## NTER OFFICE MEMO

## CYPRUS EXPLORATION CORPORATION LTD. VANCOUVER OFFICE

811948

Date: November 23, 1972

To:

C. A. Mark

Ref. 2074-CVL

From:

J.B.P. Sawyer

Subject:

SAM GOOSLY PROSPECT

I held a meeting with D.A. Barr of Kennco in his office this morning regarding a proposal from Cyprus on the Sam Goosly prospect. I passed along to him the very preliminary information which I had obtained earlier from you on the results to date of testing by Cymet on the concentrates from the Sam Goosly prospect. Because of commitments made to the other company which has already submitted a proposal, Kennco are going to stick with the December 1st, 1972 deadline of which they earlier advised us for receipt of a proposal from us. Barr declined to name the company from which their present proposal was received.

The terms which they are willing to consider for a joint venture essentially revolve around a price for earning a 50 or 51 percent interest, (apparently it doesn't matter too much either way to Kennco, and I would, therefore, suggest we make it 51%), in the Sam Goosly property. Kennco estimate that to date they have approximately \$1.1 million invested in the property and they want to put a premium on this initial investment, which of course, involved most of the risk. As we discussed this morning, then, we would probably have to offer around \$2 million over a period of years in order to earn a 51% interest in the property. These expenditures could be made in connection with further metallurgical work, further exploration of the property, and some initial development. Further expenditures on putting the property into production beyond the point at which Cyprus will have earned its 51%, will be shared proportionally by Kennco and Cyprus. All of the expenditures made both by Kennco and by Cyprus will be regarded as their pre-production costs and will be recoverable from profits from production before any further distribution of profits to the partners. In view of this, we can probably afford to make the initial investment figure required to earn 51% interest of a sufficient amount to give us some edge over possible competition. If we do this, together with the advantages which the initial results from Cymet would appear to provide, we should have a fairly good chance of getting in on this prospect.

...../2 ...

One of the primary aims would necessarily be further metallurgical testing and I would recommend that part of the initial expenditures by Cyprus on the property should involve obtaining more bulk samples to give us representative material from different parts of the orebody. This could be achieved by drilling four or five large diameter holes and would have the advantage of providing ore for further metallurgical testing rather than concentrates such as those on which all the Cymet testing has been done to date.

I enclose a draft of a proposed letter to Kennco, as you requested, for your approval and/or modification.

JBPS/jel

Encl:

One of the primary aims would necessarily be further metallurgical testing and I would recommend that part of the initial expenditures by Cyprus on the property should involve obtaining more bulk samples to give us representative material from different parts of the orebody. This could be achieved by drilling four or five large diameter holes and would have the advantage of providing ore for further metallurgical testing rather than concentrates such as those on which all the Cymet testing has been done to date.

I enclose a draft of a proposed letter to Kennco, as you requested, for your approval and/or modification.

Manyel.

JBPS/jel

Encl.

P.S. Re: the attached draft for Kennco

- 1. It is my understanding at present that PJM/GSB want to use C.E.C.L. for Sam Goosly. Originally they wanted to use Mapletree. This should, I suppose, be checked.
- 2. The minimum expenditure for 1973 (\$100,000) is based on the figure I put in the original 1973 budget estimates. It would be preferable I think, to increase this if at all possible. I would suggest \$150,000 minimum with \$200,000 as a more reasonable figure to cover additional metallurgical testing, large diameter drilling for test samples, plus some exploration drilling.
- 3. The item re: management committee probably needs more clarification and can perhaps be left for later discussion.

### CYPRUS EXPLORATION CORPORATION, LTD.

#### 510 WEST HASTINGS STREET VANCOUVER 2, BRITISH COLUMBIA TELEPHONE: 663-9304

November 24, 1972

Kennco Explorations (Western) Ltd., #730 - 505 Burrard Street, VANCOUVER 1, B.C.

Attention: Mr. D. A. Barr

Vice-President & General Manager

Dear Sirs:

#### Re: Sam Goosly Prospect

Further to our recent discussions regarding a possible joint venture between our Companies on your Sam Goosly prospect, Omineca Mining Division, B.C., we propose the following general outline as a basis for a Joint Venture agreement, the details of which could be worked out at future meetings:-

- 1. Cyprus could earn a 51% interest in the Sam Goosly property by making expenditures totalling 2.2 million dollars over a period of five years.
- 2. The expenditures which will be made in this connection may be for additional metallurgical testing, field exploration, feasibility & engineering studies, or initial development work.
- 3. Expenditures would be on an annual basis and Cyprus would have the right to terminate their participation at the end of each annual period.
- 4. Minimum expenditure to be made in 1973 would be \$100,000, and in succeeding years as follows:-

350,000 - 1974

400,000 - 1975

500,000 - 1976

850.000 - 1977

\$2,200,000 Total

. . . . . . 2 . . . If Cyprus should withdraw from the Joint Venture 5. before having made expenditures of at least \$2.2 million, they would retain no interest in the property. 6. If Cyprus should withdraw from the Joint Venture after having made expenditures of at least \$2.2 million, Cyprus's interest would be 51%, and if Cyprus elected not to contribute to any further expenditures which may be made in future, their interest would diminish in the same ratio as their expenditures bear to the total expenditures made. There would be no bottom limit on Cyprus's interest derived through this formula thus they could be eliminated from any participation should the property eventually be brought to production by other parties. 7. A committee on which Kennco and Cyprus are equally represented would be set up to direct further work on the property. In the event that this committee is unable to reach unanimous decision, Kennco would have the right to final decision regarding further exploration and Cyprus would have the right to final decision in the matter of metallurgical testing and development. Standard clauses covering title, warranties, information releases, force majeure, etc., would be included in the agreement as mutually agreed. We would appreciate receiving your decision and comments on this proposal at your convenience. Yours very truly, CYPRUS EXPLORATION CORPORATION, LTD.

Re: Goosly Cle: Sam Goosly. Recent meeting Stittansen, CA-Mark with kent Komer et al No final or detailed sesults yet. In general they are oftimistic thave achieved over 90% secovery on the eoffer over 85% a a u pilver & fredicts they can now improve on this Problems with gold tou first runs got only 17%.

i. purpert it is occurry as the gold six so bill be able to up recovery to 490%. Concentration ratio 87 10:1 Rough estimates of 0.75 -> 1:00 / ton against Cymet.

#### INTER OFFICE MEMO

## CYPRUS EXPLORATION CORPORATION LTD. VANCOUVER OFFICE

Date: November 14, 1972

To:

C. A. Mark

Ref. 2049-CVL

From:

J.B.P. Sawyer

Subject:

KENNCO EXPLORATIONS - SAM GOOSLY PROSPECT

I enclose for your information and files, a copy of a letter from Dave Barr of Kennco confirming the information he transmitted verbally to me on November 3rd regarding the deadline date for submitting proposals on the Sam Goosly prospect.

I understand from my telephone conversation with you from Regina of November 9th that you expect to have some detailed results on the testing done by Cymet on the Goosly's concentrates some time next week. I would appreciate an opportunity to discuss these with you and Gene Allen when they become available.

Note: This was dietated on Nov. 10/72. Our telephone condersation of this morning updates the present status of our position on Said Goosly.

JBPS/jel

Encl.

c.c. E. S. Allen

#### KENNCO EXPLORATIONS, (WESTERN) LIMITED

# ONE BENTALL CENTRE SUITE 730-505 BURRARD STREET VANCOUVER I.B.C.

November 7th, 1972

Mr. J. B. Sawyer, Manager - Canadian Exploration, Cyprus Exploration Corporation Ltd., 510 West Hastings Street, Vancouver 2, B. C.

Dear Paul:

Further to our telephone conversation of November 3, this will serve to confirm that we have received a bona fide offer from an interested company providing for participation in the continuing development of our Sam Goosly property in British Columbia. The offer will remain open for our consideration and acceptance until December 3, 1972.

Under the circumstances we request that any proposal which your company may wish to make pertaining to our Sam Goosly property should be delivered to our Vancouver office no later than December 1, 1972.

Sincerely,

D. A. Barr

DAB/fh

DEDENDIES

-> Ill Sam Gossly

#### **MEMORANDUM**

TO:

J. B. P. Sawyer

October 2, 1972

**CLV 595** 

FROM:

C. A. Mark

SUBJECT:

Sam Goosly Prospect - British Columbia

In checking with Walter Hamilton concerning the status of the Cymet Testing on the subject prospect, the Denver office of Cymet reported that most of the testing is completed at this time. A few more assays are required which should be done within one week, then allow another week or ten days for the final tabulation and report.

It is suggested that about October fifteenth would be a good guess at this time for the completion of the report.

C. A. Mark

O. S. Mak

CAM:gj

## TIRST COPY

#### MEMORANDUM

TO:

J. B. P. Sawyer

October 2, 1972

CLV 595

FROM:

C. A. Mark

SUBJECT:

Sam Goosly Prospect - British Columbia

In checking with Walter Hamilton concerning the status of the Cymet Testing on the subject prospect, the Denver office of Cymet reported that most of the testing is completed at this time. A few more assays are required which should be done within one week, then allow another week or ten days for the final tabulation and report.

It is suggested that about October fifteenth would be a good guess at this time for the completion of the report.

C. A. Mark

CAM:gj

-> C15-> file

VO+ CYPRUSMINE LSA

CYPRUSEXPL VCR

NOVEMBER 3/72

TO C A MARK

FROM J B P SAWYER

SUBJECT SAM GOOSLY

REF 334-WVL

D A BARR OF KENNCO HAS ADVISED THIS MORNING THAT THEY HAVE RECEIVED A FIRM OFFER FROM ANOTHER INTERESTED PARTY ON THEIR SAM GOOSLY PROPERTY AND HAVE PUT A DECEMBER 3RD, 1972 DEADLINE ON RECEIPT OF ANY FURTHER OFFERS.

HAVE CYMET GOT ANY INFO ON THEIR WORK ON THE GOOSLY CONCENTRATES YET? WE WERE SUPPOSED TO HAVE HAD RESULTS BY OCTOBER 15TH. TO DATE NEITHER I NOR KENNCO HAVE HEARD A WORD. WE OBVIOUSLY CAN'T MAKE A PROPOSAL UNTIL WE HAVE THE CYMET RESULTS. WOULD URGE SOME INFORMATION SOONEST SO THAT WE CAN EITHER MOVE OR GET OFF THE POT.

CYPRUSMINE LSA

CYPRUSEXPL VCR

VO+ CYPRUSMINE LSA CYPRUSEXPL VCR

NOVEMBER 3/72

TO C A MARK

FROM J B P SAWYER

SUBJECT SAM GOOSLY

REF 334-WVL

D A BARR OF KENNCO HAS ADVISED THIS MORNING THAT THEY HAVE RECEIVED A FIRM OFFER FROM ANOTHER INTERESTED PARTY ON THEIR SAM GOOSLY PROPERTY AND HAVE PUT A DECEMBER 3RD, 1972 DEADLINE ON RECEIPT OF ANY FURTHER OFFERS.

HAVE CYMET GOT ANY INFO ON THEIR WORK ON THE GOOSLY CONCENTRATES YET? WE WERE SUPPOSED TO HAVE HAD RESULTS BY OCTOBER 15TH. TO DATE NEITHER I NOR KENNCO HAVE HEARD A WORD. WE OBVIOUSLY CAN'T MAKE A PROPOSAL UNTIL WE HAVE THE CYMET RESULTS. WOULD URGE SOME INFORMATION SOONEST SO THAT WE CAN EITHER MOVE OR GET OFF THE POT.

CYPRUSMINE LSA

CYPRUSEXPL VCR

#### SAM GOOSLY, BRITISH COLUMBIA

Location:

The Sam Goosly silver-copper prospect is situated at an elevation of 4300 feet on a timbered, rolling upland surface 22 miles southeast of the Village of Houston, Specific location of the deposit is: Latitude 54°11'N, Longitude 126°16'W.

Access:

The property is accessible from Houston on Highway 16 which closely parallels the CN Railway line between Prince George and Prince Rupert by following about 26 miles of road. Studies indicate that 20 miles of new road could be constructed at a reasonable cost to provide improved and shorter access from Houston.

The nearest seaport is at Prince Rupert, 275 miles west of Houston by railway.

About 20 miles of transmission line would be required to link up with power facilities.

#### Property Status:

The property currently consists of 312 full-sized and fractional mineral claims covering about 21 square miles which are wholly owned by Kennco. In addition, Kennco has a 22% interest in 20 claims within the property limits which are owned jointly by Maverick Mountain Resources Ltd., Teck Corporation and Kennco.

Kennco's claims have expiry dates falling within the period 1972-1989. The following cash-in-lieu of work payments would be required to keep all of the claims in good standing for the next ten years. However, sufficient work has been done in parts of the property to permit abandonment of some of the claims and this will be proposed on a year-to-year basis.

<u>1972 1973 1974 1975 1976 1977 1978 1979 1980 198</u> 1800 1800 1900 \$4400 \$5100 \$6000 11,100 14,800 17,300 21,50

Total cost of tenure 1972-81 inclusive is \$85,700 assuming all claims are kept in good standing.

The Gaul claims which are held jointly with Maverick and Teck are in good standing until 1984.

Geology & Mineral Deposits:

Copper and silver mineralization occurring principally as chalcopyrite and tetrahedrite lies at a specific horizon of the Hazelton Group of Jurassic age. Mineralization favours a lapilli tuff which is intercalated with pyroclastics and greywacke above a conglomerate member in

the footwall of the mineralized zone. Two stocks intrude the Hazelton rocks. One to the west is quartz monzonite which contains weak porphyry copper type mineralization. The second stock is a complex of gabbro-monzonite 8000 feet in diameter which is barren of sulfides and lies immediately to the east of the mineralization.

Mineral deposits have been shown to be a sinuous and partly discontinuous series of lenses in the mineralized horizon traceable for over 7000 feet in length and across maximum width of 400 feet.

Tonnage & Grade:

and comprises a body of sulphiles of some 12 m.s.t. grading 0.54% a cond 3.97 often to an average depth of 400', will a stryping atio of approximately 2:1.

Additional relate which may be recoverable from consentrates include 0.03 of the Au, 0.04 % 86, and 0.013 % Bi.

The Sam Goosly deposit as presently known can be divided into two separate segments based on mining and metallurgical characteristics. The northern portion of the deposit contains near-surface mineralization which has been found difficult to treat metallurgically and which is amenable to open-pit mining. In the southern part of the deposit a section traced for a strike length of about 2000 feet and composed of several apparently sinuous and discontinuous lenses varying from 30-50 feet in width has excellent milling characteristics, but if minable, only underground mining methods could be employed because of the relatively narrow widths and moderate grades of the mineralization. The world purely a fall 7-8 mineralization and make purely a fall 7-8 mineralization.

[1] C.C. Kamm (1970) estimated that 12 x 10<sup>6</sup> tons grading 0.54% Cu and 3.97 oz/ton Ag occurred to an average depth of 400 feet from surface in the northern part of the deposit. An open pit to mine this section having 45° pit slopes would have a stripping ratio of about 2:1. By-products which may be recoverable include 0.03 oz/ton Au, 0.04% Sb, 0.013% Bi.

Probability of occurrence: 0.95 (J.M. Anderson).

[2] Bench-scale tests on samples of mineralized material from the northern portion of the deposit have shown that it is difficult to make a saleable product by conventional processes, without incurring high costs and serious losses of valuable constituents. Early tests by KCC's MMD-RD group indicated that at a grind of 98% -200 mesh, a concentrate could be produced grading 10% Cu, and 70 oz/ton Ag, with recoveries of 88% of the copper and 78% of the silver. The concentrate would also contain about 30% iron, 20% insolubles, 0.4% arsenic, 0.08% bismuth, 1.4% antimony, 0.3 ounces per ton gold , 3% zinc and 1.5% lead. This could not profitably be treated by existing commercial smelters.

In 1971-72, MMD-RD completed further tests on Sam Goosly concentrates, the principal object being to develop one or two promising processing alternatives. Ferric chloride leaching and salt catalyzed roast-leaching processes gave recoveries of principal metal values in the range of 94 to 98 percent with some improvements still expected. Because the allowable post concentrate costs based on present knowledge would be prohibitive, test work by MMD-RD has been discontinued.

Previous metallurgical tests on a small sample of material from the southern portion of the deposit proved its amenability to conventional concentrating techniques. At a grind of 56% plus 270 mesh a concentrate grading 26.2% Cu and 33.2 oz/ton Ag was obtained with recoveries of 95.5% of the copper and 90.2% of the silver.

#### Work Proposals:

Comential processes appear to be to costy pertientary when assisting the fire grain and intimate association of sulphieles present in the potential open pit.

It is considered that if the test at present being accessed out by Cyreer on material from SAM GETSAY con resolve some of the metallargued problems, Cyprus should strong by consider today and should strong by consider today and position on the property, with the idea of extending the property.

Because of the problems Kennes the property

Economic Evaluation:

although it is understood that Julis potential exists in Julio development for both the southern development of persisting the north extension of the deposits.

into padulin or the bears of a Cymit petent.

[1] The key to establishing a viable operation at Sam Goosly is a break-through in developing a metallurgical process that will profitably produce saleable products from mineralized material minable by open pit methods. In the event of a decision to develop an open pit mine at the property, the potential of the southern part of the deposit and possibly the north extension of the deposit should be reviewed.

As there does not appear to be any reasonable possibility of discovering a sufficient tonnage of material of a grade which would withstand the costly post-concentrate metallurgical costs no additional work proposals have been prepared. The emphasis of the 1971-72 investigations has been on metallurgical studies. c.f. Tonnage & Grade, item (2).

- [2] Recently Kennco has arranged to avail itself of a proposal by Cyprus to test Sam Goosly concentrates with their Cymet Process, at no cost to Kennco. A 25-pound sample of concentrates has been forwarded to Cymet for this purpose.
- [1] Very rough estimates of capital and operating costs intended for guidance purposes in developing allowable costs for chemical processing of concentrates were made by J.L. Halls of MMD-ED in March, 1972. As a result of this study, Halls concluded that chemical processing research specifically for Sam Goosly is not justified. In his study, Halls emphasized that the figures used were "order-of-magnitude" calibre and could not be used out of context for an evaluation of the property. However, as the study is the most recent one, the assumed data are reproduced below:

Tons & Grade:  $12 \times 10^6$  tons grading 0.54% Cu, 3.97 oz/ton Ag, and 0.03 oz/ton Au with an overall stripping ratio of 2:1. A 3000 TPD, 350 DPY operation over a life of 11 years was assumed.

Mill Heads: Allowing for 10% discrepancy between DDH assays and mill heads, the mill heads were estimated as 0.49% Cu, 3.57 oz/ton Ag, 0.027 oz/ton Au.

Mill Recovery: Assumed that (1) mine/mill operating costs would be \$4/ton ore, (2) chemical processing plant would recover 95% of Cu and Ag in concentrates, (3) metal sales prices would be \$0.50/lb Cu and \$1.50/lb Ag. No consideration was given to revenue from Au or other minor elements, some of which are deleterious smelter metals, (4) 137 TPD concentrates producing a net profit/day of \$7,180 or \$330 using concentrate processing costs of \$50/ton conc. and \$100/ton conc. respectively.

Revenue Per Ton Ore: For full-scale operation laboratory flotation recoveries of 88.3% for copper and 78% for silver were discounted to 84% for copper and 73% for silver. Also assumed were 95% copper and silver recoveries in a post-concentrate process. The following was derived:

Tons Concentrate/day = 130
Tons Concentrate/ton ore = 0.0433
Copper for sale (1bs)/ton ore = 7.820
Silver for sale (1bs)/ton ore = 2.476
Revenue/ton ore = \$7.624

Operating Costs: Based on operating costs (W/O depreciation for new open pit properties in British Columbia which when adjusted to 2:1 stripping ratio vary from \$1.82 for a 24,000 TPD operation at Brenda to \$3.36 for a 2000 TPD operation at Greyhound, it was estimated that \$3.50/ton ore at a 2:1 stripping ratio would apply at Sam Goosly.

Capital Costs Mine/Mill: The estimate for Sam Goosly's capital costs based on Brenda and Granisle (escalated at 6% per annum to 1972) is \$14,600,000.

Total Costs Per Ton: Cost of capital/ton milled assuming 10% DCF rate of return on investment required is \$2.14/ton ore. Added to \$3.50/ton ore operating costs thru mill the total is \$5.64/ton ore.

Amount available for Post Concentrator Processing:

	\$/Ton Ore
Revenue from Cu & Ag	7.624
Operating & Capital Costs thru mill	5.640
Metal Freight to Market (1¢//1b Cu)	0.078
Selling & Delivery (1.14¢//b Cu)	0.089
Profit before Taxes	1.817
Assuming effective tax rate 30%-taxes	0.545
Amount available for post conc. processing (per ton ore)	1.272
Amount available for post conc. processing (per ton concentrate)	29.38

Conclusions: Industry-wide research indicates that at this time, even with large-scale plants, chemical processing is not competitive with smelting and refining which costs \$35-\$45 per ton concentrate.

N.B. At this stage of its exploration history, Sam Goosly cannot withstand the cumulative effect of many of the relatively severe assumptions contained in the "order-of-magnitude" evaluation. It has led to the curtailment of metallurgical investigations by MMD-RD. (D.A.Barr)

#### Expenditures:

		Inception	5% Interest	t
Year	Expenditure	To Date	<u>Annually</u>	<u>Total</u>
1967	\$ 780.94	\$ 780.94	_	
1968	60,474.81	61,255.75	\$ 39.05	\$ 61,294.80
1969	333,406.31	394,662.06	3,064.74	397,765.85
1970 /	519,472.11	914,134.17	19,888.29	937,126.25
1971	134,751.21	1,048,885.38	46,856.31	1,118,733.77

### Negotiations:

None. Cominco and several other companies have expressed interest in the property in the past. Depending on the outcome of the Cymet Process test, consideration should be given to farming out Sam Goosly.

#### Special Problems:

[1] Poor concentrating characteristics of material in northern portion of the deposit amenable to open pit mining. c.f. Tonnage & Grade, item (2), and Economic Evaluation.

INTER OFFICE MEMO CYPRUS EXPLORATION CORPORATION LTD. VANCOUVER OFFICE Date: August 30, 1972 To: C. A. Mark Ref. 1938-CVL J.B.P. Sawyer From: SAM GOOSLY Subject: I enclose herewith two brief summaries of the Sam Goosly property together with a generalized geological map and a number of geological sections provided by Dave Barr at Kennco at a meeting with him on August 28th. We will make a field visit to the property this Fall before the snow comes. If by any chance you can make it up this way, perhaps we can arrange the trip to Goosly with you. As previously reported, Kennco have decided that they will joint venture this property and are presently giving all interested parties an opportunity to review data and visit the property. Their feeling is that much will depend on an economic solution to the metallurgical problems, and my impression is that if we can at least report relatively favourable results from the initial Cymet work, we have a good chance of being able to take a position in this situation. There is additional exploration work to be done on the property and the successful joint venturer with Kennco will probably have to be prepared to make funds available for this in 1973. We will follow up further on this prospect and keep you advised. JBPS/jel Encls.

June 29th, 1972

Dr. E. Peters, Metallurgical Department, University of British Columbia, Vancouver S, B.C.

Dear Dr. Peters:

Re: Sam Goosly Property, B. C.

Further to our telephone discussion of June 23, I have requested that a sample of concentrates from our Sam Goosly property be forwarded to you by Kennecott Copper Corporation's MAD-RD group. Pertinent information on this concentrate follows:

#### -10 mesh Sam Goosly Concentrates (Rough Assays)

Cu	6.8%	Sb	0.76%
Fe	21.2%	Аз	0.56%
S	23.4%	Zn	0.22%
Ag	0.113%	B1	0.052%
	38.8 oz/t		

The sample from which the above concentrates were derived was obtained from a large pit excavated in a portion of the deposit at Sam Goosly. Assays from 64 diamond drill holes in the general area were reviewed to provide some insight into changes in metal occurrence throughout the deposit. The results indicated:

- 1. For the portion of the deposit studied, the mineralization averages 470 ppm Sb and 390 ppm As with a standard deviation per 10-foot core length of 390 ppm for Sb and 320 ppm for As.
- 2. The northern portion of the deposit appears to have much nigher Sb and As concentrations than the balance of the deposit.
- 3. Sb mineralization occurred simultaneously with Ag, Cu and Au, but As and Zn were less closely associated with these other four elements.

The most promising processing alternatives investigated by NAMD-RD are ferric chloride leaching and salt catalyzed roast-leaching. Prior

-2-Dr. E. Peters - cont'd June 29, 1972 Re: Sam Goosly Property, B.C. to this, research, on a small scale, has been carried out by Lakefield in association with Bechtel Corporation and by Anglo-American Lakefield tested the segregation roasting (Torco) process and subsequently Anglo American recommended against the process but showed that chloride roasting produced promising results on a laboratory scale. Bechtel-Lakefield also tried sulphite roasting, combined with cyanidation of the residue. Results were not promising. Kennecott's MD-RD group also carried out some investigation of the sulfuric acid-bake (Treadwell) process as applied to this material. A high degree of solubilization of the valuable metals was achieved but the test work was on a very small scale. I understand that you propose to undertake several smallscale tests to determine whether sufficient justification can be obtained for recommending more detailed studies. Our company appreciates your interest in this material and we hope that your preliminary investigations are encouraging. Sincerely, DAB/fh D. A. Barr

INTER OFFICE MEMO

## CYPRUS EXPLORATION CORPORATION LTD. VANCOUVER OFFICE

Date:

August 23, 1972

To: C. A. Mark

Ref. 1924-CVL

From:

J.B.P. Sawyer

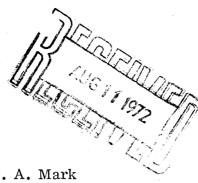
Subject:

SAM GOOSLY PROPERTY

We have been advised today by telephone call from Dave Barr that Kennecott has decided that they will joint venture their Sam Goosly property. They are apparently advising all parties who have expressed interest in the property at this time and intend to provide an opportunity for a review of data and work done to date; etc. at their office as well as a field visit to the property before the end of this season with the expectation that any arrangements made will probably be based on a continuing program in 1973.

I have confirmed our interest in a further review of this property and have an appointment to attend at Kennco's office on August 28th, 1972 to review data and discuss in general terms the kind of proposal which Kennco would consider. This will be followed up by a field visit in the near future.

JBPS/jel



August 8, 1972 Technical Services

TO:

C. A. Mark

FROM:

E. S. Allen

SUBJECT:

Kennco Explorations - Sam Goosly Prospect

Reference is made to the following correspondence, copies of which were recently forwarded, concerning the Cymet testing of concentrate samples:

- Memorandum to C. A. Mark from J. B. P. Sawyer dated June 6, 1972.
- Letter to D. A. Barr from J. B. P. Sawyer dated June 6, 1972.
- Letter to J. B. P. Sawyer from D. A. Barr dated June 13, 1972.
- Memorandum to C. A. Mark from J. B. P. Sawyer dated June 20, 1972.

The following summarizes our understandings of this and other undeveloped prospects:

- In the development of the Cymet processes to treat base metal sulfide concentrates we were obtaining samples from active or inactive mining properties which contained various sulfide minerals, as major and/or minor constituents, to determine the potential of the processes for commercial application to these sulfide concentrates. During this period samples were obtained of copper-cobalt concentrates from Idaho, copper-nickel concentrates from operating mines in Canada, bulk lead-copper-zinc concentrates from Brunswick Mining District in Canada, chalcocite concentrates from New Mexico and Michigan, Anvil lead-zinc bulk concentrates, Pima chalcopyrite concentrates, Bruce copper and bulk copper-zinc concentrates, Pima molybdenite first cleaner concentrates, lead-silver concentrates from an operating Idaho mine. This wide coverage indicates that we have not had difficulty in obtaining samples of concentrates containing a wide spectrum of minerals.
- The "fingerprint" (preliminary) testing program costs approximately \$5,000 (average) for each sample tested. During the first half of 1972 free fingerprint testing costs (paid exclusively by Cyprus Metallurgical Processes Corporation) were in excess of \$25,000 and with the present outstanding

commitments for like "free" fingerprint testing the costs during 1972 may approach \$40,000. Unless the results of this no-cost fingerprint testing lead to some custom intermediate testing contracts, this program is a financial burden on Cymet. The Cyprus Metallurgical Processes Corporation Board of Directors passed a resolution to no longer perform no-cost fingerprint testing, thus saving both money (from the testing, assaying, mineralogical investigations, etc.) and the time of testing engineers who can be assigned to other Cymet process investigations that may expand the processes and patents.

- The present policy of Cymet relative to all future proposals for fingerprint testing will be that it will be at fixed charges and that any subsequent work, at the option of the Client, will be performed at cost plus a percentage fee. The program for the subsequent testing will be mutually agreed to and budgeted prior to the commencement of the subsequent test work.
- As you can understand, the next three to five years will be crucial to Cymet in getting through the pilot plant phases and getting commitments for construction and operation of the first commercial plants. It is for these reasons that undeveloped prospects do not usually appear as attractive to Cymet as existing mining and concentrating operations which are experiencing difficulties in the economics of treating the sulfide concentrates by conventional pyrometallurgical smelters.

Eugene S. Allen

ESA:jm

cc: J. G. Hansen

W. E. Hosken

J. B. P. Sawyer

June 29th, 1972

Dr. E. Peters, Metallurgical Department, University of British Columbia, Vancouver 8, B.C.

Dear Dr. Peters:

Re: Sam Goosly Property, B. C.

Further to our telephone discussion of June 23, I have requested that a sample of concentrates from our Sam Goosly property be forwarded to you by Kennecott Copper Corporation's MMD-RD group. Pertinent information on this concentrate follows:

#### -10 mesh Sam Goosly Concentrates (Rough Assays)

Cu	6.8%	Sb	0.76%
Fe	21.2%	As	0.56%
S	23.4%	Zn	0.22%
Ag	0.113%	B1	0.052%
	33.8 oz/t		

The sample from which the above concentrates were derived was obtained from a large pit excavated in a portion of the deposit at Sam Goosly. Assays from 64 diamond drill holes in the general area were reviewed to provide some insight into changes in metal occurrence throughout the deposit. The results indicated:

- For the portion of the deposit studied, the mineralization averages 470 ppm Sb and 390 ppm As with a standard deviation per 10-foot core length of 390 ppm for Sb and 320 ppm for As.
- The northern portion of the deposit appears to have much higher Sb and As concentrations than the balance of the deposit.
- 3. Sb mineralization occurred simultaneously with Ag, Cu and Au, but As and Zn were less closely associated with these other four elements.

The most promising processing alternatives investigated by NAMD-RD are ferric chloride leaching and salt catalyzed roast-leaching. Prior

Dr. E. Peters - cont'd -2-June 29, 1972 Re: Sam Goosly Property, B.C. to this, research, on a small scale, has been carried out by Lakefield in association with Bechtel Corporation and by Anglo-American Lakefield tested the segregation roasting (Torco) process and subsequently Anglo American recommended against the process but showed that chloride roasting produced promising results on a laboratory scale. Bechtel-Lakefield also tried sulphate roasting, combined with cyanidation of the residue. Results were not promising. Kennecott's MD-RD group also carried out some investigation of the sulfuric acid-bake (Treadwell) process as applied to this material. A high degree of solubilization of the valuable metals was achieved but the test work was on a very small scale. I understand that you propose to undertake several smallscale tests to determine whether sufficient justification can be obtained for recommending more detailed studies. Our company appreciates your interest in this material and we hope that your preliminary investigations are encouraging. Sincerely, DAB/fh D. A. Barr

#### SAM GOOSLY, BRITISH COLUMBIA

#### Location:

The Sam Goosly silver-copper prospect is situated at an elevation of 4300 feet on a timbered, rolling upland surface 22 miles southeast of the Village of Houston. Specific location of the deposit is: Latitude 54°11'N, Longitude 126°16'W.

#### Access:

The property is accessible from Houston on Highway 16 which closely parallels the CN Railway line between Prince George and Prince Rupert by following about 26 miles of road. Studies indicate that 20 miles of new road could be constructed at a reasonable cost to provide improved and shorter access from Houston.

The nearest seaport is at Prince Rupert, 275 miles west of Houston by railway.

About 20 miles of transmission line would be required to link up with power facilities.

#### Property Status:

The property currently consists of 312 full-sized and fractional mineral claims covering about 21 square miles which are wholly owned by Kennco. In addition, Kennco has a 22% interest in 20 claims within the property limits which are owned jointly by Maverick Mountain Resources Ltd., Teck Corporation and Kennco.

Kennco's claims have expiry dates falling within the period 1972-1989. The following cash-in-lieu of work payments would be required to keep all of the claims in good standing for the next ten years. However, sufficient work has been done in parts of the property to permit abandonment of some of the claims and this will be proposed on a year-to-year basis.

<u>1972</u> <u>1973</u> <u>1974</u> <u>1975</u> <u>1976</u> <u>1977</u> <u>1978</u> <u>1979</u> <u>1980</u> <u>1981</u> 1800 1800 1900 \$4400 \$5100 \$6000 11,100 14,800 17,300 21,50

Total cost of tenure 1972-81 inclusive is \$85,700 assuming all claims are kept in good standing.

The Gaul claims which are held jointly with Maverick and Teck are in good standing until 1984.

## Geology & Mineral Deposits:

Copper and silver mineralization occurring principally as chalcopyrite and tetrahedrite lies at a specific horizon of the Hazelton Group of Jurassic age. Mineralization favours a lapilli tuff which is intercalated with pyroclastics and greywacke above a conglomerate member in

the footwall of the mineralized zone. Two stocks intrude the Hazelton rocks. One to the west is quartz monzonite which contains weak porphyry copper type mineralization. The second stock is a complex of gabbro-monzonite 8000 feet in diameter which is barren of sulfides and lies immediately to the east of the mineralization.

Mineral deposits have been shown to be a sinuous and partly discontinuous series of lenses in the mineralized horizon traceable for over 7000 feet in length and across maximum width of 400 feet.

#### Tonnage & Grade:

The Sam Goosly deposit as presently known can be divided into two separate segments based on mining and metallurgical characteristics. The northern portion of the deposit contains near-surface mineralization which has been found difficult to treat metallurgically and which is amenable to open-pit mining. In the southern part of the deposit a section traced for a strike length of about 2000 feet and composed of several apparently sinuous and discontinuous lenses varying from 30-50 feet in width has excellent milling characteristics but if minable, only underground mining methods could be employed because of the relatively narrow widths and moderate grades of the mineralization.

[1] C.C. Kamm (1970) estimated that  $12 \times 10^6$  tons grading 0.54% Cu and 3.97 oz/ton Ag occurred to an average depth of 400 feet from surface in the northern part of the deposit. An open pit to mine this section having 45° pit slopes would have a stripping ratio of about 2:1. By-products which may be recoverable include 0.03 oz/ton Au, 0.04% Sb, 0.013% Bi.

Probability of occurrence: 0.95 (J.M. Anderson).

[2] Bench-scale tests on samples of mineralized material from the northern portion of the deposit have shown that it is difficult to make a saleable product by conventional processes, without incurring high costs and serious losses of valuable constituents. Early tests by KCC's MMD-RD group indicated that at a grind of 98% -200 mesh, a concentrate could be produced grading 10% Cu, and 70 oz/ton Ag, with recoveries of 88% of the copper and 78% of the silver. The concentrate would also contain about 30% iron, 20% insolubles, 0.4% arsenic, 0.08% bismuth, 1.4% antimony, 0.3 ounces per ton gold , 3% zinc and 1.5% lead. This could not profitably be treated by existing commercial smelters.

In 1971-72, MMD-RD completed further tests on Sam Goosly concentrates, the principal object being to develop one or two promising processing alternatives. Ferric chloride leaching and salt catalyzed roast-leaching processes gave recoveries of principal metal values in the range of 94 to 98 percent with some improvements still expected. Because the allowable post concentrate costs based on present knowledge would be prohibitive, test work by MMD-RD has been discontinued.

Previous metallurgical tests on a small sample of material from the southern portion of the deposit proved its amenability to conventional concentrating techniques. At a grind of 56% plus 270 mesh a concentrate grading 26.2% Cu and 33.2 oz/ton Ag was obtained with recoveries of 95.5% of the copper and 90.2% of the silver.

#### Work Proposals:

[1] The key to establishing a viable operation at Sam Goosly is a break-through in developing a metallurgical process that will profitably produce saleable products from mineralized material minable by open pit methods. In the event of a decision to develop an open pit mine at the property, the potential of the southern part of the deposit and possibly the north extension of the deposit should be reviewed.

As there does not appear to be any reasonable possibility of discovering a sufficient tonnage of material of a grade which would withstand the costly post-concentrate metallurgical costs no additional work proposals have been prepared. The emphasis of the 1971-72 investigations has been on metallurgical studies. c.f. Tonnage & Grade, item (2).

[2] Recently Kennco has arranged to avail itself of a proposal by Cyprus to test Sam Goosly concentrates with their Cymet Process, at no cost to Kennco. A 25-pound sample of concentrates has been forwarded to Cymet for this purpose.

## Evaluation:

[1] Very rough estimates of capital and operating costs intended for guidance purposes in developing allowable costs for chemical processing of concentrates were made by J.L. Halls of MMD-ED in March, 1972. As a result of this study, Halls concluded that chemical processing research specifically for Sam Goosly is not justified. In his study, Halls emphasized that the figures used were "order-of-magnitude" calibre and could not be used out of context for an evaluation of the property. However, as the study is the most recent one, the assumed data are reproduced below:

Tons & Grade:  $12 \times 10^6$  tons grading 0.54% Cu, 3.97 oz/ton Ag, and 0.03 oz/ton Au with an overall stripping ratio of 2:1. A 3000 TPD, 350 DPY operation over a life of 11 years was assumed.

Mill Heads: Allowing for 10% discrepancy between DDH assays and mill heads, the mill heads were estimated as 0.49% Cu, 3.57 oz/ton Ag, 0.027 oz/ton Au.

Mill Recovery: Assumed that (1) mine/mill operating costs would be \$4/ton ore, (2) chemical processing plant would recover 95% of Cu and Ag in concentrates, (3) metal sales prices would be \$0.50/lb Cu and \$1.50/lb Ag. No consideration was given to revenue from Au or other minor elements, some of which are deleterious smelter metals, (4) 137 TPD concentrates producing a net profit/day of \$7,180 or \$330 using concentrate processing costs of \$50/ton conc. and \$100/ton conc. respectively.

Revenue Per Ton Ore: For full-scale operation laboratory flotation recoveries of 88.3% for copper and 78% for silver were discounted to 84% for copper and 73% for silver. Also assumed were 95% copper and silver recoveries in a post-concentrate process. The following was derived:

Tons Concentrate/day	130	
Tons Concentrate/ton ore	0.0433	
Copper for sale (lbs)/ton ore	=	7.820
Silver for sale (lbs)/ton ore	=	2.476
Revenue/ton ore	=	\$7.624

Operating Costs: Based on operating costs (W/O depreciation) for new open pit properties in British Columbia which when adjusted to 2:1 stripping ratio vary from \$1.82 for a 24,000 TPD operation at Brenda to \$3.36 for a 2000 TPD operation at Greyhound, it was estimated that \$3.50/ton ore at a 2:1 stripping ratio would apply at Sam Goosly.

Capital Costs Mine/Mill: The estimate for Sam Goosly's capital costs based on Brenda and Granisle (escalated at 6% per annum to 1972) is \$14,600,000.

Total Costs Per Ton: Cost of capital/ton milled assuming 10% DCF rate of return on investment required is \$2.14/ton ore. Added to \$3.50/ton ore operating costs thru mill the total is \$5.64/ton ore.

Amount available for Post Concentrator Processing:

	\$/Ton Ore
Revenue from Cu & Ag	7.624
Operating & Capital Costs thru mill	5.640
Metal Freight to Market (1¢/1b Cu)	0.078
Selling & Delivery (1.14¢/lb Cu)	0.089
Profit before Taxes	1.817
Assuming effective tax rate 30%-taxes	0.545
Amount available for post conc. processing (per ton ore)	1.272
Amount available for post conc. processing (per ton concentrate)	29.38

Conclusions: Industry-wide research indicates that at this time, even with large-scale plants, chemical processing is not competitive with smelting and refining which costs \$35-\$45 per ton concentrate.

N.B. At this stage of its exploration history, Sam Goosly cannot withstand the cumulative effect of many of the relatively severe assumptions contained in the "order-of-magnitude" evaluation. It has led to the curtailment of metallurgical investigations by MMD-RD. (D.A.Barr)

#### Expenditures:

Year	Expenditure	Inception To Date	5% Interes Compounded Annually	
1967	\$ 780.94	\$ 780.94	-	, <del>-</del>
1968	60,474.81	61,255.75	\$ 39.05	\$ 61,294.80
1969	333,406.31	394,662.06	3,064.74	397,765.85
1970	519,472.11	914,134.17	19,888.29	937,126.25
1971	134,751.21	1,048,885.38	46,856.31	1,118,733.77

#### Negotiations:

None. Cominco and several other companies have expressed interest in the property in the past. Depending on the outcome of the Cymet Process test, consideration should be given to farming out Sam Goosly.

#### Special Problems:

[1] Poor concentrating characteristics of material in northern portion of the deposit amenable to open pit mining. c.f. Tonnage & Grade, item (2), and Economic Evaluation.

Juna 29th, 1972

Dr. E. Peters, Metallurgical Department, University of British Columbia, Vancouver 8, B.C.

Dear Dr. Peters:

Re: Sam Goosly Property, B. C.

Further to our telephone discussion of June 23, I have requested that a sample of concentrates from our Sam Goosly property be forwarded to you by Kennecott Copper Corporation's MAD-RD group. Pertinent information on this concentrate follows:

#### -10 mesh Sam Goosly Concentrates (Rough Assays)

Cu	6.8%	Sb	0.76%
Fe	21.2%	Às	0.56%
S	23.4%	Zn	0.22%
Ag	0.113%	B1	0.052%
	38.8 nz/r		

The sample from which the above concentrates were derived was obtained from a large pit excavated in a portion of the deposit at Sam Goosly. Assays from 64 diamond drill holes in the general area were reviewed to provide some insight into changes in metal occurrence throughout the deposit. The results indicated:

- 1. For the portion of the deposit studied, the mineralization averages 470 ppm Sb and 390 ppm As with a standard deviation per 10-foot core length of 390 ppm for Sb and 320 ppm for As.
- 2. The northern portion of the deposit appears to have much nigher Sb and As concentrations than the balance of the deposit.
- 3. Sb mineralization occurred simultaneously with Ag, Cu and Au, but As and Zn were less closely associated with these other four elements.

The most promising processing alternatives investigated by 120-RD are ferric chloride leaching and salt catalyzed roast-leaching. Prior

Dr. E. Peters - cont'd -2-June 29, 1972 Re: Sam Goosly Property, B.C. to this, research, on a small scale, has been carried out by Lakefield in association with Bechtel Corporation and by Anglo-American Lakefield tested the segregation roasting (Torco) process and subsequently Anglo American recommended against the process but showed that chloride roasting produced promising results on a laboratory scale. Bechtel-Lakefield also tried sulphite roasting, combined with cyanidation of the residue. Results were not promising. Kennecott's MiD-RD group also carried out some investigation of the sulfuric acid-bake (Treadwell) process as applied to this material. A high degree of solubilization of the valuable metals was achieved but the test work was on a very small scale. I understand that you propose to undertake several smallscale tests to determine whether sufficient justification can be obtained for recommending more detailed studies. Our company appreciates your interest in this material and we hope that your preliminary investigations are encouraging. Sincerely. DAB/Eb D. A. Barr

## INTER OFFICE MEMO

# CYPRUS EXPLORATION CORPORATION LTD. VANCOUVER OFFICE

Date: June 20, 1972

To:

C. A. Mark

Ref. 1804-CVL

From:

J.B.P. Sawyer

Subject:

KENNCO EXPLORATIONS - SAM GOOSLY PROPERTY

I enclose for your information and Los Angeles office records, a copy of a letter recently received from Dave Barr of Kennco in reply to my June 6th letter on the subject property.

As you will note, they are questioning the necessity of signing a non-disclosure agreement. They did not, in fact, receive such an agreement from Gene Allen and so if Cymet still requires them to sign this type of agreement, perhaps this situation could be brought to Mr. Allen's attention. In the meantime, I have suggested to them that they wait to hear further from Cymet and to assume that the test on their concentrates from Sam Goosly is proceeding. I would appreciate being advised of any further developments in this connection.

JBPS/jel

Encl.

#### KENNCO EXPLORATIONS, (WESTERN) LIMITED

# ONE BENTALL CENTRE SUITE 730-505 BURRARD STREET VANCOUVER I, B. C.

June 13, 1972

Mr. J.B.P. Sawyer, Manager-Canadian Exploration, Cyprus Exploration Corporation Limited, 510 West Hastings Street, Vancouver 2, B.C.

Dear Mr. Sawyer:

Re: Sam Goosly, British Columbia

Thank you for your letter of June 6 concerning our Sam Goosly property.

As discussed with you, we very much appreciate the offer by Cyprus to undertake metallurgical tests by the Cymet method on Sam Goosly concentrates at no cost to Kennco. As I mentioned we have had a variety of metallurgical tests performed by various organizations on Sam Goosly concentrates and to date only moderately encouraging results have been achieved.

We understand that the Cymet process is covered by patent and we therefore question the necessity of signing a non-disclosure agreement.

In the event that the tests on Sam Goosly concentrates by the Cymet method are successful and a future decision was made to treat concentrates by this process, we would consider granting Cyprus the non-exclusive opportunity to participate in further development of the property, should outside participation be sought by our Company.

Yours very truly,

D.A. Barr

Vice President & General Manager

DAB/dj

c.c. L.B. Moon (w. encl.)



#### KENNCO EXPLORATIONS, (WESTERN) LIMITED

ONE BENTALL CENTRE
SUITE 730-505 BURRARD STREET
VANCOUVER I, B. C.

June 13, 1972

Mr. J.B.P. Sawyer, Manager-Canadian Exploration, Cyprus Exploration Corporation Limited, 510 West Hastings Street, Vancouver 2, B.C.

Dear Mr. Sawyer:

Re: Sam Goosly, British Columbia

Thank you for your letter of June 6 concerning our Sam Goosly property.

As discussed with you, we very much appreciate the offer by Cyprus to undertake metallurgical tests by the Cymet method on Sam Goosly concentrates at no cost to Kennco. As I mentioned we have had a variety of metallurgical tests performed by various organizations on Sam Goosly concentrates and to date only moderately encouraging results have been achieved.

We understand that the Cymet process is covered by patent and we therefore question the necessity of signing a non-disclosure agreement.

In the event that the tests on Sam Goosly concentrates by the Cymet method are successful and a future decision was made to treat concentrates by this process, we would consider granting Cyprus the non-exclusive opportunity to participate in further development of the property, should outside participation be sought by our Company.

Yours very truly,

D.A. Barr

Vice President & General Manager

DAB/dj

c.c. L.B. Moon (w. encl.)



## CYPRUS EXPLORATION CORPORATION, LTD.

VANCOUVER 2, BRITISH COLUMBIA
TELEPHONE: 683-9304

June 9, 1972

Mr. D. A. Barr, Vice-President & General Manager, Kennco Explorations, (Western) Ltd., #730 - 505 Burrard Street, VANCOUVER 1, B.C.

Dear Mr. Barr:

Further to our conversation of this morning, I now enclose a copy of the paper given recently in Tokyo on the Cymet process. Since the paper was given at a public meeting, I suppose it can be considered general information although I have not received any specific permission to distribute copies. This one is attached for your information and I am sure you will treat it appropriately.

I will get back to you on the phone regarding the security clause as soon as I have been able to contact our people in Los Angeles.

Yours very truly,

CYPRUS EXPLORATION CORPORATION, LTD.

J. B. P. Sawyer

Manager - Canadian Exploration

JBPS/jel

Encl.

### INTER OFFICE MEMO

## CYPRUS EXPLORATION CORPORATION LTD. **VANCOUVER OFFICE**

Date: June 6, 1972

To:

C. A. Mark

Ref. 1779-CVL

From:

J.B.P. Sawyer

Subject:

KENNCO EXPLORATIONS' SAM GOOSLY PROSPECT

I have today met with Dave Barr of Kennco and have advised him that the concentrate from the Sam Goosly prospect which he earlier sent to Gene Allen will be treated with no cost to Kennco, as set out in your memo of June 2nd, Reference CLV-503. Attached is a copy of a letter to Barr resulting from our discussions.

Kennco have already had test work done by two or three other metallurgical groups thus a first refusal arrangement is somewhat meaningless, however, we do have an assurance that we will get an opportunity to handle the ore or to participate in its processing, and it is implied, I think, that any future position we might gain is entirely dependent on Cymet's ability to perform satisfactorily. Obviously if they had had reasonable results from the earlier testing, they wouldn't have come to us, and if Cymet is shown to be the most effective process in handling this type of material, they won't need to look any further. At this point in time there apparently has been no decision made by Kennco as far as putting the property into production is concerned, but on past performance I would think it likely that they would eventually be looking at least for a partner or possibly even to dispose of the property. I am sure Major Seery has a better feel for this aspect than I, however, they have recently made deals on their Berg prospect with an outsider and have arranged to give Hudson Bay a bigger slice of Stikine Copper. If they follow this pattern, there is likely room for us at Sam Goosly.

The principal ore minerals at Goosly are tetrahedrite and chalcopyrite, however, there are significant amounts of zinc (around 1%) as well as lead, bismuth, and precious metals. The grade is 0.4% copper and about 4 oz./ton silver. probably have in the order of 40 million tons available in an open pit and Barr says there does not appear to be any obvious chance to enlarge this. There is a suggestion of a faulted extension, but shallow drilling on this extension found no sulphides. I suppose there could be extensions at depth.

JBPS/jel

Encl.

# CYPKUS EXPLORATION CORPORATION, LTD. 510 WEST HASTINGS STREET VANCOUVER 2, BRITISH COLUMBIA

TELEPHONE: 682-8304

June 6, 1972

Mr. D. A. Barr, Vice-President & General Manager, Kennco Explorations, (Western) Ltd., #730 - 505 Burrard Street, VANCOUVER 1, B.C.

Dear Mr. Barr:

Further to our conversations of this date, I am writing to confirm what we believe to be the intent of an understanding between Kennco and Cyprus concerning your Company's Sam Goosly property. As I indicated to you, the sample of concentrate which was sent to our Mr. Gene Allen in Los Angeles will be treated by the Cymet method at no cost to Kennco. The non-disclosure clause will still apply, but we understand that there is no objection to this on your part. In consideration of this test being carried out, we understand that Kennco will undertake to afford to Cyprus at such time as is appropriate, the opportunity to participate with Kennco at least in the treatment of this ore and also in development and placing in production of the property should Kennco seek at some future time to consider taking a partner in on this project. We appreciate, of course, that your Company has already had test work on these ores carried out by other groups so that perhaps a first refusal arrangement is no longer possible. However, because our Technical people feel that they can successfully handle this type of material, we would expect at least an equal opportunity as discussed.

We wish to apologize for the misunderstanding which arose earlier regarding treatment of this material.

Regarding the Murray Brook data, we wish to thank you for the opportunity to review it and will be in touch with you again when we have had a chance to digest the information.

Yours very truly,

CYPRUS EXPLORATION CORPORATION, LTD.

B. P. Sawyer

Manager - Canadian Exploration

c.c. Mr. C. A. Mark, C.M.C., Los Angeles

JBPS/jel

#### **MEMORANDUM**

TO:

J. B. P. Sawyer

June 2, 1972

**CLV 503** 

FROM:

C. A. Mark

SUBJECT: S

Sam Goosly Prospect - Kennco Explorations

In reply to your letter on the above subject dated May twenty-ninth, Mr. Hansen suggested that the Cymet testing cost of approximately \$4,000 could be absorbed by Cyprus Exploration if we could get some option agreement on a joint venture with Kennco on the Sam Goosly prospect. Since we had already verbally agreed to do the test at our own expense, if Kennco will not agree on an option, then I suggest we still go ahead and absorb the cost.

Since we obviously cannot absorb many of these charges without upsetting our budget completely, we should only make this one exception. Also, if we take the risk before the testing proceeds and make an option with Kennco, this would be a Cyprus Exploration project rather than a Cymet project and they would be doing the work for us at our direction.

C. A. Mark Mal

CAM:gj

DECEMBER 1972

CC: J. G. Hansen

### INTER OFFICE MEMO

## CYPRUS EXPLORATION CORPORATION LTD. VANCOUVER OFFICE

Date: May 29, 1972

To:

C. A. Mark

Ref. 1764-CVL

From:

J.B.P. Sawyer

Subject:

Kennco Explorations - Sam Goosly Property

Several weeks ago when I first approached Dave Barr. Kennco Explorations' manager, here in Vancouver regarding the possibility of reviewing their data on the Murray Brook deposit in New Brunswick, he also asked me if it would be possible to have some of the concentrate from their Sam Goosly property in the Babine country tested in our Cymet plant. I spoke to you on the telephone about it at the time and later, based on that conversation, advised Barr that if he would send a sample of concentrate to Gene Allen, it would be tested. It was my understanding at the time that this testing would be done without charge. It was implied that this might be beneficial to both parties in that the main thing which is holding Kennco up on the Sam Goosly property at the present time is the metallurgy. Obviously if Cymet can handle the metallurgy, we have a very good chance of getting in on the property which is a copper-silver property of considerable interest. ore mineral is tetrahedrite. The cost of running the test is the price you pay for a chance at a piece of the property.

This morning I had a call from Dave Barr who has just received, I understand, a letter from Gene Allen advising that there would be a charge to Kennco for treating this material and also, apparently, several other strings attached. not seen the letter and Barr did not tell me all of what was He is quite upset that we should have accepted the concentrate under one set of conditions and now turn round and are willing to treat them only on an entirely different set of conditions. I can see his point of view and agree with him, and frankly, I am bloody annoyed. What kind of a two-bit outfit is Cyprus Mines Corporation anyway? Is Cyprus really so big and almighty that it can afford this kind of behavior? Frankly, I don't think it is and in spite of what Gene Allen or anybody else may think, I have worked for enough companies and been around the business long enough to know that that's not the way to behave if you want to be successful in the industry. This attitude on the part of supposedly responsible people in our Company is so incredibly stupid, I find it hard to accept.

It is apparent from your remarks last week that the Cymet group has perhaps been embarrassed by the extent of the response which it has received, particularly through the exploration offices, to their request for information on situations in which Cymet might possibly be applicable. Most companies would be overjoyed at this kind of response and show some kind of appreciation to the people who make the kind of effort that produces it. If these people were to get their finger out a bit, they could have the world by the tail, and I think it will be a damn shame if they don't do so. Personally, I am getting rather tired of working like a silly buggar to present good situations to the Company, only to have them taken away and given to somebody else to fritter away or bungle in some other manner.

In respect of the Kennco Sam Goosly property, I hope that we have at least one person with authority in the Company left who has enough foresight to be able to right this situation and to treat the Sam Goosly concentrate without charge as originally agreed. Kennco are not in any frantic hurry for this. They are quite willing to suit our convenience. The Sam Goosly property is one of those which come under the category of advanced stage situations, just the kind of thing we're supposed to be getting into. Maybe I'm wrong, but I hadn't noticed that we have a surplus of this type of situation on our books at the present.

I realize this is a strong memo and I regret that I have to write it, but it is very obviously way past time that somebody in this organization said a few things that have long needed saying.

JBPS/jel