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PPG INDUSTRIES, INC. / ONE GATEWAY CENTER / PITTSBURGH, PENNSYLVANIA 15222

March 24, 1975  
P.O. Box 2441  
Prescott,  
Az., 86301

Mr. Chris Ludwig  
Heinrich's Geoexploration  
P.O. Box 5964  
Tucson,  
Az., 85703

Dear Mr. Ludwig:

Enclosed please find the maps and analyses of most of Kalium's geochem work in the vicinity of the Jupiter mine, as you requested in our phone conversation this morning.

I am unable to locate the photo negative you requested so I'll check into its possible location. It may be up in Canada.

If I can be of any further assistance in this matter, please don't hesitate to get in touch.

Yours Sincerely,

A handwritten signature in cursive script that reads 'Bruce C. Fuller'. The signature is written in dark ink and is positioned above the typed name.

Bruce C. Fuller  
Geologic Field Assistant  
Kalium Chemicals Ltd.

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

*File*

Date Feb. 18, 1975  
To B.P. Edmonds  
Ron Brown  
From Bruce C. Fuller

Subject Jupiter Mine---Thomas Canyon  
Final Report

Reference

RECEIVED  
KALIUM CHEMICALS  
CORPORATION

FEB 20 1975

Location: The Jupiter Mine is located in Pima Co., Arizona, approximately 65 miles southwest of Tucson; it lies in the NW  $\frac{1}{4}$ , sec. 36, T19S, R7E, on 120 acres of state lease land held by a local prospector and optioned to Heinrick's Geoexploration (P.O. Box 5964, Tucson, Arizona 85703), through whom Kalium acquired the rights to do exploration work.

This property is located on the Eastern flank of the Baboquivari mountains. Topographic map coverage is provided through the USGS 15' series map, "Presumidio Peak", 1941. There is extremely limited geologic map coverage of this area. One available map is the geologic map of Pima and Santa Cruz counties, published by the Arizona Bureau of Mines (University of Arizona, Tucson), on a scale of 1:375,000 and a contour interval of 500 ft.

Thomas Canyon is located east of the Jupiter Mine in Secs 25; T19S, R7E, and secs 30, 31, & 32, T19S, R8E.

Geology: The regional geology includes cretaceous sediments which have been intruded by a major granodiorite stock. Both were later intruded by numerous rhyolitic dikes and sills believed to be the source of mineralizing solutions.

At the Jupiter mine the host rock is granodiorite, locally chloritized, sericitized, and silicified. The Jupiter mine itself contains numerous gold and silver veins and auriferous disseminated sulfides in altered country rock. The mine consists of several thousand feet of workings (recently mapped by Heinrick's) developed on these small and discontinuous veins, carrying a few % sulfides, primarily as pyrite, galena, and chalcopyrite. The surrounding country rock is altered and silicified and carries at best 1% disseminated pyrite.

The following concerns the southern portion of the Baboquivari mountains, where the Jupiter mine property and Thomas canyon are located. It is reprinted from Bulletin No. 137, Arizona Bureau of Mines, Mineral Technology Series No. 37, "Arizona Lode Gold Mines and Gold Mining" by E.D. Wilson, J.B. Cunningham, and G.M. Bulter (revised 1967), p. 180.

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

Date \_\_\_\_\_ Subject Jupiter Report---page 2  
To \_\_\_\_\_  
From \_\_\_\_\_ Reference \_\_\_\_\_

"In the southern portions of the Baboquivari mountains most of the gold-quartz veins so far explored occur near the foothill margin of a pediment along the eastern base of the range. Here the prevailing rocks consist of unmetamorphosed to schistose Cretaceous shales, conglomerates, and quartzites intruded by numerous dikes of granite and diorite porphyry. The veins occur within fault fissures which strike in various directions and dip from 15 degrees to nearly vertical. Their filling consists of coarse-grained white quartz and calcite, together with scattered bunches of pyrite, galena, and minor chalcopyrite. In places molybdenite is relatively abundant. Within the oxidized zone, which is only a few feet below the surface, the quartz is rather cellular and contains abundant limonite with some malachite. Sericite and secondary quartz are abundantly developed in the wall rocks. The gold of these veins is generally not visible, but it probably occurs in the sulfides and in their oxidation products."

History and Production: According to a report by E.B. Holt (mining engineer) in 1936 and acquired by Kalium through Heinrick's, this property was discovered by Charles Bent and Edward Hudson around 1879. It was originally named the Octopus mine. The owners were supposed to have erected a stamp mill in 1889 and are said to have milled approximately 2,000 tons of ore averaging \$12. per ton in gold and silver. Their mill later burned down.

In 1931 an individual named Lew Kemp spent in the neighborhood of \$150,000. on the property "carrying out 600 ft. of poorly directed development work and the erection of a 25 ton concentrating plant.-He failed and the mill was sold."

"During 1935 the Shattuck-Denn company did a small amount of work in the upper levels of the mine...Magma copper company took over the property during 1935 and did about 2,500 ft. of work in the lower level of the mine, but they failed to find sufficient ore for their requirements, suspending operations late in 1935."

The property then passed into the hands of an individual named O.C. Lamp, who shipped a small amount of ore from the property (allegedly 300 tons at \$8. and 8 tons at \$16.) Lamp is reputed to have owned another property in the vicinity of the Jupiter mine (called the Iowana, 6 miles from the Sasabe road and 62 miles from Tucson) from which a few shipments of table and flotation concentrates

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

Date \_\_\_\_\_ Subject Jupiter Report---page 3  
To \_\_\_\_\_  
From \_\_\_\_\_ Reference \_\_\_\_\_

were made. According to Lamp, these concentrates contained from 4 to 7 ounces of gold and 58 to 60 ounces of silver per ton. (Bulletin No. 137, p. 181)

This history is at best sketchy. There are no records of production available in the literature and there are few references made to the Jupiter mine.

Kalium felt there was the potential of developing a large tonnage, low grade deposit at the Jupiter mine (due to the increased prices of gold and silver), since the veins are too small and discontinuous to be mined alone. Before the property was drilled out, Willard Leedy, Kalium geologist, estimated there might be a potential of 25 million tons of open pit ore averaging \$8. per ton.

Kalium's Work: Kalium's first reconnaissance of this property was in March of 1974, at which time 22 samples were taken from surface and underground exposures. Five country rock samples averaged \$7.22 a ton (in gold and silver) and 17 vein samples (averaging 4 ft. in width) averaged \$23.59 per ton in gold and silver.

Kalium decided to proceed with further exploration, resulting in a lease agreement with Heinrich's in order to accomplish this. Between March and September, Kalium proceeded with further sampling of the outcrops in the vicinity of the Jupiter mine and with sampling on a more regional basis, especially to the east of the Jupiter mine in Thomas Canyon. After preliminary sampling, some claims were staked by Kalium in this area on BLM land. (An exact location map of these claims is unavailable and whether or not the claims were ever filed is not known at this time)

A sampling grid approximately 2500 ft. by 2000 ft. was laid out, centered around the Jupiter mine. 119 rock chip samples were taken at 100 and 200 ft. intervals. These geochem samples were analyzed for silver and gold by Rocky Mountain Geochemical laboratories of Prescott, Arizona. Geochem analyses were also done for Cu, Zn, Pb, Mo, and Arsenic for samples taken from the workings of the Jupiter mine and the grid area.

45 regional rock chip samples were collected and analyzed geochemically for Au, Ag, Cu, Pb, and Mo, resulting in some highly anomolous values (especially for Mo) in the Thomas Canyon area.

Sufficient anomolous values were obtained from the Jupiter grid area that it was decided that Kalium should proceed with a

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

Date \_\_\_\_\_ Subject Jupiter report---page 4  
To \_\_\_\_\_  
From \_\_\_\_\_ Reference \_\_\_\_\_

drilling program in order to better determine the value and extent of the mineralization both at the Jupiter mine and in Thomas Canyon. Kalium personnel involved in the sampling were Bill Leedy, Bill Barridge, and Pete Miller.

In September 1974, a bulldozer operator was hired to improve the roads leading into the property, and drilling bids were obtained. It was decided to use air-track drilling and to drill holes of approximately 150 ft. in depth. The drilling was awarded to R. Leo Searle (264 Est 7200 So., Midvale, Utah 84047), who arranged to lease equipment from Atlas Copco, Inc., of Tucson, Arizona.

29 drill hole sites were laid out along the switchback roads in the vicinity of the Jupiter mine workings on 50 ft. spacings; 6 drill sites were laid out in the vicinity of an abandoned shaft located approximately 1,000 ft. south of the workings.

6 additional drill sites were laid out in Thomas canyon corresponding to the areas of high anomolous sample values. The drilling in this area was also to be in partial fulfillment of the Arizona state requirements for claim validation.

Drilling Program: The drilling program commenced on October 18, 1974, and was completed November 1, 1974. 4245 ft. were drilled in the 29 holes at the Jupiter mine; 885 ft. were drilled in 6 holes located near the abandoned shaft; and 335 ft. were drilled in the 6 holes in Thomas canyon.

The drilling in Thomas canyon was hampered by sub-surface water. The deepest hole drilled was 110 ft. (as opposed to 150 at the Jupiter), and three holes were respectively 10, 20, and 20 ft. in depth.

In all a total of 5,465 ft. were drilled in 41 holes. Samples were collected at 5 ft. intervals from all holes. The samples were split in the field; from each sample interval a sample was taken for assay, and a library sample was saved for future reference. Samples to be assayed were sent via Hughes Air West air freight from Tucson to Kalium's laboratory in Regina. The reference samples were collected and returned to Kalium's field office in Prescott.

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

Date \_\_\_\_\_ Subject Jupiter Report---page 5  
To \_\_\_\_\_  
From \_\_\_\_\_ Reference \_\_\_\_\_

Kalium personnel involved in the drilling program were Bill Leedy, Bruce Fuller, and Colin Howard. For the duration of the drilling program, all stayed in the company trailer on the job site. Drilling was conducted 6 days a week approximately 10 hours a day, and was at times hampered by extremely unseasonal weather for Southern Arizona.

Samples from the Jupiter vicinity and the shaft area were assayed for gold and silver in ounces per ton, and for copper in ppm.

Samples from Thomas canyon were analyzed for Cu, Pb, Zn, and Mo in ppm and for gold and silver in ounces per ton.

The analyses were completed by Kalium's laboratory staff in Regina by the beginning of February, 1975.

After the completion of the drilling program, the 29 holes in the Jupiter mine vicinity and the 6 holes nearby in the vicinity of the shaft were surveyed. All holes were tied together and were tied into the U.S. government brass cap (1915) located at the section corner common to secs. 25, 26, 35, and 36, T19S, R7E. An elevation was obtained at each hole. The surveying was accomplished by Bruce Fuller.

Results: All in all the results obtained from the analyses of the drilling samples were extremely discouraging. The results seemed to confirm the fact that the Jupiter area was composed of small, discontinuous vein structures that had a few high isolated values for gold and silver. The country rock in no way contains values that could offer encouragement for a large tonnage, low grade open pit mining operation.

Most high grade values were obtained from quartz veins, where the drilling was quite slow compared to that of the host rock, granodiorite. In all holes a weathered zone was encountered that varied in thickness from 20 ft. to approximately 60 ft., averaging about 35 ft. The chips from drilling through this weathered zone tended to be darker than those of the unweathered zone, which were generally a light grey-green. There did not appear to be any significant correlation or difference between the values obtained from either zone. All were consistently low.

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

Date

Subject Jupiter Report---page 6

To

From

Reference

In several holes, significant pyrite was visible to the naked eye. There was little correlation between visible mineralization and assay value.

In computing economic values of the drilling program, gold was valued at \$150. per ounce, and silver was valued at \$5. per oz. It was decided to assign \$7.50 as the cutoff point (in terms of dollars per ton) for ore grade material. In computing tonnages, each drill hole was arbitrarily made the center of a 25 ft. square; thus each drill hole would define a volume  $25 \times 25 \times \text{depth}$ . Using 2.65 as the specific gravity of the host rock, one gets 12 cubic feet per ton. Thus tonnage was computed through the following formula:

$$\frac{25 \times 25 \times \text{interval}}{12}$$

It should be noted that this is of course only a very rough estimate of the total tonnage for this drilling project.

The average gold value per hole for the 29 holes drilled in the vicinity of the Jupiter workings varied from .001 oz/ton to .036 oz/ton. The average silver value per hole varied from .07 oz/ton to .77 oz/ton. Both of these highs came from drill hole J-20, and result in 5469 tons of \$9.25 rock. Other significant intervals encountered were:

1. DH J-9---- 120 ft (15-135) of \$7.60 rock (.034 Au & .50 Ag)
2. DH J-12--- 75 ft. (0-75) of \$7.50 rock (.03 Au & .60 Ag)
3. DH J-7---- 50 ft. (0-50) of \$8.05 rock (.038 Au & .47 Ag)

In summation the 29 Jupiter holes yielded 35,413 tons of ore grade material at a cutoff of \$7.50, a total economic value of \$286,816.

The average gold value for the 6 holes drilled in the vicinity of the shaft south of the Jupiter workings varied from .001 oz/ton to .043 oz/ton. The average silver value varied from .05 oz/ton to .79 oz/ton. Both of these highs occurred in drill hole SH-3, located near the top of a small knoll adjacent to several prospect pits. This hole yields 7,812 tons of \$10.40 rock. The total tonnage from the 6 shaft area holes is 8,854 tons, an economic value of \$90,677. There was no ore grade material from 3 of the 6 holes drilled.

Combining the 29 holes drilled in the vicinity of the Jupiter workings with the 6 holes drilled near the shaft, there is a total of 44,267 tons of ore grade rock at a cutoff of \$7.50, an economic value of \$377, 493.

# KALIUM CHEMICALS LIMITED

INTER-OFFICE CORRESPONDENCE

Date \_\_\_\_\_ Subject Jupiter Report---page 7  
To \_\_\_\_\_  
From \_\_\_\_\_ Reference \_\_\_\_\_

A chart is attached to this report showing for each of the 29 Jupiter holes and 6 shaft holes the average Au and Ag values per hole, the intervals of ore grade material, the depth at which they are found, and the particular assay values. Tonnages and value in dollars are also shown.

There were no significant results obtained from any of the six holes drilled in the Thomas canyon vicinity, in spite of some particularly high geochem results, and in spite of apparent heavy mineralization (pyrite) visible in the cuttings of one of the holes.

The following information is on file in Kalium's Prescott field office: maps showing the locations of all samples collected, the values of all samples collected, maps showing the locations of each drill hole, all survey data including elevations at the surface of each hole, and charts showing the assay value for each sample interval for each hole drilled, along with any pertinent observations made in the field. Also on file are all data available pertaining to land status and previous production, much of which was obtained through Heinrick's. A good bit of this data is also on file in Kalium's Regina office through Ron Brown and Colin Howard.

Conclusions: It was decided after a detailed sampling and drilling program that there was no cause for further exploration in either the vicinity of the old Jupiter mine or in Thomas canyon. After completion of the drilling program and analysis of the available data, Kalium's agreement with Heinrick's was terminated.

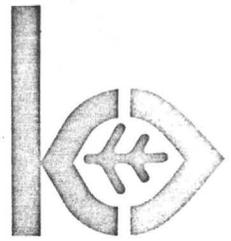
Sincerely,



Bruce C. Fuller  
Geologic Field Assistant  
Kalium Chemicals Ltd.  
Prescott, Arizona

*File Jupiter Prospect*

# Kalium Chemicals Limited



RE  
KALU

Mine: Kalium, Saskatchewan      Telex No. 031-2936    TWX No. 610-721-1219    Phone 527-0131  
Address all correspondence to: 400 Bank of Canada Building, Regina, Saskatchewan    Area Code 306

FEB 19 1975

February 14, 1975.

Mr. B.P. Edmonds  
Kalium Chemicals Limited  
#210, 105 Fillmore Street  
Denver, Colorado. 80206

Dear Sir:

Please find enclosed a brief report on the results from the Jupiter area drilling program. Assay reports and pertinent copies of maps are appended.

The results indicate that there is little potential of delineating sufficient ore grade material to support a viable mining operation.

The proposed follow-up work would probably only verify this conclusion.

Respectfully submitted,

*Colin Howard*

Mr. Colin D. Howard  
Minerals Technologist

REPORT ON  
THE JUPITER PROJECT  
PIMA CO ARIZONA

By:

Mr. Colin D. Howard  
Minerals Technologist  
February 14, 1975

CONTENTS

Introduction

Tonnage Calculations

Hole Evaluation

Conclusions

Recommendations

APPENDIX

General Map of Area

Detailed Map of Area

Map of Drill Holes Superimposed  
Over Old workings (Jupiter)

Elevation Contour Map (Jupiter)

Surface Gold Contour Map (Jupiter)

Surface Copper Contour Map (Jupiter)

Assay Results From Jupiter, Shaft and  
Thomas Canyon Areas

## JUPITER PROJECT, PIMA CO, ARIZONA

### INTRODUCTION

Three separate areas were drilled in the project area (see general map). The Jupiter area was drilled over the workings of the old Jupiter mine. This area was thought favorable to contain a fairly reasonable tonnage of low grade porphyritic gold ore. Also a geochemical surface rock chip sampling program had revealed this area contained anomalous gold values.

The Shaft area was drilled near an old exploration shaft in an area where the geochemical surface rock chip samples had indicated a weak gold anomaly.

The Thomas Canyon area was drilled to investigate several highly anomalous molybdenum results from the regional geochemical survey as well as to validate claims staked in this area by Kalium.

The Shaft and Jupiter areas are on land held under lease by Heinrichs Geoexplorations of Tucson, Arizona and optioned by Kalium.

### RESULTS

#### TONNAGE CALCULATIONS

Tonnages are calculated using a 25 foot square of influence for each drill section. This yields a 3125 cubic foot volume for each 5 foot drill intersection and at a specific gravity of 2.7 this yields a tonnage of 263.3 tons.

Allowing for dilution of \$7.50 per ton, Jupiter yields 22,828 tons and Shaft yields 8,271 tons at an average grade of 0.042 oz/ton Au and 0.40 oz/ton Ag. Values were calculated assuming a gold price of \$150.00 per ounce and a silver price of \$3.00 per ounce)

(The tonnages by hole follow.)

TONNAGES BY HOLE ( \$7.50 CUTOFF )

JUPITER

J-2	263.3	Tons @ \$ 8.67
-3	789.9	12.04
-4	263.3	8.22
-7	1053.2	15.15
-8	789.9	9.80
-9	2633.0	12.64
-10	263.3	8.16
-11	526.6	17.30
-12	789.9	18.16
-16	263.3	8.22
-17	526.6	18.47
-18	789.9	10.50
-19	263.3	10.92
-20	1843.1	14.03
-21	263.3	10.23
-26	526.6	17.30
-28	526.6	8.43
-29	789.9	11.98
Total	<u>13,165.0</u>	Tons @ \$13.00

SHAFT

SH-2	263.3	Tons @ \$13.98
-3	1843.1	28.00
-4	526.6	8.01
-6	263.3	9.57
Total	<u>2,896.3</u>	Tons @ \$21.42

CONCLUSIONS

The Thomas Canyon area showed no results that would at this time warrant follow-up work. Even surface drill samples located directly above the sample locations of the anomalously high molybdenum values failed to reveal indications of ore grade material.

Both Shaft and Jupiter areas encountered small zones of economic levels of gold-silver mineralization but not in contiguous zones nor in sufficient tonnages to warrant economic interest or to infer higher tonnages.

RECOMMENDATIONS (JUPITER AND SHAFT AREAS)

Although the possibility of discovering sufficient further economic mineralization to warrant continued interest in this property seems weak, there are two relatively inexpensive methods of checking for further mineralization. The first thing that should be done is a detailed geological map of the immediate area, paying close attention to quartz veins and fracture zones. This should be done both on surface and in the underground workings to attempt to correlate the geology with known mineralization underground. Secondly, the plots of gold and copper in surface samples (appendix) over the drilled area on Jupiter indicate that there is a source of mineralization up hill from this drilled area and a detailed surface sampling program (possibly with a Winkie drill) may define its source.

All in all though, the potential of finding sufficient further ore grade material to even start to make this property economically feasible seems remote; the above mentioned possible work would probably just serve to verify this conclusion.

/plk

Job # 881 | F 4/11/75

John Simions  
Called from Casper  
Wyo.

Expects to be here  
late next week or  
early following week, i.e.:  
17-18 to 21 or 22 April.

Grey #681 3/20/75

Collect (602) 267-0581

Kelsey Boltz - Nuclear Dynamics

Mailed: 3/22/75 Attn N. Eastwood. or  
Mr. Boltz.

Boltz called 3/24/75 & got dope over phone.

W.

2 Calls, 3/8/75  
3/8/75 Golden Colorado  

---

Ken Nickerson

1:50  
1:49 (303) 985-8491

1 Minute  
Clock Job #88)

---

W.

Geological Engineer - Mining & Oil  
Licensed Marine Engineer

Registered Professional Engineer - Colorado No. 4616  
Registered Geologist - California No. 862

**K. W. NICKERSON**  
EXPLORATION CONSULTANT

12431 West Alameda Drive  
Denver, Colorado 80228

3-15-75

INTERNATIONAL  
**GEOEX**  
Cable: GEOEX 

REC'D MAR 18 1975 REC'D

BOX 5984 TUCSON, ARIZONA 85708

Phone: (AREA 602) 629-8578

Walt:

The Jupiter Mine info came in yesterday. It certainly looks interesting. Will follow up on it as time permits.

Giles Reynolds was up last week and it looks as though Waurita is progressing.

Please excuse the scribbling, but no girl here on Saturday, and I wanted to let you know I got the Jupiter material.

Best Regards,

Ken

MEMO FROM:

Jupite

DATE:

TO:

≡ 30 days "free" (7 Apr.)  
out \$60,000

May 7 "total buy out" of  
State leases.

or \$120,000 buy out and  
\$1200<sup>00</sup> / no rental.  
for 1 yr.

Cost #881



NEW LABORATORY — MAIN 2-4836

**HAWLEY & HAWLEY**

ASSAYERS AND CHEMISTS, INC.

~~DOUGLAS, ARIZONA~~  
1802 WEST GRANT ROAD  
TUCSON, ARIZONA

3/12/75

Boyle, Billy, Thompson Shoemaker, Mr. Shoemaker  
792-4800  
Nelson Ranch Properties Represents, Mr. Nelson  
locally.

114 West Tenth Street

K.C., Mo. 64105

Attention: Mr. Nelson

(Large Cattle Ranch.)

"No interest in mineral  
business" says Shoemaker.

W.

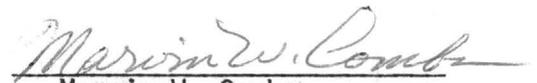


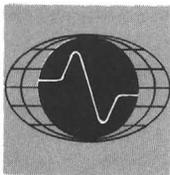
**HEINRICHS GEOEXPLORATION COMPANY**

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

February 20, 1975

I hereby acknowledge receipt of five hundred dollars (\$500.00), in full payment for the eleventh (11th) month's rental under the April 23, 1974, Option Agreement between Kalium Chemicals Limited and Messers. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 1973, Option Agreement between Messers. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through March 19, 1975, and April 7, 1975, respectively.

  
Marvin W. Combs



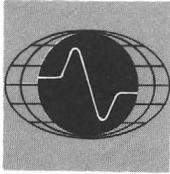
**HEINRICHS GEOEXPLORATION COMPANY**

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

January 23, 1975

I hereby acknowledge receipt of five hundred dollars (\$500.00), in full payment for the tenth (10th) month's rental under the April 23, 1974, Option Agreement between Kalium Chemicals Limited and Messers. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 1973, Option Agreement between Messers. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through February 19, 1975, and March 7, 1975, respectively.

  
Marvin W. Combs

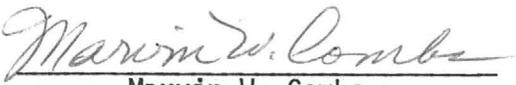


**HEINRICHS GEOEXPLORATION COMPANY**

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

December 23, 1974

I hereby acknowledge receipt of five hundred dollars (500.00), in full payment for the ninth (9th) month's rental under the April 23, 1974, Option Agreement between Kalium Chemicals Limited and Messers. Ludwig, Marlatt and Heinrichs which incorporated the November 7, 1973, Option Agreement between Messers. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through January 19, 1975, and February 7, 1975, respectively.

  
Marvin W. Combs



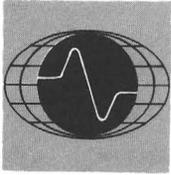
**HEINRICHS GEOEXPLORATION COMPANY**

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

November 21, 1974

I hereby acknowledge receipt of five hundred dollars (500.00), in full payment for the eighth (8th) month's rental under the April 23, 1974 Option Agreement between Kalium Chemicals Limited and Messers. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 1973, Option Agreement between Messers. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through December 19, 1974, and January 7, 1975, respectively.

  
Marvin W. Combs  
Marvin W. Combs



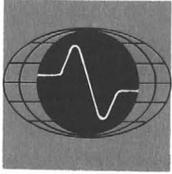
**HEINRICHS GEOEXPLORATION COMPANY**

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

October 25, 1974

I hereby acknowledge receipt of five hundred dollars (500.00), in full payment for the seventh (7th) month's rental under the April 23, 1974, option Agreement between Kalium Chemicals Limited and Messers. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 1973 Option Agreement between Messers. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through November 19, 1974 and December 7, 1974, respectively.

  
Marvin W. Combs

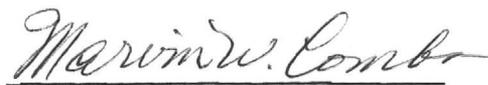


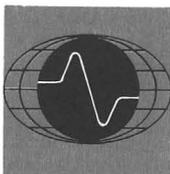
**HEINRICHS GEOEXPLORATION COMPANY**

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

September 19, 1974

I hereby acknowledge receipt of five hundred dollars (500.00), in full payment for the sixth (6th) month's rental under the April 23, 1974 Option Agreement between Kalium Chemicals Limited and Messers. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 1973 Option Agreement between Messers. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through October 19, 1974 and November 7, 1974, respectively.

  
Marvin W. Combs



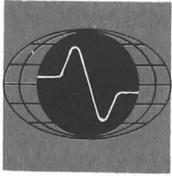
HEINRICHS GEOEXPLORATION COMPANY

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

August 27, 1974

I hereby acknowledge receipt of five hundred dollars (\$500.00), in full payment for the fifth (5th) month's rental under the April 23, 1974 Option Agreement between Kalium Chemicals Limited and Messrs. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 197<sup>3</sup>~~4~~, Option Agreement between Messrs. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through September 19, 1974, and October 7, 1974, respectively.

Marvin W. Combs

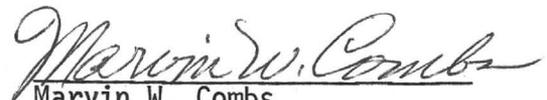


**HEINRICHS GEOEXPLORATION COMPANY**

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

July 22, 1974

I hereby acknowledge receipt of five hundred dollars (\$500.00), in full payment for the fourth (4th) month's rental under the April 23, 1974 Option Agreement between Kalium Chemicals Limited and Messrs. Ludwig, Marlatt and Heinrichs which incorporates the November 7, 1973, Option Agreement between Messrs. Ludwig, Marlatt and Heinrichs and yourself, keeping subject agreements in full force through August 19, 1974, and September 7, 1974, respectively.

  
Marvin W. Combs

## OPTION AGREEMENT

THIS OPTION AGREEMENT is made and entered into this 23rd day of April, 1974, by and between CHRIS S. LUDWIG, JOHN W. MARLATT, and WALTER E. HEINRICHS, JR., hereinafter referred to collectively as "OPTIONORS," and KALIUM CHEMICALS LIMITED, a Saskatchewan corporation, hereinafter referred to as "KALIUM," for the purpose of setting forth the terms and conditions upon which OPTIONORS grant to KALIUM an option to acquire all of their right, title and interest in and to six mining leases issued by the State of Arizona to Marvin W. Combs (hereinafter referred to as "COMBS") and the subject of a certain Option Agreement dated November 7, 1973, between COMBS and OPTIONORS (a copy of which has been attached hereto and incorporated herein as Exhibit "A"), and during the period this Option Agreement is in effect and prior to its exercise, the terms and conditions under which OPTIONORS grant to KALIUM the exclusive right to enter upon the land covered by said mining leases and to explore and test the same for mineral deposits.

### 1.0 The Property and Representations.

1.1 Reference in this Option Agreement to the "mining leases" means six (6) contiguous type B twenty (20) year Mineral Leases issued by the State of Arizona, covering lands located in Section 36, Township 19 South, Range 7 East, Pima County, Arizona, more particularly described as follows:

Lease No. 4154	S $\frac{1}{2}$ , SW $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4155	N $\frac{1}{2}$ , SW $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4156	N $\frac{1}{2}$ , SE $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4157	S $\frac{1}{2}$ , SE $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4193	W $\frac{1}{2}$ , NE $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued March 31, 1971
Lease No. 4194	E $\frac{1}{2}$ , NW $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued March 31, 1971

1.2 OPTIONORS represent and warrant:

1.201 That they are the sole optionees under Exhibit "A";

1.202 That COMBS, the optionor under said Exhibit "A", is the sole and exclusive owner of the mining leases, and that the title to such mining leases is merchantable, free and clear of all liens, claims or encumbrances;

1.203 That the mining leases consist of the properties described in 1.1 above;

1.204 That all acts of location, annual work requirements, rental payments, notice and filing requirements, and any and all other requirements of the State of Arizona and of the United States have been complied with to the date of the signing of this Option Agreement;

1.205 That all the terms, conditions and requirements of said Exhibit "A" have been complied with to the date of the signing of this Option Agreement and will be complied with throughout the term hereof;

1.206 That pursuant to the terms of Exhibit "A" they are authorized and empowered to assign and transfer all of their rights, title and interest under said Exhibit "A" to KALIUM.

1.207 That, by the terms of said mining leases COMBS is entitled, and OPTIONORS do hereby authorize and direct him, to assign and transfer all of his right, title and interest in said mining leases directly to KALIUM in the event that KALIUM exercises its option under 2.2.

## 2.0 The License and Option.

2.1 OPTIONORS hereby grant unto KALIUM an exclusive license, right and privilege to enter upon the lands covered by the mining leases described in 1.1 for the purpose of exploring and testing

for ores, minerals and materials located on, in or under these lands, and OPTIONORS do hereby grant unto KALIUM full and exclusive right of possession of said mining leases while this Option Agreement is in effect.

2.101 In the conduct of its exploratory and testing activities under 2.1 above, and prior to the exercise of the option granted in 2.2 below, KALIUM is granted all rights and licenses necessary, convenient or desirable to the extent of the law to which OPTIONORS are entitled in conducting such activities, including, but not by way of limitation, the right to drill; trench; dig test pits; take samples for assaying, testing and analyzing; or do any other acts deemed necessary by KALIUM in order that it may determine to its satisfaction the mineral or material values in, on or under said mining leases; provided, however, that prior to the exercise of the option herein granted, ore or rock may not be removed in commercial quantities for the purpose of commercial sale.

2.102 Any machinery, structures, equipment or appliances used by KALIUM in, on or under the lands covered by the mining leases shall not be deemed to be affixed to or become a part of the mining leases, and KALIUM shall have a period of six (6) months following the expiration of the option period or prior termination to recover and remove the same from the mining leases.

2.2 OPTIONORS do hereby grant, bargain and sell unto KALIUM the exclusive right, privilege and option for a period ending at midnight on April 19, 1975, to purchase from OPTIONORS all right, title and interest in and to the mining leases. to be acquired by the OPTIONORS from COMBS pursuant to paragraphs 2 and 3 of Exhibit "A".

2.201 In the event that KALIUM notifies OPTIONORS of its election to exercise the option granted under 2.2, KALIUM shall

pay to OPTIONORS a purchase price in the amount of Sixty Thousand Dollars (\$60,000.00) and OPTIONORS shall immediately exercise their option to acquire said mining leases from COMBS, pursuant to paragraphs 2 and 3 of Exhibit "A", and OPTIONORS shall pay to COMBS the purchase price of Thirty Thousand Dollars (\$30,000.00); OPTIONORS will then take all steps necessary to insure that title to the mining leases is assigned and transferred to KALIUM.

2.202 In the event that KALIUM elects to exercise its option granted under 2.2, the purchase money (\$60,000.00) shall be paid in the form of two (2) checks, each in the amount of Thirty Thousand Dollars (\$30,000.00). One such check shall be payable to COMBS and shall be placed in escrow pursuant to paragraphs 3 and 7 of Exhibit "A". The other check shall be payable to OPTIONORS and shall be placed in escrow pending the assignment of the mining leases to KALIUM by the State of Arizona. If, within a reasonable time of the exercise of said option and for any reason said mining leases are not assigned to KALIUM, then the full purchase price (\$60,000.00) shall be refunded to KALIUM.

2.203 KALIUM shall have a period of fifteen (15) days after exercise of its option under 2.2 to examine title to the lands covered by said mining leases. If said title is not merchantable, the full purchase price of Sixty Thousand Dollars (\$60,000.00) shall be refunded to KALIUM.

### 3.0 Considerations.

3.1 Upon execution of this Option Agreement, KALIUM shall pay to OPTIONORS the sum of Two Thousand Four Hundred Dollars (\$2,400.00), which shall keep this Option Agreement in full force and effect through July 19, 1974.

3.2 Commencing on July 19, 1974, and upon the 19th day of each succeeding month during which this Option Agreement is in effect and until its expiration, prior termination or the exercise

of the option granted hereunder, KALIUM shall pay to OPTIONORS the sum of Eight Hundred Dollars (\$800.00) per month.

3.3 In the event that KALIUM elects to exercise its option under 2.2, said purchase price of Sixty Thousand Dollars (\$60,000.00) shall be separate from and in addition to payments under 3.1 and 3.2 above.

3.4 Pursuant to paragraph 2(b) of Exhibit "A", OPTIONORS shall forthwith notify COMBS of their intention to extend the term of said Exhibit "A"; and, commencing upon May 7, 1974, and upon the 7th day of each succeeding month during which this Option Agreement is in effect and until its expiration, prior termination or the exercise of the option granted hereunder, OPTIONORS shall pay to COMBS the sum of Five Hundred Dollars (\$500.00) per month, as required by paragraph 2(b) of Exhibit "A".

3.5 During the period this Option Agreement is in effect and until its expiration, prior termination or the exercise of the option granted hereunder, KALIUM shall perform all assessment work requirements on the mining leases, and shall record or furnish to OPTIONORS for recording affidavits of such performance.

#### 4.0 Default and Termination.

4.1 KALIUM shall hold OPTIONORS harmless from any liability to third persons for property damage or personal injury to such third persons ensuing out of its operations hereunder and not caused or contributed to by the acts or omissions of OPTIONORS.

4.2 Failure by KALIUM to perform or comply with any of the terms, obligations or conditions of this Option Agreement shall not automatically terminate this Option Agreement nor render it null and void; but in such case, OPTIONORS shall notify KALIUM in writing of such breach and KALIUM shall have a period of thirty (30) days after receipt of such notice within which to cure the default; and if said default shall not have been cured within such thirty (30) day period, OPTIONORS may terminate this Option

Agreement by giving KALIUM written notice of such termination. In the event that this Option Agreement is terminated by reason of such default by KALIUM, OPTIONORS shall not be entitled to recover any damages therefor or to pursue any remedies whatsoever other than payments due and owing up to and including the date of termination pursuant to 3.2 above.

4.3 In the event that OPTIONORS fail to perform or comply with any of the terms, obligations or conditions of Exhibit "A" or are otherwise in default thereunder, COMBS shall notify KALIUM of such default; and if such default is not cured, COMBS shall permit all right, title and interest of OPTIONORS under Exhibit "A" to be assigned to KALIUM.

4.4 Upon the giving of thirty (30) days notice in writing to OPTIONORS, KALIUM may terminate this Option Agreement and thereafter be relieved of all obligations hereunder after the effective date of said termination.

#### 5.0 Notices and Payment.

5.1 Any notice or payment which must or may be given under the terms of this Option Agreement shall be properly given or made if sent registered or certified mail, cost of delivery prepaid, to the party for whom it is intended at the following address:

As to OPTIONORS: Chris S. Ludwig  
P. O. Box 5964  
Tuscon, Arizona 85703

As to KALIUM: Kalium Chemicals Limited  
400 Bank of Canada Building  
Regina, Saskatchewan, Canada

#### 6.0 Intent of Parties.

6.1 The parties hereto agree that they and each of them will execute such further agreements, instruments and documents as may be reasonably required to give full effect to this

Option Agreement and in particular to set forth more fully such details as may be required to effectuate this Option Agreement, and the parties hereto declare that in entering into this Option Agreement they are each acting in the greatest good faith and with the intention of carrying out the full purpose and intent hereof.

6.2 This Option Agreement is made expressly and unconditionally subject to the terms and conditions of Exhibit "A".

7.0 Heirs, Successors and Assigns.

7.1 All the provisions, terms and conditions of this Option Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, successors and assigns.

7.2 Any sale, assignment, transfer or disposition of this Option Agreement shall expressly and unconditionally be subject to the terms and conditions hereof and to the terms and conditions of Exhibit "A".

IN WITNESS WHEREOF, this Option Agreement has been executed as of the day and year first above written.

KALIUM CHEMICALS LIMITED:

OPTIONORS:

By B. R. Willett, President

Chris S. Ludwig  
Chris S. Ludwig

John W. Marlatt  
John W. Marlatt

Walter E. Heinrichs, Jr.  
Walter E. Heinrichs, Jr.





April 23, 1974

Mr. Britton White, Jr.  
Holland & Hart  
Attorneys at Law  
500 Equitable Building  
730 Seventeenth Street  
Denver, Colorado 80202

Re: Option Agreement with  
Kalium Chemicals Limited

Dear Mr. White:

Thank you for your letter of April 22, 1974, enclosing three copies of the latest draft of the referenced Agreement.

Enclosed are three signed copies of the Agreement as requested, which we understand you will pass on to Kalium for execution.

Also enclosed is the signed carbon copy of your letter of April 15th.

Sincerely yours,

J. W. Marlatt

JWM:mt

Enclosures

# HOLLAND & HART

ATTORNEYS AT LAW

500 EQUITABLE BUILDING  
730 SEVENTEENTH STREET  
DENVER, COLORADO 80202

TELEPHONE AREA CODE 303 292-9200

CABLE ADDRESS HOLHART, DENVER

April 22, 1974

JOSIAH G. HOLLAND  
STEPHEN H. HART  
JOHN L. J. HART  
WILLIAM D. EMBREE, JR.  
JAMES L. WHITE  
PATRICK M. WESTFELDT  
CLAUDE M. MAER, JR.  
ROBERT P. DAVISON  
JOHN FLEMING KELLY  
FRANK H. MORISON  
WILLIAM C. McCLEARN  
JAY W. TRACEY, JR.  
JOHN ALLEN MOORE  
BEN E. CHIDLAW  
JAMES E. HEGARTY  
FIELD C. BENTON  
DAVID BUTLER  
J. MICHAEL FARLEY  
WARREN L. TOMLINSON  
BRUCE T. BUELL  
DON D. ETTER  
JAMES T. MORAN

HARRY L. HOBSON  
KENNETH D. HUBBARD  
ROBERT L. VER SCHURE  
GORDON G. GREINER  
ROBERT H. DURHAM, JR.  
WILLIAM E. MURANE  
L. WILLIAM SCHMIDT, JR.  
JAMES P. LINDSAY  
EDWIN S. KAHN  
SAMUEL P. GUYTON  
JOHN S. CASTELLANO  
DENNIS M. JACKSON  
ROBERT E. BENSON  
DONALD O. KINONEN  
RICHARD M. KOON  
CHARLES T. BRANDT  
ROBERT T. CONNERY  
HARADON BEATTY  
ARTHUR C. DAILY  
JEFFREY C. POND  
JOHN UNDEM CARLSON

RANDY L. PARCEL  
DAVID G. PALMER  
JUDITH BONNIE KOZLOFF  
MICHAEL D. MARTIN  
BRUCE W. SATTLER  
RAUL N. RODRIGUEZ  
JACK L. SMITH  
JOHN D. COOMBE  
EUGENE F. MCGUIRE  
LINDELL L. GUMPER  
SOLOMON N. BARON  
THOMAS A. FAULKNER  
ROBERT J. MOIR

MARK R. LEVY  
R. BROOKE JACKSON  
PAUL T. RUTTUM  
BRITTON WHITE, JR.  
WILEY E. MAYNE, JR.  
RICHARD T. CASSON  
GREGORY A. EURICH  
CHRISTOPHER N. SOMMER  
EDWARD M. GILES  
ALAN E. BOLES, JR.  
GERALD W. GRANDEY  
STEPHEN L. PEPPER  
THERESA W. DORSEY

Mr. J. W. Marlatt  
Heinrichs Geoexploration Company  
606 West Grant Road  
P. O. Box 5964  
Tuscon, Arizona 85703

HEINRICHS  
GEOEX  
Cable: GEOEX  
REC'D APR 23 1974  
BOX 5964 TUCSON, ARIZONA 85703  
Phone: (AREA 602) 623-0578

Re: Option Agreement with Kalium Chemicals Limited

Dear Mr. Marlatt:

I have enclosed three copies of the latest draft of the referenced Agreement, incorporating all of the changes which we discussed in our telephone conversation of April 19. If you could have these signed and returned to me, I will pass them on to Kalium for execution and will transmit Kalium's check for \$2,400.00 to you.

If you have any questions, don't hesitate to contact me.

Very truly yours,

*Britton White, Jr.*  
Britton White, Jr.  
for HOLLAND & HART

BW:jb

Enc.

*my copy / 2 copies  
to V 6 / - 120  
T L W R V 156*

April 23, 1974

Mr. B. P. Edmonds  
Mining Manager  
Kalium Chemicals Limited  
Suite 210, 105 Fillmore Street  
Denver, Colorado 80206

Dear Mr. Edmonds:

Thank you for your letter of April 15, 1974, enclosing four copies of an Option Agreement between Heinrichs GEOEXploration and Kalium Chemicals covering the conditions as outlined in our second proposal of our letter dated April 5th.

As of this date the signed agreements have been sent to Mr. White of Holland and Hart.

We also hope that the ore body is a substantial one.

Sincerely yours,

J. W. Marlatt

JWM:mt

**Kalium Chemicals Limited**

Suite 210, 105 Fillmore Street, Denver, Colorado 80206

B. P. Edmonds  
Mining Manager

**HEINRICHS  
GEOEX**

Cable: GEOEX



REC'D APR 18 1974 REC'D

BOX 5964 TUCSON, ARIZONA 85703

Phone: (AREA 602) 623-0578

15 April 1974

Mr. J. W. Marlatt  
HEINRICHS GEOEXPLORATION COMPANY  
806 West Grant Road  
Tucson, Arizona 85703

Dear Mr. Marlatt:

Attached are four (4) copies of an Option Agreement between Heinrichs Geoexploration and Kalium Chemicals covering the conditions as outlined in your second proposal of your letter dated April 5th. Please execute these and return them to Holland and Hart, 500 Equitable Building, 730 Seventeenth Street, Denver, Colorado 80202. Holland and Hart hold a check drawn in favor of Heinrichs Geoexploration Company in the amount of \$2,400.00 that will be forwarded to you upon execution of the papers.

I trust that you will find this agreement to your satisfaction and hope that we are dealing with a substantial ore body. If any revisions are required, please contact either Randy Parcel of Holland and Hart or myself.

Very truly yours,

*B. P. Edmonds*

BPE:ml  
Attachment

*7 0061 1000  
6 0000 1000*

4/19/74

Barney Edmonds  
Kaliem Chem.  
Denver.

(303) 399-0786

9:05 - 9:17

Phoned him about points in option.  
He, or Paul, will phone back.

3:01 pm.

Britton White Jr of Holloway & Hart phoned  
& read proposed charges. I accepted.  
He will ~~be~~ type up new agreement &  
send to Kaliem who will send  
on to us. Expect it Tues or Wed.

1<sup>st</sup> paragraph - Any problems about the state of  
Arizona transferring the lease to Kallium  
because they are a Canadian Corp.?

page 2 { 1.204 } We would have to keep up  
assessment work + may payments ??

page 2 §3 { 2.1 }  
                  { 2.101 } we can ~~not~~ <sup>only</sup> assign or grant  
what rights we have according to  
all applicable rights of others & laws etc.  
i.e. May cross private land for  
access + we can't give permission  
i.e. State might require environmental  
impact assessment prior to  
trenching, digging etc.

page 38.4 2.201 We have to pay Combs before we can get the 60,000<sup>\*</sup>

page 5 4.1 Desires.

(303) 399-0786

7  
8  
9

OPTION AGREEMENT

THIS OPTION AGREEMENT is made and entered into this \_\_\_\_\_ day of April, 1974, by and between CHRIS S. LUDWIG, JOHN W. MARLATT, and WALTER E. HEINRICHS, JR., hereinafter referred to collectively as "OPTIONORS," and KALIUM CHEMICALS LIMITED, a Saskatchewan corporation, hereinafter referred to as "KALIUM," for the purpose of setting forth the terms and conditions upon which OPTIONORS grant to KALIUM an option to acquire all of their right, title and interest in and to six mining leases issued by the State of Arizona to Marvin W. Combs (hereinafter referred to as "COMBS") and the subject of a certain Option Agreement dated November 7, 1973, between COMBS and OPTIONORS (a copy of which has been attached hereto and incorporated herein as Exhibit "A"), and during the period this Option Agreement is in effect and prior to its exercise, the terms and conditions under which OPTIONORS grant to KALIUM the exclusive right to enter upon the land covered by said mining leases and to explore and test the same for mineral deposits.

1.0 The Property and Representations.

1.1 Reference in this Option Agreement to the "mining leases" means six (6) contiguous type B twenty (20) year Mineral Leases issued by the State of Arizona, covering lands located in Section 36, Township 19 South, Range 7 East, Pima County, Arizona, more particularly described as follows:

Lease No. 4154	S $\frac{1}{2}$ , SW $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4155	N $\frac{1}{2}$ , SW $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4156	N $\frac{1}{2}$ , SE $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4157	S $\frac{1}{2}$ , SE $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued Nov. 30, 1970
Lease No. 4193	W $\frac{1}{2}$ , NE $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued March 31, 1971
Lease No. 4194	E $\frac{1}{2}$ , NW $\frac{1}{4}$ , NW $\frac{1}{4}$	Issued March 31, 1971

1.2 OPTIONORS represent and warrant:

1.201 That they are the sole optionees under Exhibit "A";

1.202 That COMBS, the optionor under said Exhibit "A", is the sole and exclusive owner of the mining leases, and that the title to such mining leases is merchantable, free and clear of all liens, claims or encumbrances;

1.203 That the mining leases consist of the properties described in 1.1 above;

1.204 That all acts of location, annual work requirements, rental payments, notice and filing requirements, and any and all other requirements of the State of Arizona and of the United States have been complied with to the date of the signing of this Option Agreement and ~~will continue to be complied with throughout the term hereof;~~ *Kalium promises to do same + provide offset*

1.205 That all the terms, conditions and requirements of said Exhibit "A" have been complied with to the date of the signing of this Option Agreement and will be complied with throughout the term hereof;

1.206 That pursuant to the terms of Exhibit "A" they are authorized and empowered to assign and transfer all of their rights, title and interest under said Exhibit "A" to KALIUM.

1.207 That, by the terms of said mining leases COMBS is entitled, and OPTIONORS do hereby authorize and direct him, to assign and transfer all of his right, title and interest in said mining leases directly to KALIUM in the event that KALIUM exercises its option under 2.2.

## 2.0 The License and Option.

2.1 OPTIONORS hereby grant unto KALIUM an exclusive license, right and privilege to enter upon the lands covered by the mining leases described in 1.1 for the purpose of exploring and testing

for ores, minerals and materials located on, in or under these lands, and OPTIONORS do hereby grant unto KALIUM full and exclusive right of possession of said mining leases while this Option Agreement is in effect.

2.101 In the conduct of its exploratory and testing activities under 2.1 above, and prior to the exercise of the option granted in 2.2 below, KALIUM is granted all rights and licenses necessary, convenient or desirable <sup>to enter, plan or carry</sup> ~~to it~~ in conducting such activities ~~in any way it desires~~, including, but not by way of limitation, the right to drill; trench; dig test pits; take samples for assaying, testing and analyzing; or do any other acts deemed necessary by KALIUM in order that it may determine to its satisfaction the mineral or material values in, on or under said mining leases; provided, however, that prior to the exercise of the option herein granted, ore or rock may not be removed in commercial quantities for the purpose of commercial sale.

2.102 Any machinery, structures, equipment or appliances used by KALIUM in, on or under the lands covered by the mining leases shall not be deemed to be affixed to or become a part of the mining leases, and KALIUM shall have a period of six (6) months following the expiration of the option period or prior termination to recover and remove the same from the mining leases.

2.2 OPTIONORS do hereby grant, bargain and sell unto KALIUM the exclusive right, privilege and option for a period ending at midnight on April 19, 1975, to purchase from OPTIONORS all right, title and interest in and to the mining leases, to be acquired by the OPTIONORS from COMBS pursuant to paragraphs 2 and 3 of Exhibit "A".

2.201. In the event that KALIUM notifies OPTIONORS of its election to exercise the option granted under 2.2, KALIUM shall

pay to OPTIONORS a purchase price in the amount of Sixty Thousand Dollars (\$60,000.00) and OPTIONORS shall immediately exercise their option to acquire said mining leases from COMBS, pursuant to paragraphs 2 and 3 of Exhibit "A", and OPTIONORS shall pay to COMBS the purchase price of Thirty Thousand Dollars (\$30,000.00); OPTIONORS will then take all steps necessary to insure that title to the mining leases is assigned and transferred to KALIUM.

2.202 In the event that KALIUM elects to exercise its option granted under 2.2, the purchase money (\$60,000.00) shall be placed in <sup>escrow</sup> pending the assignment of the mining leases to KALIUM by the State of Arizona. If, within a reasonable time of the exercise of said option and for any reason said mining leases are not assigned to KALIUM, then the full purchase price (\$60,000.00) shall be refunded to KALIUM.

2.203 KALIUM shall have a period of fifteen (15) days after exercise of its option under 2.2 to examine title to the lands covered by said mining leases. If said title is not merchantable, the full purchase price of Sixty Thousand Dollars (\$60,000.00) shall be refunded to KALIUM.

### 3.0 Considerations.

3.1 Upon execution of this Option Agreement, KALIUM shall pay to OPTIONORS the sum of Two Thousand Four Hundred Dollars (\$2,400.00), which shall keep this Option Agreement in full force and effect through July 19, 1974.

3.2 Commencing on July 19, 1974, and upon the 19th day of each succeeding month during which this Option Agreement is in effect and until its expiration, prior termination or the exercise of the option granted hereunder, KALIUM shall pay to OPTIONORS the sum of Eight Hundred Dollars (\$800.00) per month.

3.3 In the event that KALIUM elects to exercise its option under 2.2, said purchase price of Sixty Thousand Dollars (\$60,000.00) shall be separate from and in addition to payments under 3.1 and 3.2 above.

3.4 Pursuant to paragraph 2(b) of Exhibit "A", OPTIONORS shall forthwith notify COMBS of their intention to extend the term of said Exhibit "A"; and, commencing upon May 7, 1974, and upon the 7th day of each succeeding month during which this Option Agreement is in effect and until its expiration, prior termination or the exercise of the option granted hereunder, OPTIONORS shall pay to COMBS the sum of Five Hundred Dollars (\$500.00) per month, as required by paragraph 2(b) of Exhibit "A".

#### 4.0 Default and Termination.

4.1 Failure by KALIUM to perform or comply with any of the terms, obligations or conditions of this Option Agreement shall not automatically terminate this Option Agreement nor render it null and void; but in such case, OPTIONORS shall notify KALIUM in writing of such breach and KALIUM shall have a period of thirty (30) days after receipt of such notice within which to cure the default; and if said default shall not have been cured within such thirty (30) day period, OPTIONORS may terminate this Option Agreement by giving KALIUM written notice of such termination. In the event that this Option Agreement is terminated by reason of such default by KALIUM, OPTIONORS shall not be entitled to recover any damages therefor or to pursue any remedies whatsoever other than payments due and owing up to and including the date of termination pursuant to 3.2 above. *shall hold opt holder*

4.2 In the event that OPTIONORS fail to perform or comply with any of the terms, obligations or conditions of Exhibit "A" or are otherwise in default thereunder, COMBS shall notify KALIUM of

such default; and if such default is not cured, COMBS shall permit all right, title and interest of OPTIONORS under Exhibit "A" to be assigned to KALIUM.

4.3 Upon the giving of thirty (30) days notice in writing to OPTIONORS, KALIUM may terminate this Option Agreement and thereafter be relieved of all obligations hereunder after the effective date of said termination.

#### 5.0 Notices and Payment.

5.1 Any notice or payment which must or may be given under the terms of this Option Agreement shall be properly given or made if sent registered or certified mail, cost of delivery prepaid, to the party for whom it is intended at the following address:

As to OPTIONORS:           Chris S. Ludwig  
                                  P. O. Box 5964  
                                  Tuscon, Arizona 85703

As to KALIUM:                Kalium Chemicals Limited  
                                  400 Bank of Canada Building  
                                  Regina, Saskatchewan, Canada

#### 6.0 Intent of Parties.

6.1 The parties hereto agree that they and each of them will execute such further agreements, instruments and documents as may be reasonably required to give full effect to this Option Agreement and in particular to set forth more fully such details as may be required to effectuate this Option Agreement, and the parties hereto declare that in entering into this Option Agreement they are each acting in the greatest good faith and with the intention of carrying out the full purpose and intent hereof.

6.2 This Option Agreement is made expressly and unconditionally subject to the terms and conditions of Exhibit "A".

7.0 Heirs, Successors and Assigns.

7.1 All the provisions, terms and conditions of this Option Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, successors and assigns.

7.2 Any sale, assignment, transfer or disposition of this Option Agreement shall expressly and unconditionally be subject to the terms and conditions hereof and to the terms and conditions of Exhibit "A".

IN WITNESS WHEREOF, this Option Agreement has been executed as of the day and year first above written.

KALIUM CHEMICALS LIMITED:

OPTIONORS:

By

B. R. Willett, President

Chris S. Ludwig

John W. Marlatt

Walter E. Heinrichs, Jr.

I, MARVIN W. COMBS, state that I have read and understood the foregoing Option Agreement and hereby express my assent to and concurrence with all provisions, terms and conditions contained therein.

Marvin W. Combs

ACKNOWLEDGMENTS

STATE OF COLORADO )  
                          ) ss.  
COUNTY OF DENVER )

On the \_\_\_\_\_ day of \_\_\_\_\_, 1974, B. R. Willett, as President of Kalium Chemicals Limited, known to me to be the person whose name is subscribed to the foregoing instrument, appeared before me and acknowledged that he executed the same for the purposes contained therein.

Witness my hand and official seal.

My commission expires \_\_\_\_\_.

[S E A L]

\_\_\_\_\_  
Notary Public

STATE OF ARIZONA            )  
                                  ) ss.  
COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_\_ day of \_\_\_\_\_, 1974, Chris S. Ludwig, John W. Marlatt and Walter E. Heinrichs, Jr., known to me to be the persons whose names are subscribed to the foregoing instrument, appeared before me and acknowledged that they executed the same for the purposes contained therein.

Witness my hand and official seal.

My commission expires \_\_\_\_\_.

[S E A L]

\_\_\_\_\_  
Notary Public

STATE OF ARIZONA            )  
                                  ) ss.  
COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_\_ day of \_\_\_\_\_, 1974, Marvin W. Combs, known to me to be the person whose name is subscribed to the

foregoing instrument, appeared before me and acknowledged that he executed the same for the purposes contained therein.

Witness my hand and official seal.

My commission expires \_\_\_\_\_.

[S E A L]

.....  
\_\_\_\_\_  
Notary Public

OPTION AGREEMENT

THIS AGREEMENT is made and entered into effective November 7, 1973 by and between Marvin W. Combs, a widower, hereinafter referred to as "OPTIONOR", and Chris S. Ludwig, a married man, John W. Marlatt, a married man, and Walter E. Heinrichs, Jr., a married man, hereinafter referred to as "OPTIONEES".

WHEREAS the Optionor owns certain mining leases situate in the Baboquivari Mining District, Pima County, Arizona, and more particularly described in Section 1. herein, together with any and all rights appurtenant thereto, and hereinafter referred to as the "Property", and

WHEREAS the Optionees desire to obtain exclusive exploration rights, together with an exclusive option to purchase the Property;

NOW, THEREFORE, in consideration of the payment of Five Dollars (\$5.00), the receipt of which is hereby acknowledged, and the mutual promises and obligations herein made and assumed by each of the parties hereto, the parties agree as follows:

1. Optionor's Representations

Optionor represents that he is the sole owner and has the exclusive possession of the Property, free and clear of all claims, liens or encumbrances; that the Property consists of the following described six (6) Type B State Leases, all located in Section 36, Township 19 South, Range 7 East, Pima County, Arizona.

EXHIBIT "A"

<u>Lease No.</u>	<u>Date Issued</u>	<u>Description</u>
4154 ✓	30 November 1970	S 2 S W N W
4155 ✓	30 November 1970	N 2 S W N W
4156 ✓	30 November 1970	N 2 S E N W
4157 ✓	30 November 1970	S 2 S E N W
4193 ✓	31 March 1971	W 2 N E N W
4194 ✓	31 March 1971	E 2 N W N W;

that the acts of location, annual work requirements, rental payments and other requirements by the laws of the State of Arizona and of The United States have been complied with to the date of signing of this Agreement; the Optionor covenants that such status will not be adversely affected because of any act or omission on the part of the Optionor during the continuance of the Option Agreement.

## 2. Grant

The Optionor hereby grants to the Optionees the sole and exclusive option to purchase the Property free and clear of all claims, liens and encumbrances, along with the sole and exclusive possession of the mineral estate of the Property, and the sole and exclusive right to conduct exploration thereon in such a manner and to the extent as the Optionees in their sole judgement and discretion may deem advisable, including, but not limited to the right to drill and excavate such holes, pits, shafts and other excavations as may be required to explore, sample and investigate the ground, and to have all the rights to the extent of the law to which the Optionor is entitled except to mine ore or rock for commercial sale. The periods of time for which this Option Agreement will be valid and

in force and considerations therefore will be

- a. For the first six (6) months period, from the date of signing of this agreement until May 7, 1974, the Optionees will have a free Exploration Period, and the option to purchase the Property according to the terms of the Agreement.
- b. If the Optionees elect to continue their option to purchase beyond the expiration of the free Exploration Period, the Optionor agrees to a further extension of Exploration Periods between May 7, 1974 and May 7, 1975 (twelve months) PROVIDED THAT the Optionees pay the sum of Five Hundred Dollars (\$500.00) each and every month of that period during which the Agreement remains in force prior to either the exercise of option to purchase according to Section 3 herein, or termination of the Agreement according to Section 5 herein.

### 3. Purchase Price

In the event that the Optionees shall elect to exercise their option to purchase, the purchase price shall be Thirty Thousand Dollars (\$30,000.00) payable in full at the time of exercise. Monthly payments if made as a result of Section 2 (b) of Five Hundred Dollars (\$500.00) for each and every month that the Option is not exercised, commencing with the 7th day of May, 1974, will be paid by the Optionees to the Optionor and will be separate and not included in the purchase price.

### 4. Obligations of the Optionees

The Optionees shall insure that the future assessment work requirements for the periods during which this option is in force

will be performed, taking into account that the Optionor has performed certain assessment work requirements to date prior to the execution of this Agreement, and shall record or furnish to the Optionor for recording affidavits of such performance.

5. Termination of Agreement Before Exercise of Option

The Optionees may terminate this Agreement at any time during its continuance by giving the Optionor thirty (30) days prior notice of such action on its part.

6. Assignment and Transfer

The Optionees shall have the right to sell, assign, transfer or dispose any or all of their interests in this Agreement, provided, however, that no such action by Optionees would in any way operate to hinder or defeat the Optionor's rights to the Property or in this Agreement. Any such sale, assignment, transfer or disposition shall, by its express terms to that effect, be made unconditionally subject to the terms of this Agreement.

7. Notices and Payments

Any and all notices and payments provided for herein shall be properly given or made if sent by registered or certified mail and addressed as follows:

If to Optionor:

Marvin W. Combs  
918 West Santa Maria  
Tucson, Arizona 85706

If to Optionees:

Chris S. Ludwig  
P. O. Box 5964  
Tucson, Arizona 85703

Any notice or payment so given or made shall be deemed to have been

given or made on the date of such deposit of such notice or payment in the United States Mail, as evidenced by the postmark on the envelope.

Payments will be made to the Optionor or his heirs or assigns. In the event of election by the Optionees to exercise the option to purchase, the purchase money will be placed in escrow pending the proper authority and agreement by the State of Arizona for the assignment of the Property to the Optionees or their assigns.

8. Intent of Parties

The parties hereto agree that they and each of them will execute such further agreements, instruments and documents as may be reasonably required to give full effect to this Agreement reached hereunder and in particular to set forth more fully such details as may be required to effectuate this Agreement and the parties hereto declare that in entering into this Agreement they are each acting in the greatest good faith and with the intention of carrying out the full purpose and intent of this Agreement.

IN WITNESS WHEREOF, this Option Agreement has been executed as of the day and year first above written.

OPTIONOR

*Marvin W. Combs*  
Marvin W. Combs

OPTIONEES

*Chris S. Ludwig*  
Chris S. Ludwig

*John W. Marlatt*  
John W. Marlatt

*Walter E. Heinrichs, Jr.*  
Walter E. Heinrichs, Jr.

State of Arizona )  
                          ) ss.  
County of Pima )

On this 17th day of November, 1973, before me,  
W. Dean Heinrichs, the undersigned Notary Public, personally appeared CHRIS S. LUDWIG, a married man, JOHN W. MARLATT, a married man, and WALTER E. HEINRICHS, JR., a married man known to me to be the persons whose names are subscribed to the foregoing instrument and acknowledged that they executed the same for the purposes therein contained.

W. Dean Heinrichs  
Notary Public

My commission expires: July 30, 1977

State of Arizona )  
                          ) ss.  
County of Pima )

On this 7th day of November, 1973, before me  
W. Dean Heinrichs, the undersigned Notary Public, personally appeared MARVIN W. COMBS, a widower, known to be (or satisfactorily proven) to be the person whose name was subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained.

W. Dean Heinrichs  
Notary Public

My commission expires: July 30, 1977

# HOLLAND & HART

ATTORNEYS AT LAW

500 EQUITABLE BUILDING  
730 SEVENTEENTH STREET  
DENVER, COLORADO 80202

TELEPHONE AREA CODE 303 292-9200

CABLE ADDRESS HOLHART, DENVER

April 15, 1974

JOSIAH G. HOLLAND  
STEPHEN H. HART  
JOHN L. J. HART  
WILLIAM D. EMBREE, JR.  
JAMES L. WHITE  
PATRICK M. WESTFELDT  
CLAUDE M. MAER, JR.  
ROBERT P. DAVISON  
JOHN FLEMING KELLY  
FRANK H. MORISON  
WILLIAM C. McCLEARN  
JAY W. TRACEY, JR.  
JOHN ALLEN MOORE  
BEN E. CHIDLAW  
JAMES E. HEGARTY  
FIELD C. BENTON  
DAVID BUTLER  
J. MICHAEL FARLEY  
WARREN L. TOMLINSON  
BRUCE T. BUELL  
DON D. ETTER  
JAMES T. MORAN

HARRY L. HOBSON  
KENNETH D. HUBBARD  
ROBERT L. VER SCHURE  
GORDON G. GREINER  
ROBERT H. DURHAM, JR.  
WILLIAM E. MURANE  
L. WILLIAM SCHMIDT, JR.  
JAMES P. LINDSAY  
EDWIN S. KAHN  
SAMUEL P. GUYTON  
JOHN S. CASTELLANO  
DENNIS M. JACKSON  
ROBERT E. BENSON  
DONALD O. KINONEN  
RICHARD M. KOON  
CHARLES T. BRANDT  
ROBERT T. CONNERY  
HARADON BEATTY  
ARTHUR C. DAILY  
JEFFREY C. POND  
JOHN UNDEM CARLSON

RANDY L. PARCEL  
DAVID G. PALMER  
JUDITH BONNIE KOZLOFF  
MICHAEL D. MARTIN  
BRUCE W. SATTLER  
RAUL N. RODRIGUEZ  
JACK L. SMITH  
JOHN D. COOMBE  
EUGENE F. MCGUIRE  
LINDELL L. GUMPER  
SOLOMON N. BARON  
THOMAS A. FAULKNER  
ROBERT J. MOIR

MARK R. LEVY  
R. BROOKE JACKSON  
PAUL T. RUTTUM  
BRITTON WHITE, JR.  
WILEY E. MAYNE, JR.  
RICHARD T. CASSON  
GREGORY A. EURICH  
CHRISTOPHER N. SOMMER  
EDWARD M. GILES  
ALAN E. BOLES, JR.  
GERALD W. GRANDEY  
STEPHEN L. PEPPER  
THERESA W. DORSEY

GEORX

Cable: GEORX

APR 17 1974

POY 8041 TUSCON, ARIZONA 85703

PHONE ( 602 ) 243-9270

Mr. Chris S. Ludwig  
Mr. Walter E. Heinrichs, Jr.  
Mr. J. W. Marlatt  
Heinrichs Geoexploration Company  
606 West Grant Road  
P. O. Box 5964  
Tuscon, Arizona 85703

Re: Option Agreement with  
Kalium Chemicals Limited

Gentlemen:

I have drafted the referenced Agreement, and it has been reviewed by Kalium. I spoke with them by telephone today, and they informed me that it has been executed and forwarded to you. I also have Kalium's check in the amount of \$2,400.00, representing the first three months' payment. As soon as I am informed that the Agreement has been signed by all other parties, I will forward the check to you.

I wished also to call your attention to an ambiguity in paragraph 2 of the "Combs Option," which is Exhibit "A" to the referenced Agreement. This clause grants to Optionees: "all the rights to the extent of the law to which the Optionor is entitled except to mine ore or rock for commercial sale." It seems clear that this limitation is only intended to apply during the option period and not after an exercise of the option to acquire the leases. Accordingly, I have drafted paragraph 2.101 of the referenced

HOLLAND & HART

Mr. Chris S. Ludwig  
Mr. Walter E. Heinrichs, Jr.  
Mr. J. W. Marlatt  
April 15, 1974

Page Two

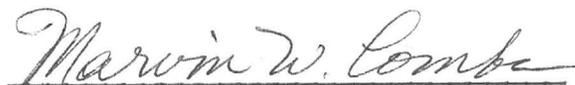
Agreement to clarify this point, stating that ore and rock may not be removed for commercial sale prior to the exercise of the option. If you and Mr. Combs concur with this interpretation, could you please so indicate by signing the enclosed copy of this letter and returning it to me.

Very truly yours,

  
Britton White, Jr.  
for HOLLAND & HART

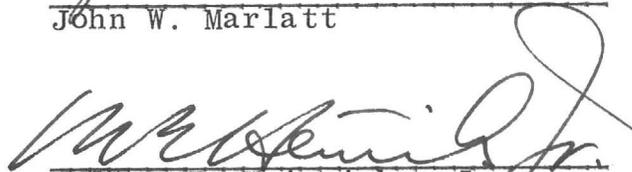
BW:jb

Enc.

  
Marvin W. Combs

  
Chris S. Ludwig

  
John W. Marlatt

  
Walter E. Heinrichs, Jr.

# Jupiter Mine

## option 1.

Company "X" buys our option outright.

- (a) if before May 1, 1974 \$ 15,000 cash
- if after May 1, 1974 \$ 30,000
- ~~(a) if before Dec 31, 1974 \$ 30,000 cash.~~

## option 2.

"X" agrees to

- (a) make a minimum of 3 monthly payments of ~~\$ 800~~ \$ 800. For this they would get the rest of our free time, plus the first three months of our next year. We would pay Combs 3 months at \$ 500. per month. "X" could continue to continue the whole 12 months at \$ 800. per month, or any portion between 3 and 12.
- (b) If "X" wishes to go beyond our option period with Combs they would have to pay \$ 60,000. + we would pay 1/2 that (\$ 30,000) to Combs.

or

(c) pay \$ 36,000. to us (we pay Combs \$ 30,000.) and we retain

(1) some royalty per ton produced such as \$ 1.00 per ton (?)

or

(2) % of net smelter payoff (5%?)

or

(3) Allow us to participate as percentage partner or carried interest.

("X" of course must pay state taxes, do ours. pay all costs, legal fees, etc. etc.)

STATEMENT CONCERNING THE

J U P I T E R M I N E

Baboquivari Mining District  
Pima County, Arizona

By Elgin Bryce Holt

TO WHOM IT MAY CONCERN:-

During the month of March, 1936, while engaged in a reconnaissance of the mines of Pima County, Arizona, for the State Land Department, I inspected the Jupiter Mine, located in the Baboquivari Mountains, about sixty miles, over an excellent auto road, from Tucson, Arizona.

The following covers briefly results of my rather hurried investigation of the above property:

A detailed sampling of the two principal ore shoots in the mine, though advisable at the present time, was not attempted by me, being outside the scope and instructions of my investigations. However, the assays and other data quoted herein, were obtained from reliable sources and I am confident the same can be relied on in every respect.

DESCRIPTION OF PROPERTY:

The Jupiter group of mining claims cover the NW $\frac{1}{4}$  of Section 36, Township 19 South, Range 7 East. Title to property is held by State of Arizona and the same has recently been leased by State to Mr. O. C. Lamp of Tucson, Arizona. Mr. Lamp, however, has been interested in the property for some time in the past and has milled considerable ore from the same.

Adequate water supply for camp and milling purposes is assured from shallow wells in adjacent canyons; also from deeper development of ore bodies in the mine.

The climate is ideal the year round, inasmuch as elevation of property above sea level is about 4,500 feet.

Working conditions generally are good. The ore occurs in massive chimneys or shoots of easily mined material by shrinkage stope methods; and the ore lends itself to simple flotation and table concentration yielding a high grade clean concentrate.

During what might be termed the test milling operations of Mr. O. C. Lamp, who owns a small but well constructed concentration mill near the property, net recovery of gold and silver values averaged \$8.00 per ton of ore treated, with a ratio of 16 tons of raw ore to one ton of concentrates, the value of which will be found in the table on following page:

LIST OF SHIPMENTS OF CONCENTRATES AND ORE FROM JUNIOR MINE

Date	Sold to	Gold	Silver	Lead	Copper	Value	Tons	Total	Deduct.	Net
		<i>~ 20/10 Au</i> Ozs \$	<i>~ 404/10 Ag</i> Ozs \$	\$	\$	\$		\$	\$	\$
12/20/33	Miller	3.02 58.90	50.0 19.72	3.65	0.41	82.68	4.95	409.25	108.25	301.01
2/2/34	A.S. & R. Co.	2.54 50.80	43.5 18.57	2.11	0.00	71.48	4.309	308.00	78.13	229.87
10/5/35	T.O.B. Co.	1.62 52.03	22.0 15.24	0.00	0.00	67.27	3.28	220.64	55.47	165.17
10/19/35	T.O.B. Co.	2.42 77.73	43.5 30.14	0.00	1.46	109.33	2.64	288.63	46.42	242.21
12/5/35	T.O.B. Co.	2.37 76.12	34.9 24.19	0.00	0.00	100.31	6.63	663.05	107.57	555.48
12/17/35	T.O.B. Co.	3.07 98.61	45.7 31.67	0.00	0.00	130.28	6.10	794.71	114.82	679.89
12/23/35	T.O.B. Co.	2.75 88.33	43.5 31.18	0.00	0.00	119.50	4.40	525.80	79.02	446.78
	T.O.B. Co.	0.34 10.92	7.2 4.99	0.00	0.00	14.91	8.36	133.00	59.92	73.08
										\$2595.49

NOTE: The first seven shipments above were concentrates and the last shipment was ore.

## HISTORY:

Property was discovered by Charles Bent and Edward Hudson during 1879. Owners erected a stamp mill on mine during 1889 and milled about 3,000 tons of ore, said to have averaged about \$12.00 per ton in gold and silver. A little later the mill burned down.

During 1921, Lew Kemp spent about \$150,000.00 on property carrying out 600 feet of poorly directed development work and the erection of a 25-ton concentrating plant. He failed and mill was sold.

During 1935, the Shattuck-Denn Company did a small amount of work in upper levels of mine, but accomplished nothing of importance whatever.

Magma Copper Company took over the property during 1935 and did about 2,500 feet of work in lower level of mine, but as they failed to find sufficient ore for their requirements, this company suspended operations about September, 1935.

The property then passed into the hands of O. C. Lamp, as stated above, who made several test runs on the ore in a mill located down the canyon a half mile from property.

## ORE BODIES:

Two ore shoots have been opened in upper level of mine, one of these being in the nature of a chimney about 50 feet in diameter, on which was sunk years ago a winze about 90 feet deep in excellent milling ore. On the same level another ore shoot was found, in a cross-cut driven southward; said shoot being 75 feet in length by 12 feet wide. Mr. Lamp has informed me that he mined and milled about 300 tons of ore from the latter shoot with a mill head value of \$8.00 per ton, as stated. He also shipped 8.75 tons of ore from the same shoot, averaging \$15.91 per ton in gold and silver. (See above table.)

The lower tunnel of mine, which has an elevation of 200 feet deeper than the said upper level, was extended by the Magma Copper Company for around 1200 feet from tunnel portal. (See underground mine map attached hereto.) From this tunnel the Magma Company drove a number of crosscuts southward, but failed to find the ore shoots coming down from the upper level mentioned. It is my positive opinion and belief that this failure was due to the fact that the Magma engineers did not correctly take into consideration the dips and probable strikes of the two ore shoots mentioned, found in upper level of mine. Again, by all means, they should have sunk on the said ore shoots in upper level in order to determine their inclinations and importance instead of hunting for the same, as they did, by means of cross-cutting from the said lower tunnels.

All in all, notwithstanding the fact that the Magma Company failed to find ore in the lower level, I believe the property has all the earmarks of an important mine, and one that can be put on a profit-earning basis if properly financed, developed, equipped and managed.

## TOPOGRAPHY AND GEOLOGY:

In the area surrounding the Jupiter Mine the gold-silver quartz veins occur along ridges near the Eastern base of the Baboquivari range. Prevailing

rocks in this region consist of unmetamorphosed Cretaceous shales, quartzites, conglomerates, gneiss and granite, greatly disturbed and completely faulted and intruded by large dikes of diorite porphyry.

VEINS occur within fault fissures, which strike in various directions and dip from 75 degrees from horizontal to nearly vertical. Their filling consists of white quartz and calcite, together with bunches of chalcopyrite, iron pyrite and small amounts of galena, carrying gold and silver values.

The region is very rough and is cut by numerous canyons.

I recommend the property to anyone looking for a partly developed gold and silver mine. Furthermore, I believe the mine could be put on a paying basis with an expenditure of \$50,000, to be used, first, for developing additional ore tonnage in the mine, and, second, with which to remodel the mill referred to, belonging to Mr. Lamp, into an up-to-date flotation plant with a capacity of at least 75 tons of ore per day of 24 hours.

Very sincerely yours,

ALGIN BRYCE HOLT

Mining Engineer

Heidal Hotel  
Tucson, Arizona  
June 25, 1936

2-28-68

**JUPITER MINE.**

Located in S36:7E:19S, Baboquivari Mts. Presumido Peak quadrangle.

Information from, Harvey Riggs, Art. Jacobs & ABM bulletin 137.

Unable to get to the mine but looked over the area with field glasses. It is reported that Shattuck Denn did some work. Later it was reported that Magma Copper Co. drove a 1300' tunnel and found nothing. There are no recorded patented claims near the mine, so ownership is unknown.

Some company has been doing geophysical work in the area recently.

North American Mining Company is studying the area at the present time.

Visited by G. Irvin 2-28-68

Mine Jupiter

District Baboquivari

Former name Octopus

Owner State of Arizona, (Land Dent.)

Operator Not known

President No comp

Mine Supt.

Principal Metals Gold, Silver

Production Rate Not established

Power: Amt. & Type Chicago Pneumatic-Direct  
Con. Compressor-5 drills

Operations: Present  
Idle

**Operations Planned**

Number Claims, Title, etc. Eight -- Taken by legal sub-divisions

Description: Topog. & Geog. Near center of second ridge east of Baboquivari mts.  
2 miles from Pecos.

Mine Workings: Amt. & Condition Original workings 4 tunnels--Lower-50 ft. Second 230 ft.  
3rd. 80 ft., Upper 50 ft. Magna all lower tunnel--1700 ft.  
Many shafts and drifts and cross-cuts. approx. 3000 ft.  
of development. Upper workings bad shape.

(over)

Date

Location Sec. 36, Tm. 18-R 7N (2)

Address State Office Bldg. Phoenix

Address

Gen. Mgr.

Mill Supt.

Men Employed

Mill: Type & Cap.

**Geology & Mineralization** Country rock, andesite with chlorite like cutting thru, which is the ore zone. 14th of upper ore-- No. 2 tunnel--15 ft. Don't  
13 ton. 3 tunnel had 5 oz. of copper ton in places.

**Ore, Positive & Probable, Ore Dumps, Tailings** None left. No. 2 of gold & silver, No. 2 tunnel has most ore. Probably none blocked. No. 3 upper dumps had milling grade ore.

**Mine, Mill Equipment & Flow Sheet** None left.

**Road Conditions, Route** Paved highway to Roblos ranch 25 miles--graded highway to Lord Camp on Sasabe road, 50 miles. Improved road to Renstadt's ranch 4 mi. Improved road to mine 3 miles.

**Water Supply** Dam at tunnel save water for camp use. Used for Kemp Hill.

**Brief History** Originally located by Chas. Bent Sr. as Octopus. Drove #2 tunnel 150 ft. This was in the '90's. Located about 1923 by J. P. Merriman & al. Leased to Alfred L. Kemp--Canadian, who built 25 ton mill and made fluke then leased to C. B. Flynn who did small amt. of development and turned lease and bond to Magna Copper Co. in 1933. Magna developed thru lower tunnel after buying out owner and lessee. Dropped project about 1935. J.

**Special Problems, Reports Filed** B. Richmond in charge of development under direction of N. Y. office.

**Remarks** Richmond said to have considered development inclusive and wished to continue according to his own ideas. He is now dead. Merriman says he is confident Magna missed ore.

**If property for sale: Price, terms and address to negotiate.** Don't know.

The above data furnished by J.P. Merriman, P. O. Box 183, Tucson, Arizona  
Present residence at Golden Anchor prospect 3 miles east from Sasabe.

Signed..... (signed) Miles F. Carpenter, Field Engineer.

Use additional sheets if necessary.

April 8, 1974

Mr. Randy Parcell  
Holland & Hart  
Equitable Building  
724 17th Street  
Denver, CO 80202

Dear Mr. Parcell:

Enclosed are machine copies of the six leases per your request by phone today.

As related to your secretary in your absence, the answer to the other question you had regarding option paragraph #1 of my letter dated April 5th to Mr. Edmonds with copy to you, the amount of \$45,000 mentioned is the full amount to be paid and covers the present lease holder and our option. It is not in addition to the \$30,000.00 but includes the \$30,000.00, i.e., \$45,000.00 is the total.

Sincerely,

J. W. Marlatt

JWM:mt  
Enclosures



Kalium Chemical Job #

Randy Parcell called 4/8/74  
Walt:

① Copies of state leases.

please send immediately for this file record.

② \$45,000<sup>00</sup> - to prop. }  
\$130,000<sup>00</sup> to owner } Kalium

③ Walt in agreement.  
NOT certain on this point of #2 above

Walt asked if Barney Edmonds consulted on this point he said only very briefly then interrupted by meeting Barney had to attend.

W.

I phoned Parcell back at 2:30 p.m. - not in, but left a message with his secretary: total price presented is \$45,000 NOT plus 30,000.  
lease copies unavailable until tomorrow

I phoned Noranda, &  
got Bill Paine, and  
told him to call off  
sampling of the Jupiter  
next week.  
Kalinum will accept 1 or 2.



April 5, 1974

Mr. B. P. Edmonds, Mining Manager  
Kalium Chemical Corporation  
105 Fillmore Street  
Suite 210  
Denver, Colorado 80206

Re: Jupiter Mine, Arizona

Dear Mr. Edmonds:

As discussed with you on the phone today, the following are the possible terms on the Jupiter property. The property consists of six contiguous state leases of twenty acres each issued by the State of Arizona for a term of twenty years. Four of these will expire in 1990 and the other two in 1991. A holder of such leases has preferential rights of renewal.

1. If a settlement in full is made prior to May 1, 1974, for a total, cash amount of \$45,000.00, the lease holder will assign his leases to Kalium and request the State to transfer them to Kalium and the lease holder and all GEOEX people involved will terminate and quitclaim as required all interests in and to the property.

OR

2. Kalium can obtain a short term interest by immediately agreeing to a "rental" payment of \$800.00 per month (unrecoverable) for a period not exceeding twelve (12) months with a final buy-out price of \$60,000.00, which would not include any portion of the \$800.00 per month payments. A minimum of three months' payments (\$2400.00) in advance, and payable prior to April 20, 1974, would be a condition. Subsequently, starting with July 20, 1974, payments of \$800.00 per month would be made by Kalium monthly until the option is fully exercised or abandoned. 30 days notice prior to abandonment would be required. If the option is to be fully exercised, it must be prior to April 20, 1975.



Mr. B. P. Edmonds  
April 5, 1974  
Page Two

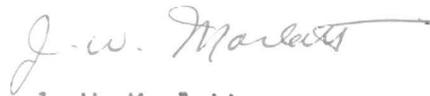
The leases are in Section 36, Township 19 South, Range 7 East, Pima County, Arizona, and are as follows:

Lease No. 4154	S1/2, SW1/4, NW1/4	Issued Nov. 30, 1970
No. 4155	N1/2, SW1/4, NW1/4	"
No. 4156	N1/2, SE1/4, NW1/4	"
No. 4157	S1/2, SE1/4, NW1/4	"
No. 4193	W1/2, NE1/4, NW1/4	Issued March 31, 1971
No. 4194	E1/2, NW1/4, NW1/4	"

The holder of the leases is Mr. Marvin W. Combs of Tucson. Joint holders of a valid option to purchase are Walter Emil Heinrichs, Jr., Christopher Sutton Ludwig and John William Marlatt. All parties are residents of Tucson, Arizona. The optionees have the right to sell or assign the option. Copies of the option agreement are transmitted herewith to you and to Holland & Hart, Denver attorneys, Attention: Mr. Randy Parcell, who we understand will prepare formal papers on your behalf for our mutual execution.

We will look forward to receiving these and/or any questions you may have.

Very truly yours,



J. W. Marlatt

JWM:mt  
dd: R. Parcell



Job #881 Jupiter

4/5/74

Kalvin - Barney Edmons  
called: J.W.M. & W.M.

---

Holland & Hart. Denver, CO. 80202  
Equitable Building 724 17th St.

Attn:

Bob Davidson geol.-lawyer, on vacation

Young understudy

→ Randy Parcell (will handle)

leave NOS & Names.

Phone -  
(303) 292-9200

---

legal etc.

Jupitella 881

J.W.M.  $\frac{1}{2}$  WED.

(303) 399-0786

Kalium Chem Corp.

Attn: Mr. Barney Edmonds, Mining Mgr.

105 Fillmore Street.

Suite 210

Denver, CO. 80206

J.W.M. to  
Send letter (confirming) terms  
in writing.

Bill Leedy & Bill Burridge in  
also - about 11:00 A.M.

Edmonds phoned again in P.M.

Bill Leedy

3/26/74

5 samples  
country rock  
\$7.22/T

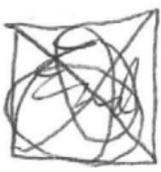
\$1.50 Au  
\$3 Ag

17 veins  
4' avg  
23.59/T

loop grade  
transp \$8



6" + 9" + 1' + --- 12'  
0.13 2.11  
27'  
12.  
.05 .75



1.) Exclusive through evening of  
5<sup>th</sup> April

2.) ✓ Non-exclusive through (midnight  
May 6<sup>th</sup>)  
May 7<sup>th</sup>  
Monday April 1<sup>st</sup>

3.) \$2400 → August 7<sup>th</sup>



**RANCHERS EXPLORATION AND DEVELOPMENT CORPORATION**

Box 6217 / 1776 Montano Road, N.W. / Albuquerque, New Mexico 87107 / Telephone (505) 344-3542

March 25, 1974

**GEOEX**

Cable: GEOEX



REC'D MAR 27 1974

POY. 1000  
- P.O. 1000

Mr. J. W. Marlatt  
Heinrichs Geoexploration Company  
806 West Grant Road  
Tucson, Arizona 85703

Dear Mr. Marlatt:

This is in reply to your letter offering the Jupiter Mine property in Arizona.

Currently we are committed to exploration on several gold properties and are not in a position to show any interest in the Jupiter property.

We appreciate your bringing this property to our attention.

Yours very truly,

J. E. Motica  
Vice President  
Geology

JEM/rz

March 25, 1974

Mr. Norman E. Eastmoore, Jr.  
Nuclear Dynamics, Inc.  
2871 Sky Harbor Blvd.  
Phoenix, Arizona 85036

Dear Norm:

With the recent, sharp increases in the prices for gold and silver, our attention was drawn to a property we have known about for some time, and as a result of a little preliminary sampling we have taken a short term option on it, at an extremely reasonable price. In the event that it might be of interest to you, I am enclosing a copy of a composite map we have prepared which shows most of the information we have gathered to date.

The property consists of six state leases of twenty acres each over the old Jupiter Mine in Section 36, T. 19S., R. 7 E., Arizona. Very little of its history is known, and only some 400 tons of ore production is recorded, probably from the No. 1 and No. 2 levels. The No. 3 level is reportedly one driven by Magma in 1934 after the price of gold increased to \$35.00 an ounce. It would appear to have been planned as a production haulage level, but no mining seems to have been carried out as a result of it. As the rock is hard and competent, all underground workings are open and are in quite good condition.

No geologic mapping has yet been done, either on the surface or underground. Published areal maps of the region indicate formation ages of Late Cretaceous, Early Tertiary. The old mine openings are into the side of a hill which is intersected by bold rhyolite dikes, several to possibly numerous quartz veins most of which contain metal, enough small local faults to suggest a stockwork type fracturing, and intrusive rock that is probably granodiorite.

We consider the property to be an interesting prospect, but by no means a proven mine. We think it warrants a serious investigation under present conditions. As yet no single, large, continuous vein is known, but several hypotheses can be made about possible economic situations that could exist.

Mr. Norman E. Eastmore, Jr.  
March 25, 1974  
Page Two

After considering the map information and above comments, if this property could be of interest to you, please contact me or Chris Ludwig by phone or letter for further discussion.

Sincerely yours,

Heinrichs GEOEXploration Co.

J. W. Marlatt

JWM:mt

Enclosure

1435 SOUTH 10th AVENUE  
P.O. BOX 1889

# Jacobs Assay Office

Registered Assayers



PHONE 622-0813

85702

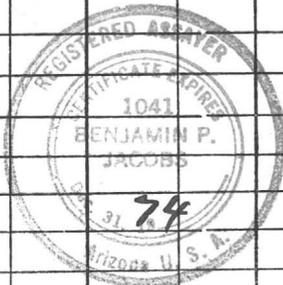
Tucson, Arizona,

Mar 15<sup>th</sup>, 1974

Sample Submitted by Mr.

*C. H. Ludwig*

Sample Marked	GOLD Ozs. per ton ore	GOLD Value per ton ore * \$	SILVER Ozs. per ton ore	COPPER Per cent Wet Assay	LEAD Per cent Wet Assay	Per Cent Wet Assay	Per Cent Wet Assay	Per Cent Wet Assay
5691	0.05	5.00	16/10					
92	0.10	10.00	18/10					
93	0.02	2.00	06/10					
94	0.01	1.00	05/10					
SPIC	0.01	1.00	02/10					



FREDERICKS  
GEOEX

Cable: GEOEX



REC'D MAR 18 1974 REC'D

BOX 596 TUCSON, ARIZONA 85703  
Phone: (AREA 602) 623-0578

\* Gold Figured \$ 100.00 per oz. Troy

Charges \$ 20.00 *Rec'd*

Very respectfully,

*Ben P. Jacobs*

March 6, 1974

Mr. John Motica  
Vice President, Exploration  
Ranchers Exploration & Development Corp.  
P. O. Box 6217  
Albuquerque, N. Mex. 87107

Dear Mr. Motica:

With the recent, sharp increases in the prices for gold and silver, our attention was drawn to a property we have known about for some time, and as a result of a little preliminary sampling we have taken a short term option on it, at an extremely reasonable price. In the event that it might be of interest to you, I am enclosing a copy of a composite map we have prepared which shows most of the information we have gathered to date.

The property consists of six state leases of twenty acres each over the old Jupiter Mine in Section 36, T. 19 S., R. 7 E., Arizona. Very little of its history is known, and only some 400 tons of ore production is recorded, probably from the No. 1 and No. 2 levels. The No. 3 level is reportedly one driven by Magma in 1934 after the price of gold increased to \$35.00 an ounce. It would appear to have been planned as a production haulage level, but no mining seems to have been carried out as a result of it. As the rock is hard and competent, all underground workings are open and are in quite good condition.

No geologic mapping has yet been done, either on the surface or underground. Published areal maps of the region indicate formation ages of Late Cretaceous, Early Tertiary. The old mine openings are into the side of a hill which is intersected by bold rhyolite dikes, several to possibly numerous quartz veins most of which contain metal, enough small local faults to suggest a stockwork type fracturing, and intrusive rock that is probably granodiorite.

We consider the property to be an interesting prospect, but by no means a proven mine. We think it warrants a serious

Mr. John Motich

-2-

March 6, 1974

investigation under present conditions. As yet no single, large, continuous vein is known, but several hypotheses can be made about possible economic situations that could exist.

After considering the map information and above comments, if this property could be of interest to you, please contact me or Chris Ludwig by phone or letter for further discussion.

Sincerely yours,  
Heinrichs GEOEXploration Co.

J. W. Marlatt  
Geologist

JWM:jh

Enclosure: 1

March 6, 1974

Mr. Charles E. Melbye, President  
Minerals Engineering Co.  
1600 Broadway  
Denver, Colorado 80202

Dear Mr. Melbye:

With the recent, sharp increases in the prices for gold and silver, our attention was drawn to a property we have known about for some time, and as a result of a little preliminary sampling we have taken a short term option on it, at an extremely reasonable price. In the event that it might be of interest to you, I am enclosing a copy of a composite map we have prepared which shows most of the information we have gathered to date.

The property consists of six state leases of twenty acres each over the old Jupiter Mine in Section 36, T. 19 S., R. 7 E., Arizona. Very little of its history is known, and only some 400 tons of ore production is recorded, probably from the No. 1 and No. 2 levels. The No. 3 level is reportedly one driven by Magma in 1934 after the price of gold increased to \$35.00 an ounce. It would appear to have been planned as a production haulage level, but no mining seems to have been carried out as a result of it. As the rock is hard and competent, all underground workings are open and are in quite good condition.

No geologic mapping has yet been done, either on the surface or underground. Published areal maps of the region indicate formation ages of Late Cretaceous, Early Tertiary. The old mine openings are into the side of a hill which is intersected by bold rhyolite dikes, several to possibly numerous quartz veins most of which contain metal, enough small local faults to suggest a stockwork type fracturing, and intrusive rock that is probably granodiorite.

We consider the property to be an interesting prospect, but by no means a proven mine. We think it warrants a serious

Mr. Charles E. Melbye

-2-

March 6, 1974

investigation under present conditions. As yet no single, large, continuous vein is known, but several hypotheses can be made about possible economic situations that could exist.

After considering the map information and above comments, if this property could be of interest to you, please contact me or Chris Ludwig by phone or letter for further discussion.

Sincerely yours,  
Heinrichs GEOEXploration Co.

J. W. Marlatt  
Geologist

JWM:jh

Enclosure: 1

TO Mr. Bill Leedy  
Kalium Chemicals Limited  
105 Fillmore Street  
Denver, Colorado 80206



HEINRICHS GEOEXPLORATION COMPANY

808 W. GRANT ROAD - P. O. BOX 5671

TUCSON, ARIZONA 85703

Area Code 602 Phone 623-0578

Geophysical Exploration Research Engineering

SUBJECT: Jupiter Mine (Au-Ag Property, Pima County, Arizona) DATE: 2/18/79

Dear Bill:

Enclosed is a copy of the composite sketch plan of the Jupiter Mine showing our sample locations and results. The situation is a hill intersected with several bold rhyolite dikes, numerous quartz veins, mostly metal bearing, and local faulting complicating the structure. The hill is probably a granodiorite probably Laramide in age.

We consider the property to be an interesting prospect, but by no means a proven mine. It warrants a serious investigation considering present precious metal prices. As yet, no single, large, continuous vein is known, but several hypotheses can be made about possible economic situations that could exist. We have the property (120 acres - state leases) under a several month free option + 1 year at \$500/month rental and a very reasonable buyout.

If you are interested, please let us know as soon as possible and we can go over it further.

PLEASE REPLY TO → SIGNED *Chris* Chris S. Ludwig

DATE

SIGNED

SEND WHITE AND PINK COPIES WITH CARBON INTACT. PINK COPY IS RETURNED WITH REPLY.

DETACH THIS COPY-RETAIN FOR ANSWER

*[Handwritten signature]*

February 15, 1974

Mr. James L. Browne  
Chief Exploration Engineer  
Day Mines, Inc.  
Box 1010  
Wallace, Idaho 83873

Dear Mr. Browne:

In a letter to Heinrichs GEOEX a couple of years ago (16 March, 1972,) you suggested that smaller low-tonnage deposits could be of interest to Day Mines, Inc.

With the recent, sharp increases in the prices of gold and silver, our attention was drawn to a property we have known about for some time, and as a result of a little preliminary sampling we have taken a short term option on it, at an extremely reasonable price. In the event that this might interest you, I am enclosing a copy of a composite map we have prepared which shows much of the information we have gathered to date.

The property consists of six state leases of 20 acres each over an old mine known as the Jupiter in Section 36, T19S, R7E, Arizona. Very little of its history is known and only some 400 tons of ore are known to have been produced, probably from the 1 and 2 levels. The 3 level was driven by Magma in 1934 after the price of gold went to \$35.00 an ounce and would appear to have been planned as a main haulage level. No mining seems to have been carried out as a result of it. As the rock is hard and competent, all underground workings are open and in quite good shape.

We have not had time to do any detailed geologic mapping. Broadly, there is a hill intersected with bold rhyolite dikes, several to numerous quartz veins most of which contain metal, enough small local faults to suggest a stockwork type fracturing, and intrusive rock that is tentatively granodiorite. Regional geologic maps show the area to consist of late cretaceous early tertiary formations.

We consider the property to be an interesting prospect, but by no means a proven mine. We think it warrants a serious investigation under present conditions. As yet no single, large, continuous vein is known, but several

Mr. James L. Browne  
February 15, 1974  
Page Two

hypotheses can be made about possible economic situations that could exist.

If you are interested, please contact me or Chris Ludwig by letter or phone. We will be happy to discuss any facets of the property, or arrange to take you to it.

Sincerely yours,

Heinrichs GEOEXploration Company

J. W. Marlatt  
Geologist

JWM:mt  
Encl: Map

# CHARLES O. PARKER & CO.

CHEMISTS      ASSAYERS      ENGINEERS

2114 CURTIS ST., DENVER, COLORADO 80205

Phone 623-1852      Bill Bealer, Owner

## ASSAY PRICE LIST      APRIL, 1972

### HAND SAMPLES

GOLD.....	\$ 2.00
SILVER.....	2.00
GOLD & SILVER (SAME SAMPLE).....	3.50
GOLD PLACER.....	3.50
COPPER, LEAD, ZINC, (EACH).....	2.00
ALUMINUM.....	5.00
ANTIMONY.....	5.00
ARSENIC.....	5.00
BARIUM.....	5.00
BERYLLIUM.....	7.50
BISMUTH.....	7.50
CADMIUM.....	7.50
CHROMIUM.....	7.50
COBALT.....	7.50
FLUORSPAR (CaF <sub>2</sub> ).....	5.00
IRON.....	2.50
INSOLUBLE.....	2.50
LIME.....	2.50
LOSS ON IGNITION.....	2.00
MAGNESIUM.....	5.00
MANGANESE.....	5.00
MERCURY.....	5.00
MOLYBDENUM.....	7.50
NICKEL.....	5.00
PHOSPHORUS.....	5.00
PLATINUM.....	7.50
SILICA.....	5.00
STRONTIUM.....	7.50
SULFUR (COMBINED).....	2.50
SULFUR (ELEMENTAL).....	5.00
TIN.....	7.50
TITANIUM.....	7.50
TUNGSTEN.....	7.50
URANIUM.....	7.50
VANADIUM.....	5.00
COMPLETE QUALITATIVE ANALYSIS... ..	15.00
COMPLETE WATER ANALYSIS..PRICE LIST ON REQUEST	

DUPLICATE ASSAYS- 1½ TIMES QUOTED CHARGE  
CONTROL ASSAYS--- 2 TIMES QUOTED CHARGE  
UMPIRE ASSAYS---- 4 TIMES QUOTED CHARGE  
ON GOLD, SILVER, COPPER, LEAD & ZINC.  
ALL OTHER ELEMENTS- 3 TIMES QUOTED  
CHARGE.

WET SAMPLES & SAMPLES OVER 10LBS. ARE  
SUBJECT TO SMALL PREPARATION CHARGE.

# CHARLES O. PARKER & CO.

CHEMISTS • ASSAYERS • ENGINEERS  
DENVER, COLORADO 80205

Folio 327

Date Jan. 16, 1974

Mr. Charles Bruce  
1865 Union Drive  
Lakewood, Colorado 80215

100 350

**We hereby Certify,** that the samples assayed for you gave the following results:

DESCRIPTION	GOLD OUNCES PER TON	SILVER OUNCES PER TON	COPPER PER CENT (WET)	LEAD PER CENT (WET)	ZINC PER CENT	IRON PER CENT	INSOLUBLE PER CENT	VALUE PER TON
1 # 5673	0.04	0.94	30"	6.87	\$ 7.29			
2 5674	0.12	2.48	12"		20.68			
3 5675	0.38	6.76	60"		61.66		61.66 / 60"	
4 5676	0.54	11.38	SELECTED					
5 5677	0.20	3.82	6"		33.37			
6 5678	0.04	0.54	6"		5.89			
7 5679	0.02	0.34	CHIP					
8 5680	0.98	12.20	8"		140.70		= 28.14 / 40"	
9 5681	0.04	0.52	4"		5.82			
10 5682	0.34	3.65	6"		40.77			
11 5683	0.04	0.48	4"		5.68			
12 5684	0.60	7.90	4"		87.65			
13 5685	0.42	7.04	18"		68.64		= 30.88 / 40"	

Gold at \_\_\_\_\_ per ounce    Copper at \_\_\_\_\_ per unit

Silver at \_\_\_\_\_ per ounce    Zinc at \_\_\_\_\_ per unit

Lead at \_\_\_\_\_ per unit

**Charge \$ 45.50**

**CHARLES O. PARKER & CO.**  
CHEMISTS, ASSAYERS and ENGINEERS

16 - 9.5 - PPM Au  
0.47 - 0.28 O<sub>3</sub>/T

81 - 106 PPM Ag

2.4 - 3.1

3 or 4 samples

several 3'-4' mineralized zone S of Tujiter  
by R. London N of Shaffer Wash

G. C. Nelson (owner)  
Santa Margarita Ranch.

Pete Phelps (Ranch Manager)

111 of all 6 2.50 each  
+ negatives 6.50 each

1:500 of 147 \$15 +

\$75

39

15

15

69

6

30.00

19.50

7.50

\$57.00

15

7.50

22.50

STATEMENT

January 4, 1974

Mr. Charles Bruce  
1865 Union Drive  
Lakewood, Colorado 80215

Re: GEOEX Job #891  
Jupiter Mine  
Pima County, Arizona

PROFESSIONAL FEES & SERVICES

Underground surveying of mine levels by  
Brunton and tape, exterior surveying of  
portal locations, elevations, etc. by  
transit and stadia.

2 Men 2 1/2 Days @ \$150.00/day-----	\$375.00
1 Vehicle 3 Days @ \$15.00/day-----	45.00
381 Miles @ \$0.15/mile-----	57.15
6 Hours Drafting @ \$10.00/hr-----	<u>60.00</u>

TOTAL DUE THIS STATEMENT

\$537.15

(301)

## SPEED LETTER®

TO Scotty BruceFROM C. S. Ludwig  
Heinrichs GECOX  
Tucson, AZSUBJECT Jupiter Mine sketch Plans of Mine Workings

No. 9 &amp; 10 FOLD

MESSAGE

DATE 12/28 19 73

Dear Scotty:

Here are the workings plans for the Jupiter Mine.  
We haven't made a composite plan yet but the individual  
plans are all at the same scale and can be overlaid.

Best wishes for the New Year.

Regards, SIGNED Chris

REPLY

DATE \_\_\_\_\_ 19 \_\_\_\_\_

No. 9 FOLD

No. 10 FOLD

SIGNED \_\_\_\_\_

Pete Phelps Manager

Santa Margarita Punch - Sasabe

823-4252

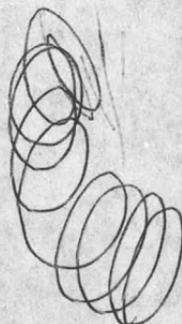
3000'

8 x 6 4  
4 1  
6

288

15

303



JUPITER MINE  
SEC. 36, T19S, R7E

TRANSIT STAKES FEEL  
POSITION CONTROL OF  
ADIT PORTALS AND  
OTHER FEATURES

DEC. 6, 1973

WILDE T-1A

INS. J.W.M.  
ROD. W.H.S.

(90°)

Pos.  
#1

Pos.  
STADIA  
SOUTH

From  
NORTH  
180°  
349°  
14'30"

From  
VERTICAL  
98°4'  
78°  
32'45"

STADIA  
DISTANCE  
ROAD

TRIG  
DIST.

H.L.  
4.7

CONE  
HILL  
BASE  
OF RAMP

159°  
1°  
40"

91°  
1°  
145"

7

MILDRED  
PEAK

194°  
52'  
20"

83°  
37'  
20"

3

250  
GAVI  
PEAK

237°  
43'  
10"

85°  
43'  
15"

7

ROAD  
CURVE  
IN  
SADDLE

68°  
19'  
0"

103°  
36'  
15"

205

SMALL  
PIT  
RD. GOGE

74°  
14'  
30"

89°  
42'

339'



CONT.  
AS  
ADIT

81°  
27'  
20"

85°  
49'  
30"

476'

NET  
2 RODS

70°  
47'  
0"

83°  
16'  
20"

670'

COMP  
ADIT

68°  
48'  
40"

83°  
27'  
20"

695'

A  
 #1

5/12. CORR. NOT FOR

END ROAD	95° 2' 0"	80° 29' 10"	700'
COMBS PIT	95° 0' 0"	78° 41' 0"	785'
ON DIKE ROCK CANK V	88° 6' 20"	76° 13' 0"	965' ?? 865' ??
ON DIKE	77° 32' 20"	76° 16' 45"	865'
ON DIKE	69° 14' 10"	78° 29' 40"	485 x 2 = 970
PHY DIKE CUNN 4 Comp. ADIT	51° 32' 40"	86° 2' 20"	750'
COUR #4 H.	43° 25' 0'	95° 3' 40"	610'
COWI. #3 P1	64° 36' 40"	91° 22' 40"	255 x 2 = 510

$\overline{\pi}$ #1	$\uparrow$	$71^\circ$ $48'$ $0''$	$90^\circ$ $56'$ $10''$	$385'$
CONT #2 PT.	$\left. \begin{array}{l} \\ \\ \end{array} \right\}$	$39^\circ$ $39'$ $40''$	$105^\circ$ $11'$ $30''$	$500'$
$\overline{\pi}$ #2 in ROAD	$\left. \begin{array}{l} \\ \\ \end{array} \right\}$	$130^\circ$ $50'$ $40''$	$109^\circ$ $2'$ $35''$	$655'$

$\overline{\pi}$ #2	$\left. \begin{array}{l} \\ \\ \end{array} \right\}$	$143^\circ$ $58'$ $20''$	$72^\circ$ $56'$ $10''$	$285'$
------------------------	------------------------------------------------------	--------------------------------	-------------------------------	--------

SURTIN BANK	$\left. \begin{array}{l} \\ \\ \end{array} \right\}$	$182^\circ$ $58'$ $40''$	$78^\circ$ $32'$ $0''$	$290'$
----------------	------------------------------------------------------	--------------------------------	------------------------------	--------

cont Point Road	$\left. \begin{array}{l} \\ \\ \end{array} \right\}$	$157^\circ$ $12'$ $0''$	$77^\circ$ $42'$ $40''$	$172'$
-----------------------	------------------------------------------------------	-------------------------------	-------------------------------	--------

Road. Jony the pipe	$\left. \begin{array}{l} \\ \\ \end{array} \right\}$	$335^\circ$ $34'$ $40''$	$95^\circ$ $3'$ $25''$	$130'$
------------------------------	------------------------------------------------------	--------------------------------	------------------------------	--------

TC  
TFRZ

Center  
Diam

306°	100°	665'
50'	31'	
10"	30"	

GATE  
Rim/Diag

298°	103°	600'
12'	42'	
40"	30"	

Cent.  
Pt.  
#1

301°	108°	400'
8'	43'	
25"	25"	

# CHARLES O. PARKER & CO.

CHEMISTS • ASSAYERS • ENGINEERS

TELEPHONE 623-1852  
2114 CURTIS STREET  
DENVER, COLORADO 80205

11-19-73

REGISTERED  
MAIL

NOV 21 1973



• Mr. Walter E. Heinrichs, Jr.  
Heinrichs GEOEXploration Company  
P. O. Box 5964  
Tucson, Arizona 85703

BOX 5964 TUCSON, ARIZONA 85703

Phone: (ARIZ 602) 623-0578

Dear Sir:

The samples you mailed for Mr. Charles (Scotty) Bruce arrived today in good order and will be handled according to your written directions.

Thank you very much.

Very truly yours,

William J. Bealer, Owner  
CHARLES O. PARKER AND COMPANY

Job # 881

III A-1 (File #)

17 & 5 17

140-149

88-95

21-34

Main Library  
3rd floor (in color)

Richard Lundin

Ph: 326-3060

after 5:00 any PM

Jupiter <sup>12/5/73</sup>  
Wall called High Steel.

Drove several 100 feet, including

wing from #2 level drive on

#3 level (below #2 level) to connect w/wing <sup>#2 level</sup>

drifting on veins.

0.01 0.02 Au <sup>only</sup> wall rock.

Horizontal - EX (prob?) size

240 diamond drill hole.

10 gpm. at head of #3 level.

Drove around some bad cores.

Carbo Rostedt.

cattle & dam permission

1/2 crosscut some

surface projected structures of good values at surface.

\$5.76/day wages \$35<sup>00</sup>/oz Au. <sup>equipment</sup> <sup>None</sup> losing money  
1/2 people out of work

Sulfide with veins carry, but sulfide peter out.

# JUPITER MINE AREA

Job # 881

SEC. 36, T19S, R7E, PIMA CO., ARIZONA

## TRANSIT-STADIA SURVEYING

DEC. 6, 1973 INT. J.W.M. ROD, W.H.S.

TA Pos. #1 : ARBITRARY NEAR TOP OF A HILL  
SOUTHERLY FROM MINE WORKINGS.

: ELEVATION ASSUMED FROM TOPO. QUAD.  
AS 4700'

: HORIZONTAL CONTROL FROM  
BRUNTON TO TRUE NORTH,  
USING DECLINATION OF 14°.

: INSTRUMENT, WILDE T-1A

TA POSITION #1	ROD POSITION	∠ FROM NORTH (0°)	∠ FROM VERTICAL (90°)	ROD INTERCEPT	DIST.	ELEV.
	SOUTH	180° 0' 0"	98° 4' 0"	83'		
"	BABOQUIARI PK.	349° 14' 30"	78° 32' 45"	—		
"	CONG HILL	159° 1' 40"	91° 1' 45"	—		
"	MILDRED PEAK	194° 52' 20"	83° 37' 20"	—		
"	OSOBANI PEAK	237° 43' 10"	85° 43' 15"	—		
"	✓ ROAD CURVE IN SADDLE	68° 19' 0"	103° 36' 15"	205'	194'	4655'
"	✓ SMALL PIT EAST SIDE OF ROAD	74° 14' 30"	89° 42' 0"	339'	339'	4702'
"	✓ CONTROL POINT FOR ADIT # 5	81° 27' 20"	85° 49' 30"	476'	473'	4732'
"	✓ ROAD JUNCTION	70° 47' 0"	83° 16' 20"	670'	661'	4777'
"	✓ START OF ADIT WHERE COMBS HAD COMPRESSOR	68° 48' 40"	83° 27' 20"	695'	686'	4777'
"	✓ END OF ROAD	95° 2' 0"	80° 29' 10"	700'	681'	4814'
"	✓ NEW PROSPECT PIT STARTED BY COMBS	95° 0' 0"	78° 41' 0"	785'	755'	4852'
"	✓ ON DIKE AT ROCK CAIRN # I	88° 6' 20"	76° 13' 0"	865'	815'	4900'
"	✓ ON DIKE	77° 32' 30"	76° 16' 45"	865'	816'	4900'
"	✓ ON DIKE	69° 14' 10"	78° 29' 40"	970'	931'	4890'
"	✓ ON DIKE (RHYOLITE)	51° 32' 40"	86° 2' 20"	750'	746'	4752'
Beacon #1	✓ CONTROL POINT FOR ADIT # 4	43° 25' 0"	95° 3' 40"	610'	605'	4646'
Beacon #4	✓ CONTROL POINT FOR ADIT # 3	64° 36' 40"	91° 22' 40"	510'	510'	4688'

TR POSITION	ROD POSITION	∠ FROM NORTH (0°)	∠ FROM VERTICAL (90°)	ROD	DIST.	ELEV.
#1	ROAD JUNCTION	71° 48' 0"	90° 56' 10"	385'	385'	4694'
"	CONTROL POINT FOR ADIT #2	39° 39' 40"	105° 11' 30"	500'	465'	4574'
"	TR #2 IN ROAD	13° 50' 40"	109° 2' 35"	655'	585'	4502'
	BACKSIGHT ON TR #1	193° 50' 40"				
#2	CONTROL POINT FOR ADIT #2	143° 58' 20"	72° 56' 10"	285'	260'	4582'
	ROAD SWITCH BACK ON ROAD NEAR DUMP	182° 58' 40"	78° 32' 0"	290'	280'	4558'
	ON ROAD THROUGH DIKE	157° 12' 0"	77° 42' 40"	172'	164'	4538'
	ON TOP CENTER OF DAM	335° 34' 40"	95° 3' 25"	130'	130'	4490'
	GATE, FENCE DIKE & DUMP	306° 50' 10"	100° 31' 30"	665'	643'	4382'
	CONTROL POINT FOR ADIT #1	298° 12' 40"	103° 42' 30"	600'	565'	4364'
Below 3		301° 8' 25"	108° 43' 25"	400'	359'	4380'



Hoey:

11.19.73

10:35

Jack Pierson  
doesn't have  
a file  
on Jupiter -  
(thinks he might  
have it under  
another name -  
can you give  
him further  
description to go  
by or possibly  
another name -

Ad did  
11/20/73

Section 36  
T 195, R 7E

Phone

602-445-3422

November 15, 1973

Mr. Jack Pierce  
Shattuck-Denn Mining Corporation  
P.O. Drawer C  
Humbolt, Arizona 86329

Re: Jupiter Mine

Dear Mr. Pierce:

I would like to thank you for the data which you were able to furnish us on the Mt. Pennell Claims. It was very helpful and greatly aided our evaluation.

We are at present somewhat interested in the Jupiter Mine which is located in the Baboquivari Mountains of Pima County, Arizona. I noted in Arizona Bureau of Mines Bulletin 137 that Shattuck-Denn did some underground exploration at the Jupiter. If reports, maps, or analyses are still available would it be possible for us to borrow this data for reproduction at our cost as we did the Mt. Pennell information?

Sincerely,

Heinrichs GEOEXploration Company

Wm. Hovey Smith  
Senior Geologist

WHS:mt



November 15, 1973

Mr. Charles O. Parker  
Charles O. Parker & Co.  
2114 Curtis Street  
Denver, Colorado 80205

Dear Charlie:

Separately we have mailed you a small carton containing three samples to be assayed for gold and silver. These were left with us to be forwarded to you by Mr. Charles (Scotty) Bruce. Results and invoicing should be addressed to him. We would be pleased to receive an acknowledgement that you have received the parcel from us.

Best Regards,

Walter E. Heinrichs, Jr.

WEH:mt

## SAMPLE No 4 JUPITER MINE

### MINERALOGY

Pyrite Crystalline aggregates to 5mm  
AND broken crystals

Galena tarnished cleavage  
fragments up to 2mm bent cleavages

Chalcopyrite irregular masses  
to 1mm

### Cataclastic Groundmass

Qtz, Sericite, Serpentine, powdered pyrite crushed  
galena fragments.

### Conclusions

Crushed Py - Qtz, of vein with partial  
incorporation of vein ~~with~~ alteration  
minerals

## SAMPLE No 4 WALL ROCK

### MINERALOGY

Euhedral pyrite on fracture  
surfaces with green serpentine - appearing  
mineral

Wall rock silicified almost total  
or total replacement of feldspars & mafic  
minerals - Sericite? perhaps part of act. with  
calcite as fine grains and suspect presence  
of Epidote

### Conclusions

Med. grained - granitic texture  
Altered rock possibly Diorite - Qtz  
Diorite

## SAMPLE # 6

### MINERALOGY -

Pyrite masses - 2mm being replaced  
by galena

Galena aggregates to 2cm in  
length characterized around edges most

DEFORMATION TOOK PLACE WHILE gALENA WAS BEING DEPOSITED ALTHOUGH A FEW LATE FRACTURES ARE SEEN WITH ONLY LATE QZ. CRYSTALS

CONCLUSIONS

REPLACEMENT OF WALK ROCKS BY QUARTZ + SOME PY; INTRODUCTION OF PY FILLING FRACTURES IN VEINS PYRITE REPLACING QZ; INTRODUCTION OF GALENA FRACTURING CONTINUING - REPLACEMENT PY & QZ; FRACTURING SMALL QZ CRYSTALS IN LATEST FRACTURES FURTHER CHARACTERIZING gALENA CRYSTAL AGGREGATES.

Ag/Au avg 20

range 14 → 34

Q @ \$3 \$100/oz Ag & Au

relative value is

$3/8$  Ag :  $5/8$  Au

Geometric mean of 7 ranges  
(ignoring a H.G. & W.L. sample)

0.36 Au

7.1 Ag

or \$57/T

other combinations including  
means give a range

\$45 → \$91/T

lowest "one" sample \$27/T

1435 S. 10th AVE.

P. O. BOX 1989

# Jacobs Assay Office

Registered Assayers



PHONE 622-0310

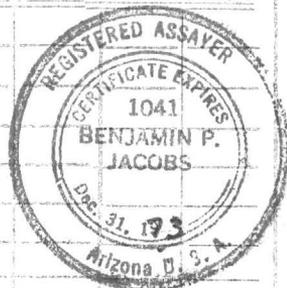
Certificate No. 59194

TUCSON, ARIZONA 85702

Nov. 2<sup>nd</sup> 1973

Sample Submitted by Mr. Heinrich Hever Exploration Co

SAMPLE MARKED	GOLD		SILVER Oz. per ton ore	COPPER Percent Wet Assay	LEAD Percent Wet Assay	Mo Percent Wet Assay	Percent Wet Assay
	Oz. per ton ore	Value per ton ore					
# 5661	0 19	19 00	6.4				
62	0 18	18 00	3 0				
63	0 32	32 00	6 8				
64	2 10	210 00	42.3				
65	0 01	1 00	0.6				
66	0 96	96 00	13 9				
67	0 20	20 00	3.7				
68	0 55	55 00	11.4				
69	<hr/>		4.4				0.022



\* Gold Figured <sup>100<sup>00</sup></sup> \$85.00 per oz. Troy

Charges \$ 37.50

Very respectfully,

*Ben P Jacobs*

1435 S. 10th AVE.

P. O. BOX 1889

# Jacobs Assay Office

PHONE 622-0813

DUPLICATE

Registered Assayers



Certificate No. 59194

TUCSON, ARIZONA 85702

Nov 2<sup>nd</sup>

197<sup>3</sup>

Sample Submitted by Mr. Heinrich Geo Exploration Co

SAMPLE MARKED	GOLD		SILVER	COPPER	LEAD	Per cent Wet Assay	Per cent Wet Assay
	Ozs. per ton ore	Value per ton ore *					
# 5661	0 19	19 00	6.4				
62	0 18	18 00	3.0				
63	0 32	32 00	6.8				
64	2 10	210 00	42.3				
65	0 01	1 00	0.6				
66	0 96	96 00	13.9				
67	0 20	20 00	3.7				
68	0 55	55 00	11.4				
69			4.4				0.022



\* Gold Figured <sup>100<sup>00</sup></sup> \$35.00 per oz. Troy

Charges \$ 37<sup>50</sup>

Very respectfully,

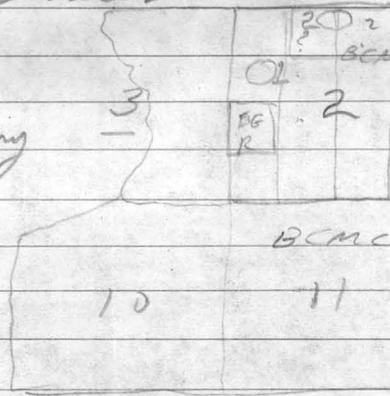
*Ben P Jacobs*

State land Dept.

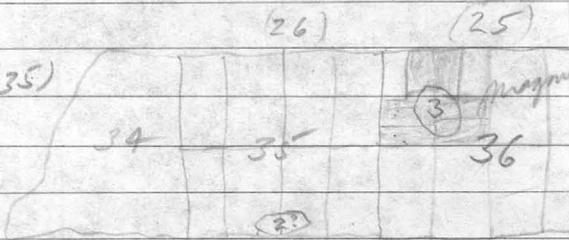
late 1972  
D.G. Williams

# Check land status

T205, R7E Section 2  
(School Section) 1 & 3 secondary  
10, 11 & 12 less  
apparently open



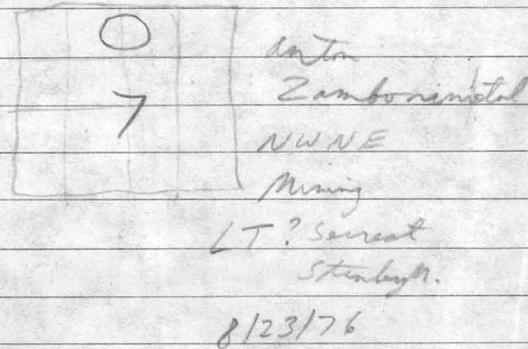
T195, R7E Section 36 (35)  
34, 25 & 26



- SW NW 1990 -
- N2 SW NW "
- N2 SE NW "
- S2 SE NW "
- W2 NE NW 1991 -
- E2 NW NW "

T205, R8E Section 

OK	OK
6	5
7	8



T195, R8E Sections 31 & 32  
OK ?

Merrin W. Combs  
918 West Santa Maria  
Tucson Ph 294-2890

Woolley & Fuller & Elliston, Willis & Deas, BCME  
D.G. Williams Red last PP 3/20/70 rejected 3/23/70  
Nelson Ranches (Richard R & Helen Nelson)  
Allied Mines Inc. 63969 Sect. 35, 195, 2E  
D.G. Williams

Bataguirri Mine:

Allison (Chancer) mine (Papago Res) (p 179)

320' adit, 625 inclined shaft - much drifting  
thin strungers of Au bearing str. & pyrite association (local)  
east strike 30' wide max. <sup>top of</sup> Ox - high Au  
production: several thousand oz Au 45,000 oz Ag  
Comments: see N.A.M. file & GEOEX IP - Papago situation

Southern Bataguirri Mine (NOT on Papago Res) (p 180)

qty veins in unmetamorphosed to schistose Brit. shales,  
congl, gtyites intruded by dikes of quartz & density ply.  
strike various, dip 15° - 90°  
pyrite, galena, opy, molyb, barite  
Gold Bullion claim - 270' shaft  
3000 tons of ore - stamp milled - grade?

Townsend property

shipments made of table & flotation concentrates  
with 4-7 oz Au & 58-60 oz Ag/T

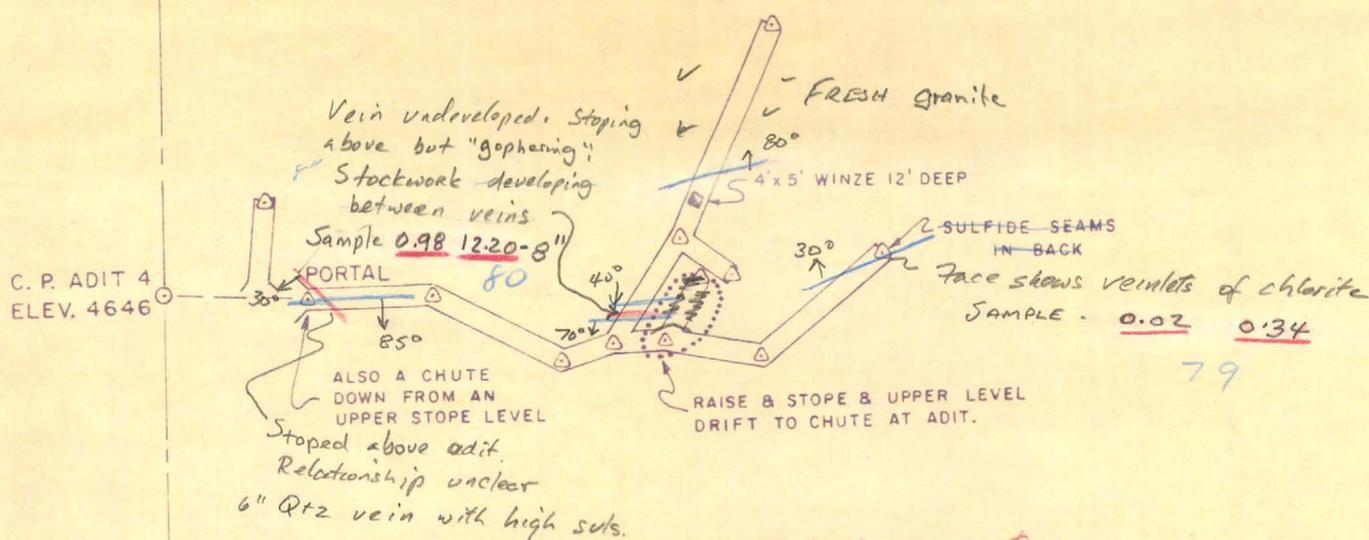
Jupiter mine - several hundred feet of workings  
Shattuck Dunn - some ore produced

Gold King (2 miles SW of Townsend)

several tons sorted ore \$40-60 Au & Ag/T shipped

Comments: JWM & CSH inspected area on 7/7/73  
& looked at 3 mines (see top sheet) no recent obvious activity  
large dumps - could be mined - need bulk samples  
look into fluxing possibility - high silver  
hand sorting  
hand stone probably state - <sup>active</sup> PPs & lenses should be checked with  
assay samples for Au & Ag (Mo, Cu)  
check for other references to district & old claim names  
Charlie Fair's thesis? GEOEX files - other theses  
veins we came were 4' - 8' + wide  
check further into Secrist claim nearby Ox Cu <sup>some of it</sup> - assay for Ag & Au  
Placers - minor but mentioned in AGPJP p. 81  
some GP & GChem possibilities  
at Jupiter claim, wallrock (dike?) strongly pyritized in places. IP?

# 1 level



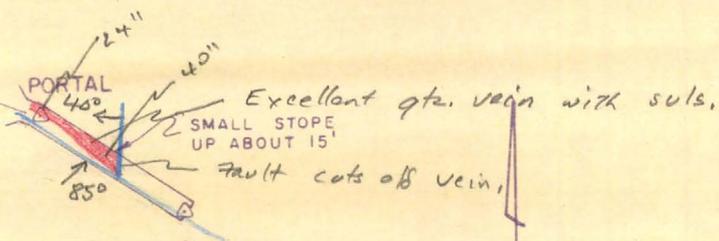
### GEOLOGY &

BRUNTON-CHAIN SURVEY OF  
UNDERGROUND WORKINGS, ADITS 3, 4 & 5  
JUPITER MINE, PIMA COUNTY, ARIZONA

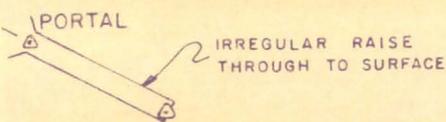
by  
HEINRICHS GEOEXPLORATION COMPANY  
December 1973 Job number 881-73

SCALE: 1" = 50'

C.P. ADIT 3  
ELEV. 4688



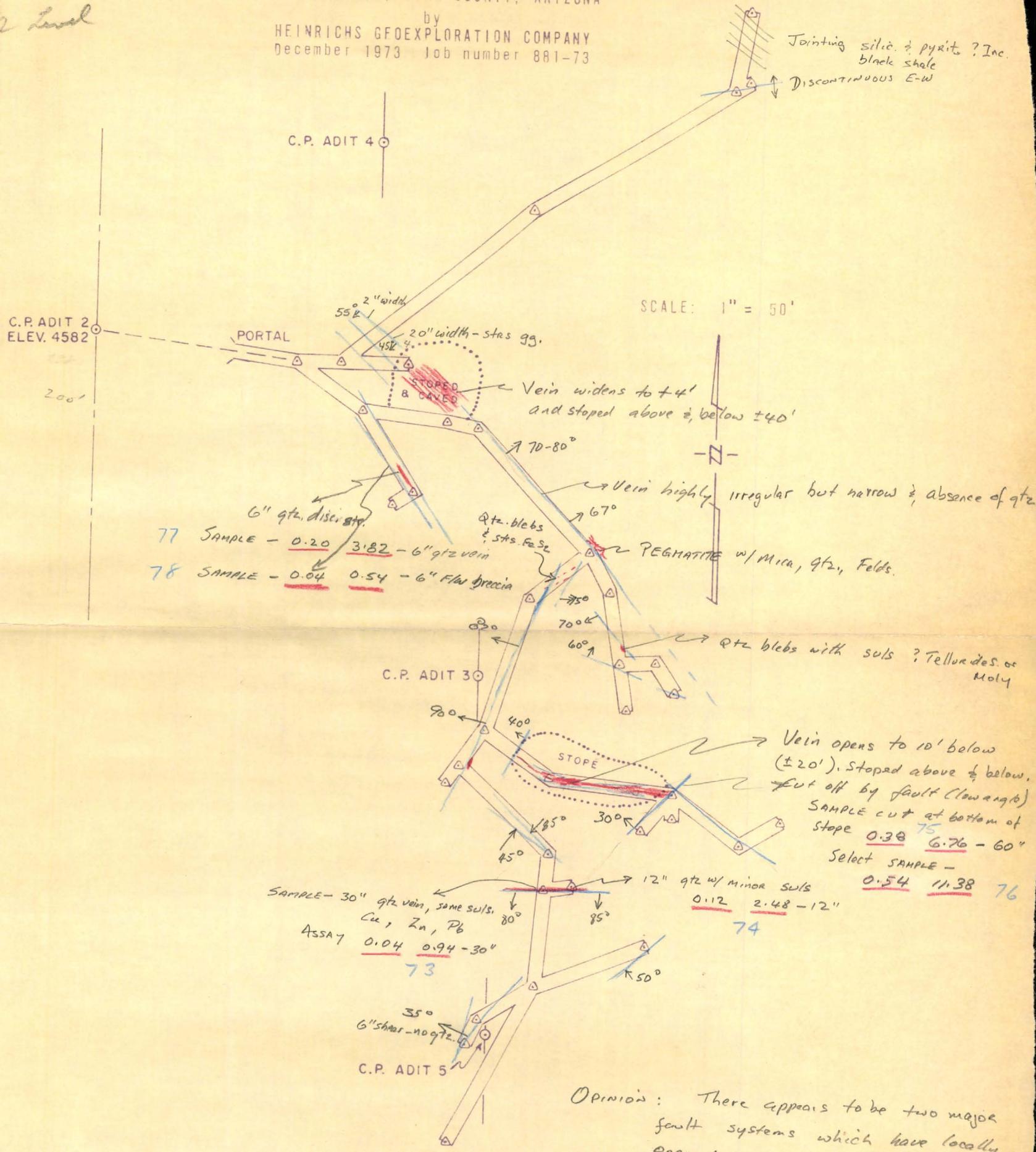
C.P. ADIT 5  
ELEV. 4732



**GEOLOGY**  
 BRUNTON-CHAIN SURVEY OF  
 UNDERGROUND WORKINGS, ADIT #2  
 JUPITER MINE, PIMA COUNTY, ARIZONA

by  
 HEINRICH'S GEOEXPLORATION COMPANY  
 December 1973 Job number 881-73

# 2 level



77 SAMPLE - 0.20 3.82 - 6" qtz vein  
 78 SAMPLE - 0.04 0.54 - 6" Flw breccia

SAMPLE - 30" qtz vein, same suls.  
 Cu, Zn, Pb  
 ASSAY 0.04 0.94 - 30"  
 73

Select SAMPLE -  
0.54 11.38 76  
0.12 2.48 - 12"  
 74

Opinion: There appears to be two major fault systems which have locally opened and were mineralized - N45W and E-W. Openings result from flexures to south in areas of former and to north in case of latter. Other deposition appears to be confined to extremely limited areas, narrow and unpredictable. Several attempts to form stockworks noted. Continuity poor.