kob shaft is located on the Catalina #1 rim

Korn Kob shaft Collar E ± 3400'

100ft level ± 3300'

Declination 13°  
Scale 1" = 200'  
Brunton & Pace



See GEOEX Sample map Scale 1" = 20'

Samples N°1 through 8 taken by: Miami Copper Co.

Samples N°A through E taken by: Den Baars & Associates  
All showing % copper p.ton.

