

INTER OFFICE MEMO

CYPRUS EXPLORATION CORPORATION LTD.
VANCOUVER OFFICE

810631

Date: December 30, 1971

To: C. A. Mark
From: J.B.P. Sawyer
Subject: BIG ONION A.F.E.

Ref. 1524-CVL

As discussed with Major Seery on December 28th, I have modified the end of the Big Onion A.F.E. to emphasize more our aim and thinking regarding joint venturing the Big Onion property so that we can retain an interest with minimum further expenditures on our part. Enclosed, please find, a revised last page to the original A.F.E. sent down on December 23rd.



JBPS/jel

Encl.

includes 22 million tons of 0.36% Cu plus moly credits which includes most of the molybdenite seen in the core. The mineralized zone is open to the northeast.

WORK
PROGRAM:

Work planned for 1972 will produce a unified model of the geology and mineralization to give a better basis for tonnage and grade calculations. A final summary report of Cyprus's work will also be prepared for presentation to companies interested in a joint venture investigation of the known mineralization or its extension.

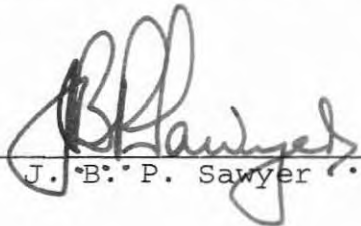
JUSTIFICATION:

The Big Onion is in an active, well mineralized area with easy access to rail and highway transportation, and the town of Smithers. At the present time the known mineralization on this prospect will not support a viable mining operation, but the full extent of the sulphide system there is not known. There are some obvious gaps in our drilling coverage and possibilities exist to the north and on the flanks of the area investigated to date for further mineralization, which may be sufficient to make an economic situation. In addition, the possibility of in situ leaching exists, in view of the geometry of the deposit and the topography of the area.

*Revised
do not use*

APPROVAL:

DATE



J. B. P. Sawyer

23.12.71

C. A. Mark

J. G. Hansen

K. Lieber

TITLE: BIG ONION PROSPECT
 SMITHERS, BRITISH COLUMBIA

ESTIMATED
 COST:

Budget Title	Expenditures to 12/31/70 Under AFE Nos. 29-69 29-69A 29-69B, and 29-69C		Proposed AFE No. 29-69D*	Estimated Total Expenditures to 12/31/71
Acquisition	\$ 10,814		\$ 6,000	\$ 16,814
Salaries & Wages	5,306		3,000	8,306
Surveying & Mapping	2,364		1,000	3,364
Geophysics	14,650		2,000	16,650
Geochemistry	1,806		1,000	2,806
Outside Contract Services	4,402		1,000	5,402
Drilling	172,828		49,000	221,828
Excavation	7,251		2,000	9,251
Assaying & Sampling	10,487		2,000	12,487
Travel (incl. air charter)	8,274		2,500	10,774
Equipment	404		-	404
Miscellaneous	4,023		500	4,523
	<u>\$242,609</u>		<u>\$70,000</u>	<u>\$312,609</u>

*Includes \$2,000 already approved in AFE 10-71.

PROJECT
 DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately 12 miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman and Morrison Lake deposits, the Hudson's Bay Mountain molybdenite deposit, etc. The property consisted of 69 full and fractional claims. During the past summer, Cyprus purchased an additional two claims adjacent to the northwest, 25 claims adjacent to the south and staked an additional 31 full and fractional claims, adjacent to the southeast. Total number of claims presently held is 127.

During 1970, geological, geochemical, and geophysical work and almost 20,000 feet of drilling was done with the following encouraging intersections:

	<u>Interval</u>	<u>Footage</u>	<u>Cu.</u>	<u>Mo.</u>
C-1	770-1130	360'	0.326	0.027
C-5	90- 560	470'	0.586	0.025
C-6	110- 170	60'	0.487	0.025
C-7	610- 720	110'	0.390	0.020
C-12	85- 940	855'	0.250	0.010
C-14	510- 772	262'	0.383	0.005
C-15	620- 810	190'	0.479	0.008

The C-1, C-5, C-6, and C-7 intercepts are along the southeastern side of the lower, main quartz diorite sill-like intrusive body, where it is cut by the northeast-trending Astlais Creek fault. The feeder pipe for this pluton may be more richly mineralized. It is hoped to locate this "stem" in the vicinity of drill hole C-1. The C-12, C-14, and C-15 are along the north edge of the upper, smaller quartz diorite body. The mineralization in the upper pluton should be checked further, also. (1)

Strong I.P. anomalies over the BA Knob quartz diorite (?) intrusion on the southern part of the property needs to be drilled although suspected of being caused by pyrite-bearing argillites adjacent to this pluton. (2)

Several I.P. anomalies, also possible pyrite-bearing argillites, in the southeastern part of the property need further drilling. (3)

WORK
PROGRAM:

The 1971 work program will include approximately 7,000 feet of diamond drilling to investigate further the target areas outlined above. A limited amount of further geochemical work, and possibly some limited ground magnetometer work will be carried out in the BA Knob area, and in the southern part of the main intrusive area.

JUSTIFICATION:

In the main pluton at Big Onion we hope to find a richer "stem" such as make orebodies out of Noranda's Newman deposit and Granby's Granisle deposit on Babine Lake, 25 miles to the east. In the northeastern pluton at Big Onion we hope to find better mineralization to go with the considerable tonnage of low grade material found to date. At the BA Knob pluton in the southern part of the property, we need to investigate the cause of strong I.P. anomalies (probably due to pyrite in surrounding argillites). Shallow drilling is warranted to check several I.P. anomalies in the southeastern part of the property.

Location on }
 Sed Map }
 Specific location }

APPROVAL:

DATE:

Carew McFall

C. CAREW McFALL

March 17, 1971

J. B. Sawyer

J. B. SAWYER

24.3.71

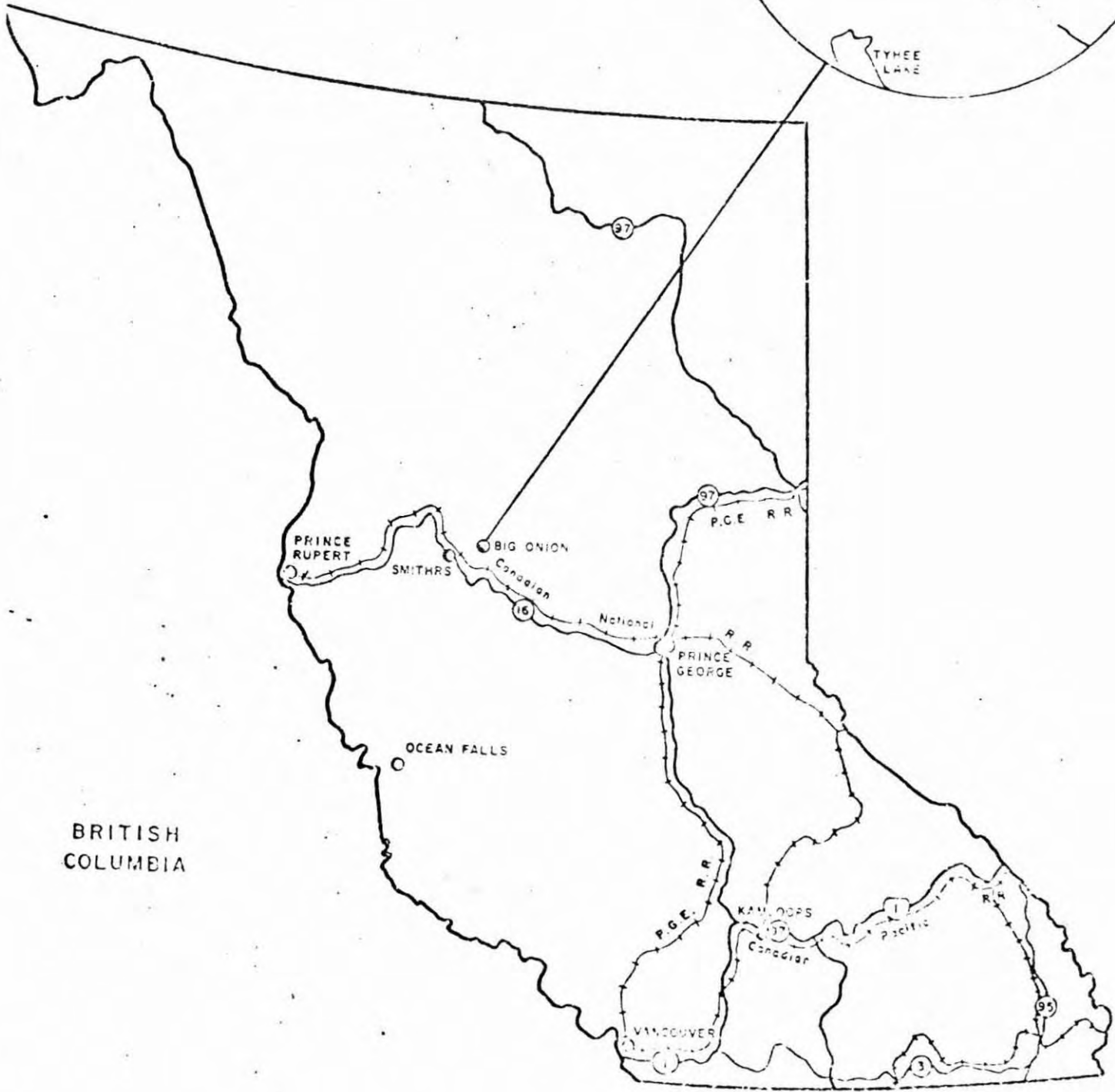
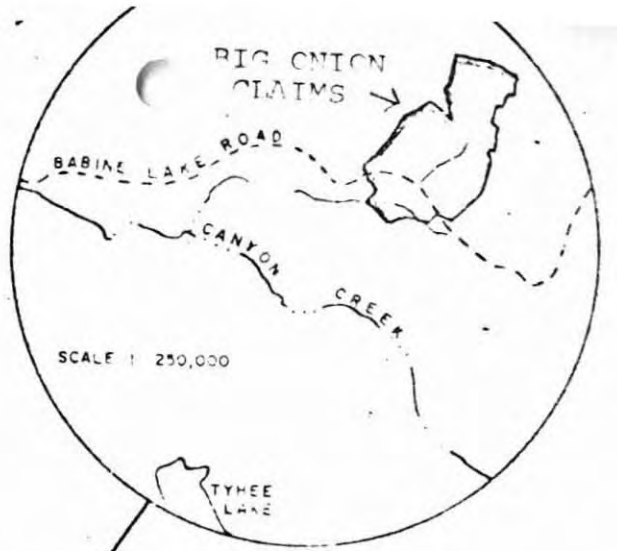
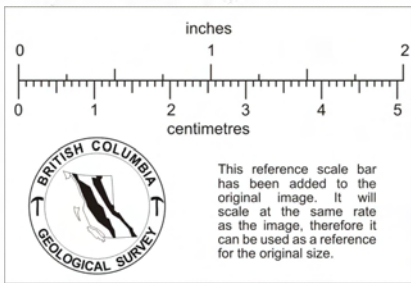
C. A. Mark

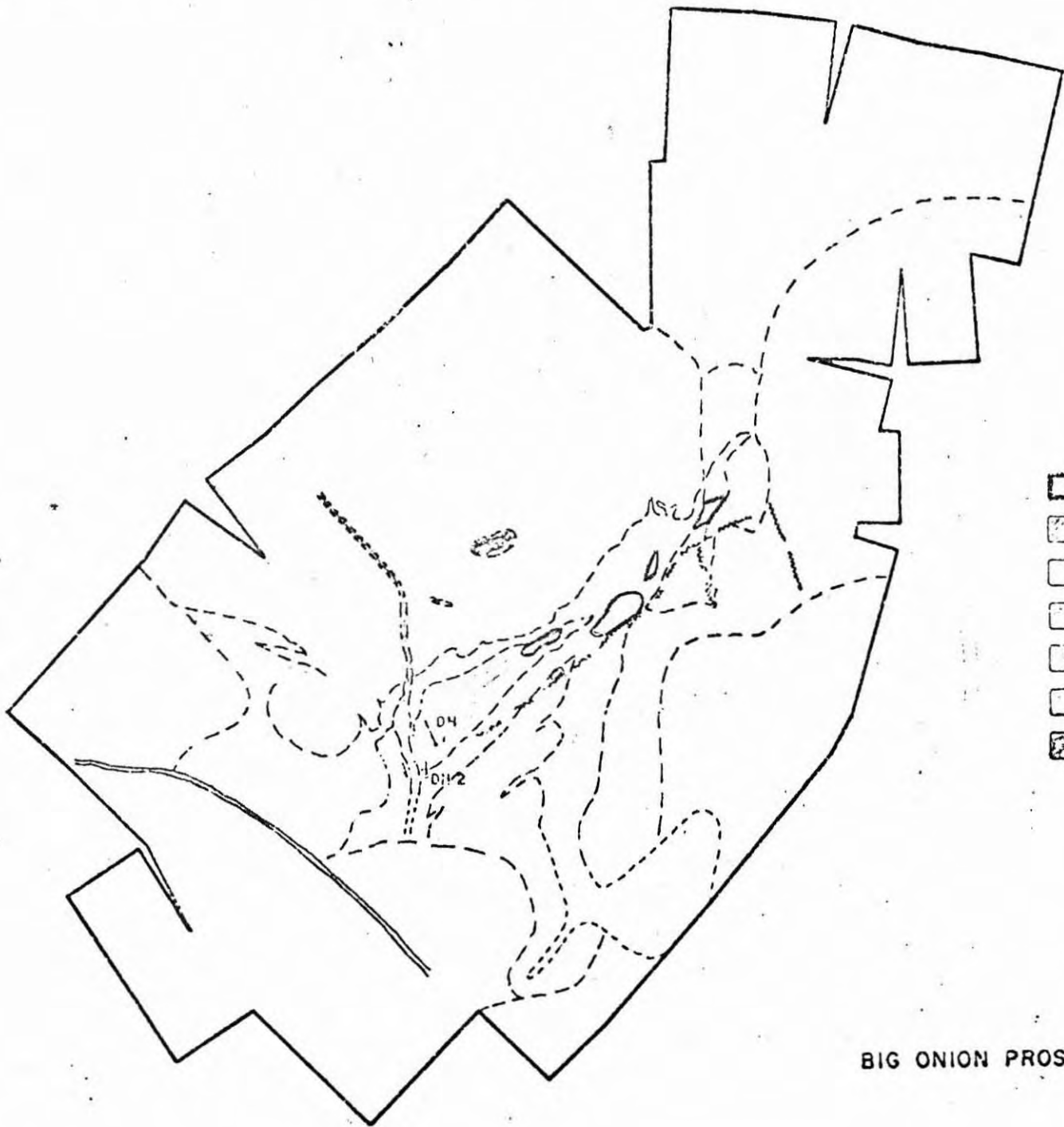
C. A. MARK

March 24, 1971

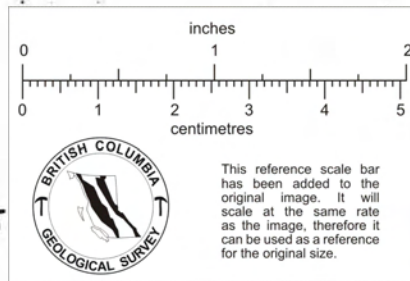
J. G. HANSEN

K. LIEBER





BIG ONION PROSPECT



Rich

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

ESTIMATED
COST:

	Expenditures to 31/12/70 <i>under</i> as per A.F.E. Nos. 29-69, 29-69A, 29-69B, and 29-69C	Proposed A.F.E. No. 29-69-D*	Estimated Total Expenditures to 31/12/71
Acquisition	12,000 ^{\$} 10,814	^{\$} 6,000	18,000 ^{\$} 16,814
Salaries & Wages	4,000 5,206	3,000	7,000 8,306
Surveying & Mapping	4,000 2,364	1,000	5,000 3,364
Geophysics	15,000 14,650	2,000	17,000 16,650
Geochemistry	1,300 1,806	1,000	2,000 2,806
Outside Contract Services	4,000 4,402	1,000	5,000 5,402
Drilling	175,000 172,828	49,000	224,000 221,828
Excavation	6,000 1,251	2,000	8,000 9,251
Assaying & Sampling	12,000 10,487	2,000	14,000 12,487
Travel (<i>incl. air charter</i>)	9,000 8,294	2,500	11,500 10,794
Equipment	1,000 404	- -	1,000 404
Miscellaneous	4,800 4,023	500	5,300 4,523
	\$ 248,600 US	\$ 70,000 US	\$ 318,600 US

* Includes ^{\$} 2,000 already approved in AFE 10-71.
^{\$} 242,609 ^{\$} 312,609

PROJECT
DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately 12 miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman and Morrison Lake deposits, the Hudson's Bay Mountain molybdenite deposit, etc. The property consisted of 69 full and fractional claims. During the past summer, Cyprus purchased an additional two claims adjacent to the northwest, 25 claims adjacent to the south and staked an additional 31 full and fractional claims, adjacent to the southeast. Total number of claims presently held is 127.

During 1970 geological, geochemical and geophysical work and almost 20,000 feet of drilling was done with the following encouraging intersections:-

MINERAL EXPLORATION DIVISION

A.F.E. NO. 29-69-D

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

ESTIMATED
COST:

	Expenditures to 31/12/70 as per A.F.E. Nos. 29-69, 29-69A, 29-69B, and 29-69C	Proposed A.F.E. No. 29-69-D	Estimated Total Expenditures to 31/12/71
Acquisition	12,000	6,000	18,000
Salaries & Wages	4,000	3,000	7,000
Surveying & Mapping	4,000	1,000	5,000
Geophysics	15,000	2,000	17,000
Geochemistry	1,300	1,000	2,000
Outside Contract Services	4,000	1,000	5,000
Drilling	175,000	49,000	224,000
Excavation	6,000	2,000	8,000
Assaying & Sampling	12,000	2,000	14,000
Travel	9,000	2,500	11,500
Equipment	1,000	- -	1,000
Miscellaneous	4,800	500	5,300
	<u>\$ 248,600 US</u>	<u>\$ 70,000 US</u>	<u>\$ 318,600 US</u>

PROJECT
DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately 12 miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman and Morrison Lake deposits, the Hudson's Bay Mountain molybdenite deposit, etc. The property consisted of 69 full and fractional claims. During the past summer, Cyprus purchased an additional two claims adjacent to the northwest, 25 claims adjacent to the south and staked an additional 31 full and fractional claims, adjacent to the southeast. Total number of claims presently held is 127.

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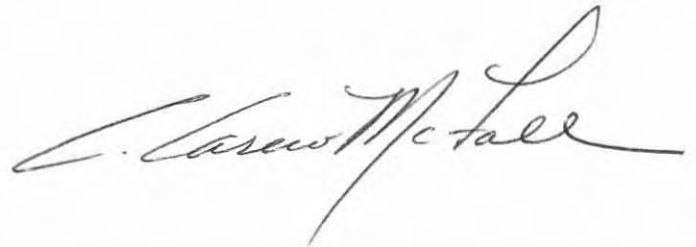
CYPRUS EXPLORATION CORPORATION LTD.
VANCOUVER OFFICE

Date: April 27, 1971

To: C. A. Mark
From: C. Carew McFall
Subject: A.F.E. FOR BIG ONION PROJECT

Ref.	1076-CVL	REPLY	
		COMMENT	
RETURN TO			
APR 30 1971			
1	<i>CAM</i>	5	
2	<i>1081</i>	6	
3		7	
4		8	

Attached please find the revised A.F.E. for the
Big Onion Project.



CCMcF/jel

Encl.

MINERAL EXPLORATION DIVISION

A.F.E. NO. _____

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

ESTIMATED
COST:

	Expenditures to 31/12/70 as per A.F.E. Nos. 29-69, 29-69A, 29-69B, and 29-69C	Proposed A.F.E. No.	Total Estimated Expenditures to 31/12/71
Acquisition	\$ 12,000	\$ 6,000	\$ 18,000
Salaries & Wages	4,000	3,000	7,000
Surveying & Mapping	4,000	1,000	5,000
Geophysics	15,000	1,000	16,000
Geochemistry	1,300	--	1,300
Outside Contract Services	4,000	1,000	5,000
Drilling	175,000	57,000	232,000
Excavation	6,000	2,000	8,000
Assaying & Sampling	12,000	2,000	14,000
Travel	9,000	2,500	11,500
Equipment	1,000	--	1,000
Miscellaneous	4,800	500	5,300
	<u>\$ 248,100 US</u>	<u>\$ 76,000 US</u>	<u>\$ 324,100 US</u>

PROJECT
DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately 12 miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman and Morrison Lake deposits, the Hudson's Bay Mountain molybdenite deposit, etc. The property consisted of 69 full and fractional claims. During the past summer, Cyprus purchased an additional two claims adjacent to the northwest, 25 claims adjacent to the south and staked an additional 31 full and fractional claims, adjacent to the southeast. Total number of claims presently held is 127.

During 1970 geological, geochemical and geophysical work and almost 20,000 feet of drilling was done with the following intersections:-

		Interval	Cu	Mo
C 1	0 - 400	400	0.018	.008
	500 - 700	200	.070	.013
	700 - 770	70	.100	.027
	770 - 900	130	.410	.036
	900 - 1000	100	.225	.026
	1000 - 1130	130	.313	.018
	1130 - 1350	220	.023	.004
Note:	770 - 1130	360	.326	.027
C2	20 - 620	600	.020	.010
	620 - 1420	800	.115	.015
	1420 - 1450	30	.300	.005
	1450 - 1610	160	.104	.005
C3	80 - 968	912	.070	.020
C4	55 - 102	47	.013	.010
C5	40 - 90	50	.091	.010
	90 - 560	470	.586	.025
	560 - 737	177	.093	.018
C6	80 - 110	30	.090	.020
	110 - 170	60	.487	.025
	170 - 480	310	.014	.015
	480 - 570	90	.024	.010
	570 - 752	182	.011	.008
C7	40 - 550	410	.113	.005
	550 - 580	30	.400	.020
	580 - 610	30	.090	.007
	610 - 720	110	.390	.020
	720 - 920	200	.155	.013
	920 - 970	50	.320	.020
	970 - 1148	178	.145	.006
C8	22 - 1995	1973	.031	.002

		Interval	Cu	Mo
C9	50 - 120	70	.037	.010
	120 - 180	60	Not	Sampled
	180 - 450	170	.062	.021
	450 - 690	240	.108	.010
	690 - 850	160	.066	.012
C10	15 - 40	25	.052	Tr
	40 - 200	160	.133	.005
	200 - 800	600	.100	.006
	800 - 1207	407	.029	Tr
C11	70 - 190	120	.281	.019
	190 - 680	490	.145	.015
	680 - 826	146	.012	.010
C12	85 - 940	855	.250	.010
	940 - 1030	90	.033	Tr
	1030 - 1246	216	Tr	Tr
C13	140 - 220	80	.026	Tr
	220 - 420	200	.168	Tr
	420 - 440	20	.785	.005
	440 - 780	340	.031	Tr
	780 - 1130	350	.215	.006
	1130 - 1380	240	.094	.005
	1380 - 1430	50	.387	.013
	1430 - 1516	86	.015	Tr
C14	63 - 220	157	.087	-
	220 - 510	290	.188	-
	510 - 772	262	.383	.005
C15	54 - 620	566	.081	.017
	620 - 810	190	.479	.008
	810 - 1030	220	.032	.020
C16	54 - 660	606	.105	.011

		Interval	Cu.	Mo.
C18	60 - 350	290	.125	.023
	350 - 1260	910	Tr	.015
	1260 - 1398	138	.036	.020
C19	10 - 180	170	.030	.020
	180 - 1116	930	Tr	Tr

Of these the more encouraging intercepts are:

C1	770 - 1130	360	0.326	.027
C5	90 - 560	470	0.586	.025
C6	110 - 170	60	0.487	.025
C7	610 - 720	110	0.390	.020
C12	85 - 940	855	0.250	.010
C14	510 - 772	262	0.383	.005
C15	620 - 810	190	0.479	.008

The C1, C5, C6, and C7 intercepts are along the southeastern side of the lower, main quartz diorite sill-like intrusive body, where it is cut by the northeast-trending Astlais Creek fault. The C12, C14, and C15 are along the north edge of the upper, smaller quartz diorite body.

Strong I.P. anomalies adjacent to the BA Knob quartz diorite (?) intrusion on the southern part of the property need to be drilled although suspected of being caused by pyrite-bearing argillites adjacent to this pluton. Several I.P. anomalies, also possible pyrite-bearing argillites, in the southeastern part of the property need further drilling.

WORK
PROGRAM:

An EM and a magnetometer survey will be run over the BA Knob intrusive area, at the south end of the property where strong I.P. anomalies were found during the fall of 1970. The EM and mag. surveys should help define the intrusive contacts and structure and lithology of the adjacent sediments, in this area of almost complete glacial drift cover.

The following drill holes are planned:
(see accompanying geologic map)

Drill Hole	Location	Dip	Direction	Depth	Target
C17	56N 12W	-50°	S 52° E	1260'	Investigate large gap in previous drill holes under a prominent gossan
C20	12+70N 0+50W	-45°	E	1260'	The strongest mineralization found to date has coincided with resistivity "lows". Such a low occurs along the northeast-trending Astlais fault and swings away southward along the east side of the N-S dyke. If extensive good mineralization is encountered in this area, <u>Big Onion can still make a mine.</u>
C21	51+20S 30E	-45°	S 58° E	500')	These three holes are to check the strong I.P. anomalies on the edges and within the BA Knob pluton. Our proposed EM and magnetometer surveys should pinpoint the contacts and help locate these holes
C22	50+50S 42+50E	-45°	S 41° E	500')	
C23	61S 52E	-45°	S 30° E	500')	
C24	11S 40+50E	-45°	N 81° E	500'	Will be drilled into the intersection of the N-S dyke and the strong I.P. anomaly tested to 102 feet in Hole C4.
C25	4N 60E	-45°	S 30° E	300')	Will investigate strong I.P. anomalies northeast of the BA Knob
C26	0 50E	-45°	N 30° W	300')	
C27	71+60N 4+00W	-70°	N 83° E	1200'	Will be drilled from the site of C15 to check for a downward enlargement of the 190 feet of 0.48% Cu mineralization found in C15 from 620 to 810 feet

9 holes

Total Proposed Drilling 6320 feet

JUSTIFICATION:

We feel there are still several prospects for a disseminated copper orebody at the Big Onion Project:-

- (1) southeast of the intersection of the Astlais Creek fault and the N-S dyke. If proposed drill hole C-20 encounters ore here, it would very likely be continuous with that found along Astlais Creek fault to the northeast.
- (2) below the 190-foot 0.479% Cu intercept in Hole C-15 at the northeast end of the property.
- (3) in the 2000-foot undrilled gap in the heart of the property near a large transported gossan. C-17, which was only begun in 1970, will check this area.
- (4) the BA Knob is a completely undrilled intrusive on the southern portion of our claim block. We have very strong I.P. anomalies, but only weak geochemical anomalies associated with its flanks and locally in its interior.
- (5) several strong I.P. anomalies northeast of the BA Knob should be checked.

APPROVAL:

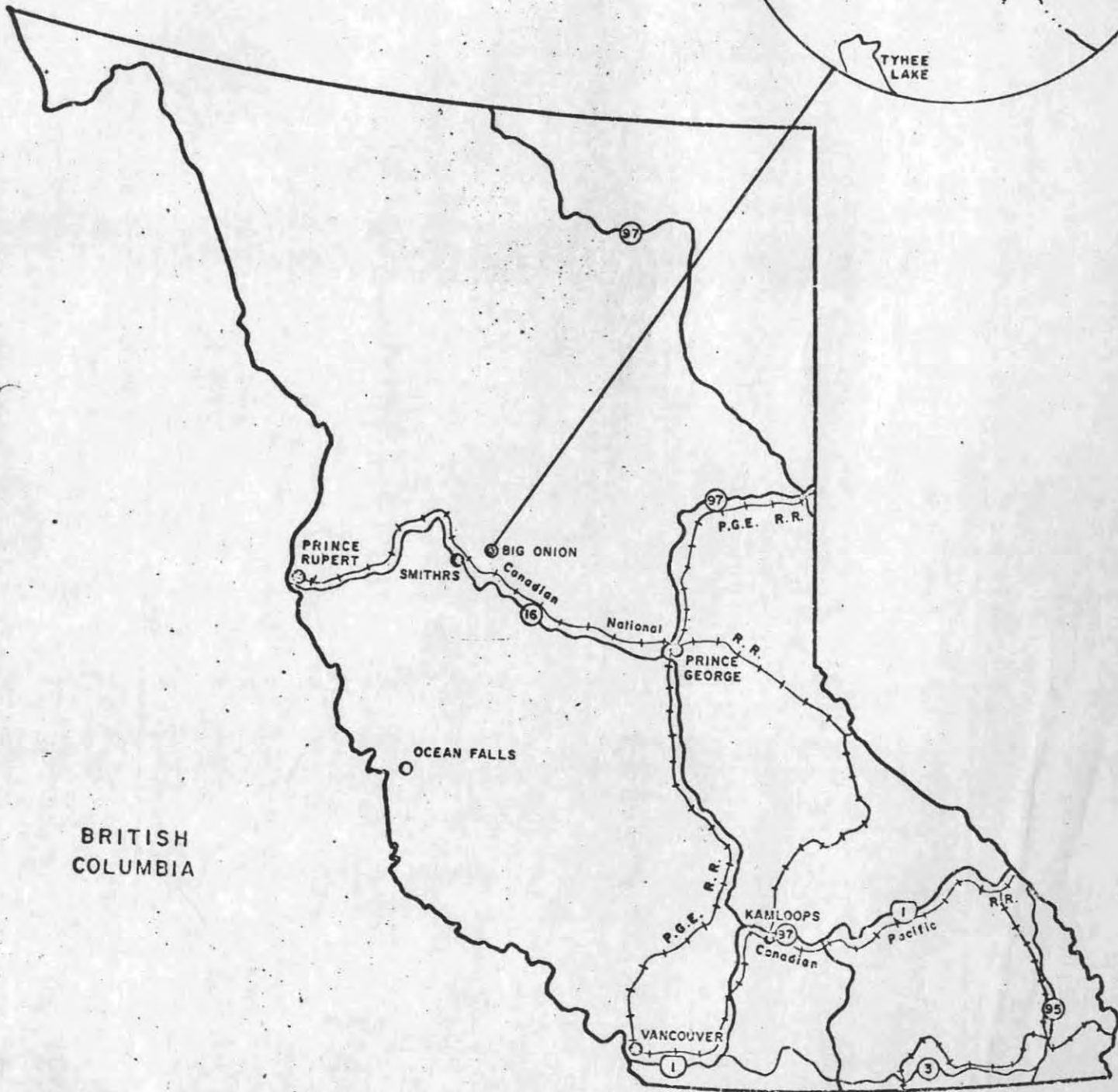
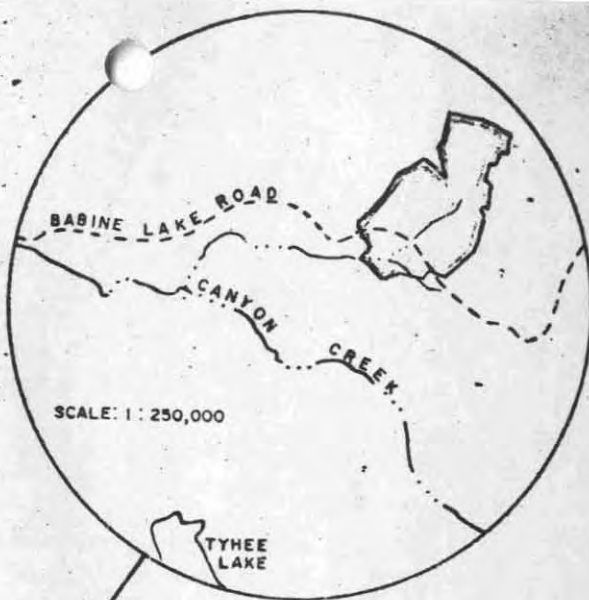
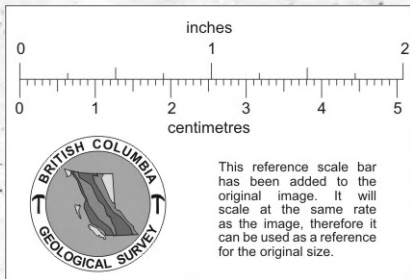
Original Signed by B. Paul Gump *Carew*
DATE
Carew McFall *April 27, 1971*

C. Carew McFall
C. A. Mark *April 30, 1971*

C. A. Mark

J. G. Hansen

K. Lieber



CYPRUS MINES CORP.

From W. O. Irish

Date

4/23

To

Do

OIL - AFE

rewrite enroute

CYPRUS MINES CORP.

From W. O. Irish

Date

4/18

To

Do

Hold pending resubmission
of AFE by JBPS.

Follow-up

April 23

Woj

TITLE: BIG ONION PROSPECT
 SMITHERS, BRITISH COLUMBIA

Hold to Justify.

ESTIMATED COST:

<u>Budget Title</u>	Expenditures to 12/31/70 Under AFE Nos. 29-69		Proposed AFE No. 29-69D*	Estimated Total Expenditures to 12/31/71
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much drilling should

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PROJECT DESCRIPTION:

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PROGRAM:

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JUSTIFICATION:

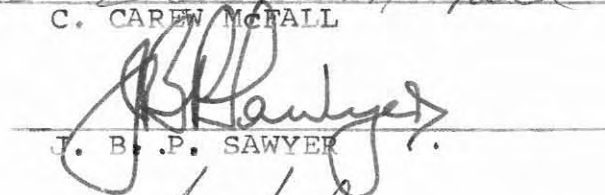
In the main pluton at Big Onion we hope to find a richer "stem" such as make orebodies out of Noranda's Newman deposit and Granby's Granisle deposit on Babine Lake, 25 miles to the east. In the northeastern pluton at Big Onion we hope to find better mineralization to go with the considerable tonnage of low grade material found to date. At the BA Knob pluton in the southern part of the property, we need to investigate the cause of strong I.P. anomalies (probably due to pyrite in surrounding argillites). Shallow drilling is warranted to check several I.P. anomalies in the southeastern part of the property.

APPROVAL:

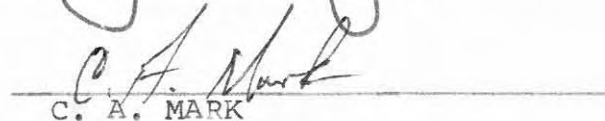
DATE:


C. CAREW McFALL

March 17, 1971


J. B. P. SAWYER

24.3.71

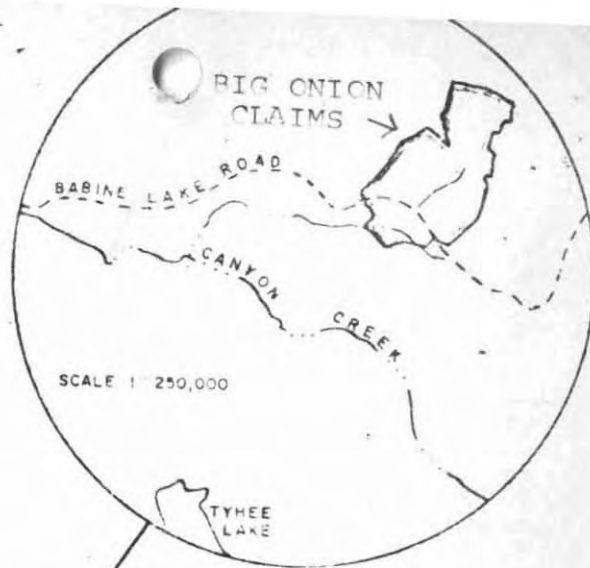
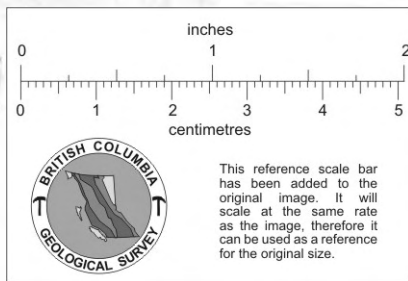

C. A. MARK

March 24, 1971









J. G. HANSEN

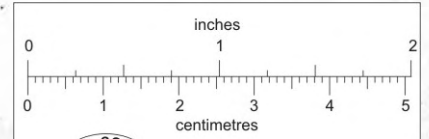
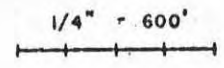
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K. LIEBER





-  GOSSAN
-  ARGILLITES, ARENITES, MINOR TUFF
-  ANDESITES AND TUFF
-  PORPHYRITIC DIORITE DYKE
-  QUARTZ PORPHYRY
-  QUARTZ DIORITE
-  QUARTZ - FELDSPAR PORPHYRY



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

BIG ONION PROSPECT

REC

8181
, 93
274

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

ESTIMATED
COST:

	Expenditures to 31/12/70 as per A.F.E. Nos. 29-69, 29-69A, 29-69B, and 29-69C	Proposed A.F.E. No. <u>29-69D</u>	Total Estimated Expenditures to 31/12/71
Acquisition	\$ 12,000 ^{10,814}	\$ 6,000	^{16,814} \$ 18,000
Salaries & Wages	4,000 ^{5,306}	3,000	^{8,306} 7,000
Surveying & Mapping	4,000 ^{2,364}	1,000	^{3,364} 5,000
Geophysics	15,000 ^{14,650}	1,000	^{15,650} 16,000
Geochemistry	1,300 ^{1,806}	--	^{1,806} 1,300
Outside Contract Services	4,000 ^{4,402}	1,000	^{5,402} 5,000
Drilling	175,000 ^{172,828}	57,000	^{229,828} 232,000
Excavation	6,000 ^{7,251}	2,000	^{9,251} 8,000
Assaying & Sampling	12,000 ^{10,487}	2,000	^{12,487} 14,000
Travel	9,000 ^{8,274}	2,500	^{10,774} 11,500
Equipment	1,000 ⁴⁰⁴	--	⁴⁰⁴ 1,000
Miscellaneous	4,800 ^{4,023}	500	^{4,523} 5,300
	<u>\$ 248,100 US</u>	<u>\$ 76,000 US</u>	<u>\$ 324,100 US</u>
	<u>\$ 242,609</u>	<u>\$ 318,609</u>	

PROJECT
DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately 12 miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman and Morrison Lake deposits, ^{and} the Hudson's Bay Mountain molybdenite deposit, ~~etc.~~ The property ^{originally} consisted of 69 full and fractional claims. During the past summer, Cyprus purchased an additional two claims adjacent to the northwest, 25 claims adjacent to the south and staked an additional 31 full and fractional claims, adjacent to the southeast. Total number of claims presently held is 127.

During 1970, geological, geochemical and geophysical work and almost 20,000 feet of drilling was ~~done with~~ ^{completed} the following intersections:-

Sheet 1 

Drilling Program Summary - 1970 Assets

move to Appendix I

		Interval	Cu	Mo
C 1	0 - 400	400	0.018	.008
	500 - 700	200	.070	.013
	700 - 770	70	.100	.027
	770 - 900	130 ✓	.410	.036
	900 - 1000	100	.225	.026
	1000 - 1130	130	.313	.018
	1130 - 1350	220	.023	.004
Note:	770 - 1130	360 ✓	.326	.027
C2	20 - 620	600	.020	.010
	620 - 1420	800	.115	.015
	1420 - 1450	30	.300	.005
	1450 - 1610	160	.104	.005
C3	80 - 968	912	.070	.020
C4	55 - 102	47	.013	.010
C5	40 - 90	50	.091	.010
	90 - 560	470 ✓	.586	.025
	560 - 737	177	.093	.018
C6	80 - 110	30	.090	.020
	110 - 170	60 ✓	.487	.025
	170 - 480	310	.014	.015
	480 - 570	90	.024	.010
	570 - 752	182	.011	.008
C7	40 - 550	410	.113	.005
	550 - 580	30	.400	.020
	580 - 610	30	.090	.007
	610 - 720	110 ✓	.390	.020
	720 - 920	200	.155	.013
	920 - 970	50	.320	.020
	970 - 1148	178	.145	.006
C8	22 - 1995	1973	.031	.002

		Interval	Cu	Mo
C9	50 - 120	70	.037	.010
	120 - 180	60	Not	Sampled
	180 - 450	170	.062	.021
	450 - 690	240	.108	.010
	690 - 850	160	.066	.012
C10	15 - 40	25	.052	Tr
	40 - 200	160	.133	.005
	200 - 800	600	.100	.006
	800 - 1207	407	.029	Tr
C11	70 - 190	120	.281	.019
	190 - 680	490	.145	.015
	680 - 826	146	.012	.010
C12	85 - 940	855 ✓	.250	.010
	940 - 1030	90	.033	Tr
	1030 - 1246	216	Tr	Tr
C13	140 - 220	80	.026	Tr
	220 - 420	200	.168	Tr
	420 - 440	20 ✓	.785	.005
	440 - 780	340	.031	Tr
	780 - 1130	350	.215	.006
	1130 - 1380	240	.094	.005
	1380 - 1430	50 ✓	.387	.013
	1430 - 1516	86	.015	Tr
C14	63 - 220	157	.087	-
	220 - 510	290	.188	-
	510 - 772	262 ✓	.383	.005
C15	54 - 620	566	.081	.017
	620 - 810	190	.479	.008
	810 - 1030	220	.032	.020
C16	54 - 660	606	.105	.011

	Interval	Cu.	Mo.
C18	60 - 350	290	.125
	350 - 1260	910	Tr
	1260 - 1398	138	.036
C19	10 - 180	170	.030
	180 - 1116	930	Tr

Of these the more encouraging intercepts are:

C1	770 - 1130	360	0.326	.027
C5	90 - 560	470	0.586	.025
C6	110 - 170	60	0.487	.025
C7	610 - 720	110	0.390	.020
C12	85 - 940	855	0.250	.010
C14	510 - 772	262	0.383	.005
C15	620 - 810	190	0.479	.008

The C1, C5, C6, and C7 intercepts are along the southeastern side of the lower, main quartz diorite sill-like intrusive body, where it is cut by the northeast-trending Astlais Creek fault. The C12, C14, and C15 are along the north edge of the upper, smaller quartz diorite body. *assuming*

of all drill intercepts is attached as appendix F
 Strong I.P. anomalies adjacent to the BA Knob quartz diorite (?) intrusion on the southern part of the property need to be drilled although suspected of being caused by pyrite-bearing argillites adjacent to this pluton. Several I.P. anomalies, also possible pyrite-bearing argillites, in the southeastern part of the property need further drilling.

rewrote this as a list of targets

WORK PROGRAM:

mont

An EM and a magnetometer survey will be run over the BA Knob intrusive area, ~~at the south end of the property~~ where strong I.P. anomalies were found during the fall of 1970. The EM and mag. surveys should help define the intrusive contacts and structure and lithology of the adjacent sediments, in this area of almost complete glacial drift cover.

The following drill holes are planned:
 (see accompanying geologic map)

Simply list those to appendix

Proposed 1971 Drill Program Set up as appendix II

Drill Hole Location Dip Direction Depth Target

4 C17 56N 12W -50° S 52° E 1260' Investigate large gap in previous drill holes under a prominent gossan

3 Target 3
C20 12+70N 0+50W -45° E 1260' The strongest mineralization found to date has coincided with resistivity "lows". Such a low occurs along the northeast-trending Astlais fault and swings away southward along the east side of the N-S dyke. If extensive good mineralization is encountered in this area, Big Onion can still make a mine.

Glenn 2
Set up drill holes in target sequence. Also set factap items onto far right margin. And space out target in founder

Target 1

1 { C21 51+20S 30E -45° S 58° E 500')
C22 50+50S 42+50E -45° S 41° E 500')
C23 61S 52E -45° S 30° E 500')

These three holes are to check the strong I.P. anomalies on the edges and within the BA Knob pluton. Our proposed EM and magnetometer surveys should pinpoint the contacts and help locate these holes

Target 2

2 { C24 11S 40+50E -45° N 81° E 500'
C25 4N 60E -45° S 30° E 300')
C26 0 50E -45° N 30° W 300')

Hole C-24 Will be drilled into the intersection of the N-S dyke and the strong I.P. anomaly tested to 102 feet in Hole C4.

Holes C25 + C26 Will investigate strong I.P. anomalies northeast of the BA Knob

Target 4

4 C27 71+60N 4+00W -70° N 83° E 1200'
+C19

Will be drilled from the site of C15 to check for a downward enlargement of the 190 feet of 0.48% Cu mineralization found in C15 from 620 to 810 feet

9 holes Total Proposed Drilling 6320 feet

JUSTIFICATION:

We feel there are still several prospects for a disseminated copper orebody at the Big Onion Project:-

target area of sufficient size and importance mineralization

- (1) southeast of the intersection of the Astlais Creek fault and the N-S dyke. If proposed drill hole C-20 encounters ore here, it would very likely be continuous with that found along Astlais Creek fault to the northeast.
- (2) below the 190-foot 0.479% Cu intercept in Hole C-15 at the northeast end of the property.
- (3) in the 2000-foot undrilled gap in the heart of the property near a large transported gossan. C-17, which was only begun in 1970, will check this area.
- (4) the BA Knob is a completely undrilled intrusive on the southern portion of our claim block. We have very strong I.P. anomalies, but only weak geochemical anomalies associated with its flanks and locally in its interior.
- (5) several strong I.P. anomalies northeast of the BA Knob should be checked.

Notes front of HFE

APPROVAL:

Original signed by Paul Gumpf

C. Carew McFall _____ DATE *April 27, 1971*

C. Carew McFall

C. A. Mark _____ *April 30, 1971*

C. A. Mark

J. G. Hansen

K. Lieber

Set up sheet just for included

- procedure list
- reasons for inclusion IP-geoch + structure
- team to make a mine for

Insert 1

checked against sections
↓

The more encouraging drill intercepts are summarized below:

		<u>COPPER</u>	<u>MOLY</u>
Hole C-1	360' (170'-1,130')	.326%	.027%
C-5	470' (90'-560')	.586	.025
C-6	60' (110'-170')	.487	.025
C-7	110' (610'-720')	.390	.020
C-12	855' (85'-940')	.250	.010
C-14	262' (510'-772')	.383	.005
C-15	190' (620'-810')	.479	.008

Work done last year has greatly improved our subsurface

knowledge of ~~mineralization~~ ^{the mineralized} ~~the fault zone~~ ^{the fault zone} ~~the~~ Astla's Creek

fault ^{area} and ^{has} pointed up structural relationships which

may lead to ~~the~~ ^{larger tonnage of ore grade mineralization} ~~mineralizing~~ source.

Work Program:

There are four remaining primary target areas which ~~must~~ ^{should} be drilled to determine whether or not sufficient tonnage of ore grade copper-moly mineralization exists on our claims. These target areas are

Target 1 - BA Knob - located about 1 1/2 miles southwest

of last year's drilling activity. This quartz diorite intrusive may be ~~the~~ a structural continuation of the mineralized intrusives found on Atlas Mountain.

If this structural relationship is correctly interpreted, the BA Knob area could contain a higher grade

large tonnage source of the mineralization already

drilled. Three holes totaling 1,500 feet are proposed to test ~~for~~ ^{to test} this target area.

Target 2. Northeast of the BA hole about 1/2 mile
suspected
are ~~coincident~~ ^{coincident} fault intersections, with known IP
north south ^{and} east west trending fault
anomalies. These structures ~~illustrate~~ could well be
a local control for mineralization. ~~This feature is~~
with good IP response ~~possible~~ ^{indicative of} sulfidation
~~depth~~ ~~which~~ should be tested. Three drill holes totaling
1,000 feet are proposed in this area.

Target 3. Astla's Creek fault and N-S Dip intersection.

These major structural features intersect at the
~~the~~ ^{the area drilled}
southern most end of last year's ~~drill~~ ^{drill}.

Hole C-1, just north of this structure intersection, ~~encountered~~
several hundred feet of mineralization which assayed .3 to .4%
copper. We propose to test this same ^{general} area ^{for higher grade sulfide} south of the

and about 600' south of Hole C-1 with one

fault intersection ~~to check the possibility of~~
angled drill hole to 1200 feet.

~~higher grade copper ~~is~~ ~~in~~ ~~the~~ ~~area~~~~

Target 4. Hole 12-15 ~~in~~ area. Some fill in

drilling should be done on the upper portion of

Astoria Creek ~~in~~ to test for possible extensions

of ~~the~~ mineralization seen in holes 12 and 15. This drilling

is of ~~the~~ lower priority than targets 1-3 and will

probably not be done unless sufficient encouragement

is obtained from earlier holes. ~~It~~ ^{Two holes} totaling about

2500 feet ~~in two holes is provided~~ ~~intended~~ used to

test this target.

In addition to drilling, an EM and

magnetometer survey will be run over. ~~---~~ (see text)

WORK PROGRAM

Justification:

We believe there are several primary target areas that merit further ~~testing~~ ^{testing} drilling. ~~thus far is not sufficiently high grade~~ ^{discovered}

Last years drilling ^{and geophysical} programs have located ore to near ore grade mineralization over a mile of strike length along ^{the} Astle's Creek fault. In addition, several other targets have been delineated which ^{add significantly to} could ~~add sufficient~~ ^{significantly} ~~increase~~ the known tonnage of ore grade materials. We believe the remaining target areas are sufficiently important to warrant the ^{proposed} recommended follow-on program.
(see over)

Signal names for

C. Carew McFall

SBP Sawyer

CA Mack

JG Hansen

R Heber

44 extra

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

ESTIMATED
COST:

<u>Budget Title</u>	<u>Previously Approved AFE's 29-69, 29-69-A, 29-69-B</u>	<u>Proposed AFE 29-69-C</u>	<u>Estimated Total Expenditures to 12/31/70</u>
Acquisition	13,000 ✓	- -	13,000 ✓
Salaries & Wages	4,000 ✓	- -	4,000 ✓
Surveying & Mapping	4,000 ✓	- -	4,000 ✓
Geophysics	10,000	5000	15,000
Geochemistry	1300 1,000	300	1,300
Outside Contract Services	4000 2,500	1,500	4,000
Drilling	169,500	6,000	175,500
Excavation	6000 4,000	- -	6,000
Assaying & Sampling	12000 19,000	- -	12,000
Travel	9,000	2,000	9,000
Equipment	1000	1,000	1,000
Miscellaneous	2200 2,000	2,800 2,600	4,800
TOTAL	\$ 236,000	\$ 13,600	\$ 249,600

PROJECT
DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately twelve miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman, and Morrison Lake deposits, etc.

Additions to the original 68 claims have been made by staking and by purchase, and the property now consists of 124 full and fractional claims.

An option agreement between J. Hemelspeck of Smithers, owner of the original property, and Cyprus Mines Corporation (through Blue Rock Mining Corporation) was executed in January, 1970. Under the terms of this agreement, Cyprus may earn 100% of Hemelspeck's interest by paying a total of \$250,000 cash over a period of nine years, in accordance with the following schedule:

- a) \$4,000 down
- b) Years 2 through 4 - \$4,000 per year
- c) Years 5 through 8 - \$10,000 per year
- d) Balance of \$184,000 on or before ninth anniversary

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

ESTIMATED
COST:

<u>Budget Title</u>	<u>Previously Approved AFE's 29-69, 29-69-A, 29-69-B</u>	<u>Proposed AFE 29-69-C</u>	<u>Estimated Total Expenditures to 12/31/70</u>
Acquisition	13,000	- -	13,000
Salaries & Wages	4,000	- -	4,000
Surveying & Mapping	4,000	- -	4,000
Geophysics	10,000	- -	15,000
Geochemistry	1,000	300	1,300
Outside Contract Services	2,500	1,500	4,000
Drilling	169,500	6,000	175,500
Excavation	4,000	- -	6,000
Assaying & Sampling	19,000	- -	12,000
Travel	7,000	2,000	9,000
Equipment	- -	1,000	1,000
Miscellaneous	2,000	2,800	4,800
TOTAL	\$ 236,000	\$ 13,600	\$ 249,600

PROJECT
DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately twelve miles northeast of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman, and Morrison Lake deposits, etc.

Additions to the original 68 claims have been made by staking and by purchase, and the property now consists of 124 full and fractional claims.

An option agreement between J. Hemelspeck of Smithers, owner of the original property, and Cyprus Mines Corporation (through Blue Rock Mining Corporation) was executed in January, 1970. Under the terms of this agreement, Cyprus may earn 100% of Hemelspeck's interest by paying a total of \$250,000 cash over a period of nine years, in accordance with the following schedule:

- a) \$4,000 down
- b) Years 2 through 4 - \$4,000 per year
- c) Years 5 through 8 - \$10,000 per year
- d) Balance of \$184,000 on or before ninth anniversary

retyped

MINERAL EXPLORATION DIVISION

A. F. E. NO. 29-69-A

TITLE: BIG ONION PROSPECT
SMITHERS, BRITISH COLUMBIA

<u>ESTIMATED COST:</u>	AFE No. 29-69 Approved 11/10/69	Proposed AFE No.	Estimated Total (to Dec 31/70)
Acquisition	\$ 6,000	\$ -	\$ 6,000
Outside Contract Services	500	2,000	2,500
Surveying and Mapping	500	3,500	4,000
Geophysics	-	3,000	3,000
Drilling	-	70,000	70,000
Assaying and Sampling	250	1,250	1,500
Travel	250	1,750	2,000
Wages	500	500	1,000
Miscellaneous	-	1,000	1,000
TOTAL	\$ 8,000	\$ 83,000	\$ 91,000

Note: Under AFE No. 29-69, approval for expenditure of \$8,000 was granted. As of December 31st, 1969, approximately \$1,000 had been expended on this project. The figures in columns 2 and 3 above reflect a carry-over of \$7,000 from AFE 29-69.

PROJECT DESCRIPTION:

The Big Onion copper prospect is located on Astlais Mountain, approximately twelve miles north-east of Smithers, in the Omineca Mining Division, British Columbia. It lies within the Smithers-Babine porphyry belt which includes such deposits as Granisle Copper, Noranda's Newman, and Morrison Lake deposits, the Hudson's Bay Mountain molybdenite deposit, etc.

The property consists of 68 full and fractional claims lying on the southern slopes of the mountain.

68
27
29
124

Copper and molybdenum mineralization occurs in the intrusive quartz-diorite/quartz porphyry complex which underlies Astlais Mountain, as disseminations and as shear and fracture fillings, and in association with intrusive-volcanic contacts. The surface rocks are altered, leached and brecciated to varying degrees within the intrusive mass. Several gossans, the origin and significance of which has not been explained by previous workers, occur on the property.

Copper mineralization was first discovered on Astlais Mountain in 1917, but the first exploration work of consequence was not done until 1964 when the property was optioned by Noranda Exploration Company. After carrying out surface trenching and only 250 feet of diamond drilling, Noranda dropped the property. Noranda's diamond drilling intersected 50 feet grading 0.20% copper in DDH-1 and 148 feet grading 0.24% in DDH-2. One 10-foot width assayed up to 0.50% copper in quartz porphyry in DDH-2.

In 1965 Texas Gulf Sulphur Company optioned the property and during the field seasons of 1966 and 1967 carried out further work including mapping, trenching, I.P. survey, geochemical soil sampling, and approximately 4,000 feet of diamond drilling, before relinquishing the option. Copper assays obtained by Texas Gulf did not exceed 0.3%. Molybdenum values averaged around 0.02%. In our opinion this work has not fully tested the potential of this situation in that the drilling done has only partly investigated the total area of favourable geology, and none of the drill holes appear to have penetrated the zone of leaching.

An option agreement between J. Hemelspeck of Smithers, owner of the property, and Cyprus Mines Corporation (through Blue Rock Mining Corp. Ltd.), prepared by legal counsel, has been accepted by Hemelspeck and is ready for execution on behalf of Blue Rock Mining Corp. Ltd. Under the terms of this agreement Cyprus may acquire 100% of Hemelspeck's interest in this property by paying a total of \$250,000 cash over a maximum period of nine years, in accordance with the following schedule:-

- 4,000
12,000
50,000
- (a) \$4,000 down
 - (b) on or before the first, second & third anniversary dates the sum of \$4,000.
 - (c) on or before the fourth, fifth, sixth, seventh, and eighth anniversary dates the sum of \$10,000

66,000

(d) payment of balance of \$250,000 on or before the ninth anniversary date, or at time decision to exercise the option is taken if this is earlier than the ninth anniversary.

Work sufficient to maintain all of the claims in good standing during the currency of the option is the only other commitment required of Cyprus. The property lies within the area of the Bulkley Valley Project in which R.W. Woolverton has a small interest.

WORK PROGRAM:

It is proposed during the coming winter to complete a detailed study of the work by Noranda and by Texas Gulf Sulphur Company and to re-evaluate the results of this work. This will be followed as early as practicable in 1970 by detailed geological mapping in selected areas based upon our study of the previous work, possibly some further ground geophysics, and by fairly extensive diamond drilling to test at depth for mineralization below the zone of leaching and/or other areas of favourable geology and structure. A minimum of 5,000 feet of drilling is recommended.

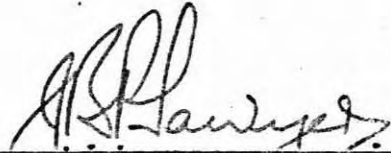
JUSTIFICATION:

In our opinion, the full potential of this situation has not been investigated by previous workers. Known occurrences of leached and altered zones overlying porphyry-type copper deposits at other locations within the Smithers-Babine belt, for example, at Newman, and at the Kennecott Berg deposit south of Houston, suggest that more thorough investigation of the Big Onion prospect is warranted.

The terms under which Cyprus may acquire a 100% interest in this prospect are extremely favourable, and in this geological environment, it represents a well-justified and worthwhile exploration venture. We consider that the Big Onion prospect offers an excellent target for a disseminated, large tonnage, copper-molybdenum ore deposit.

RECOMMENDATION:

We recommend that the approved level of expenditure for the Big Onion be increased by \$83,000 to a total of \$91,000.



J.B.P. Sawyer



C.A. Mark



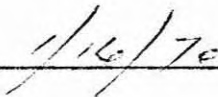
J.G. Hansen

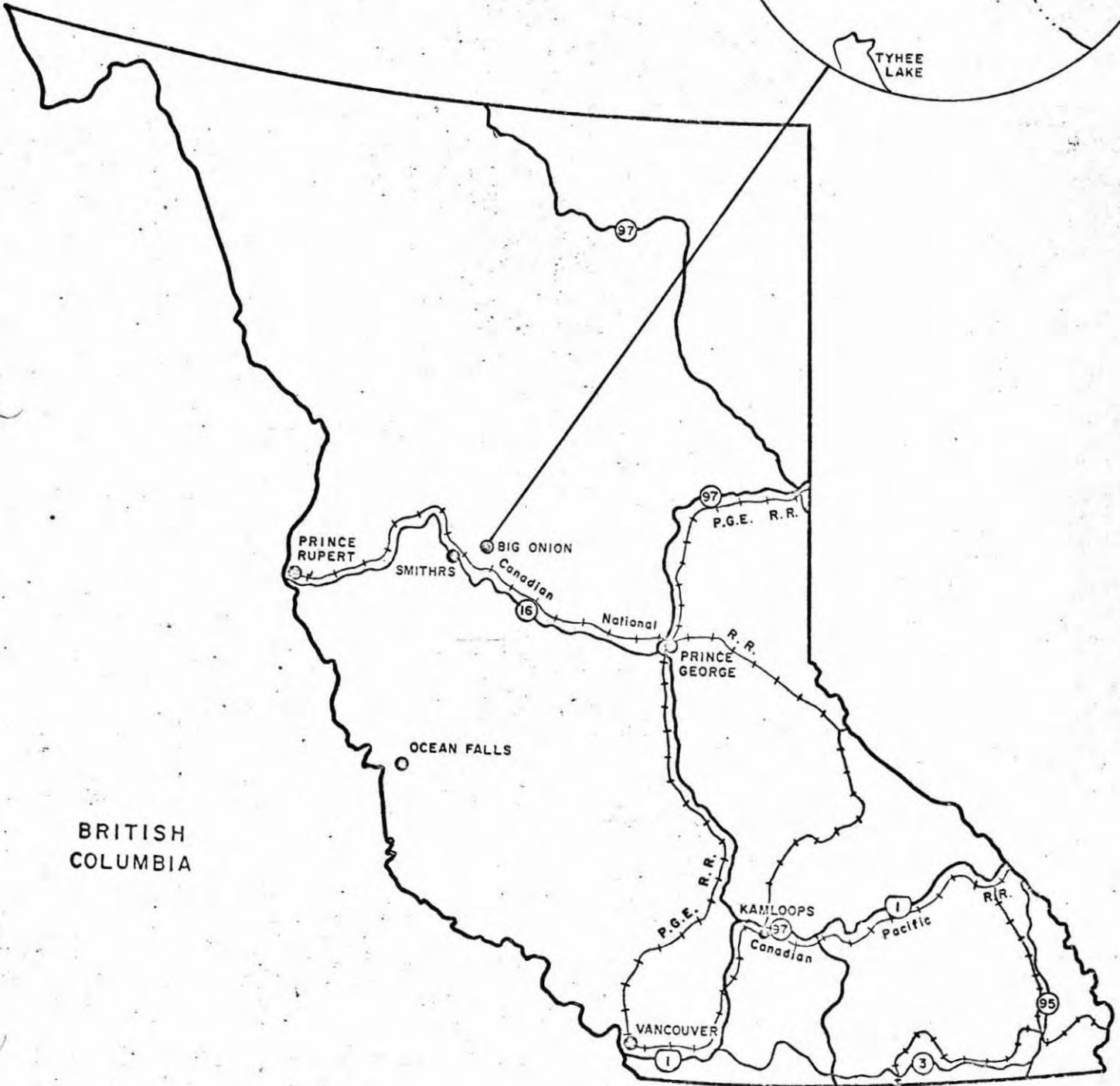
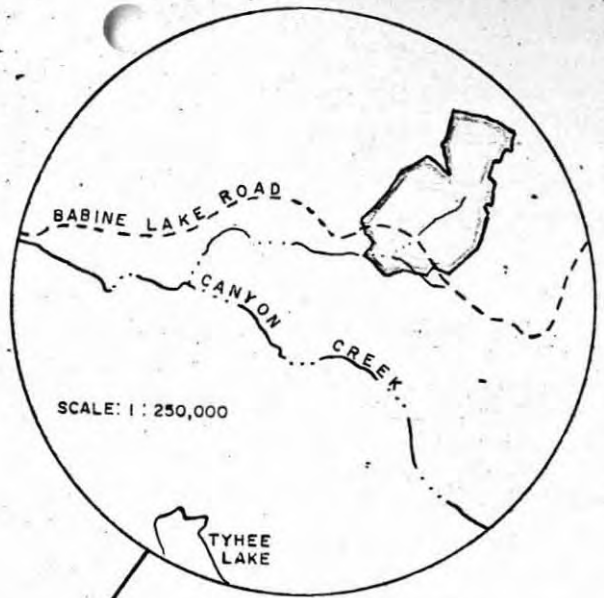
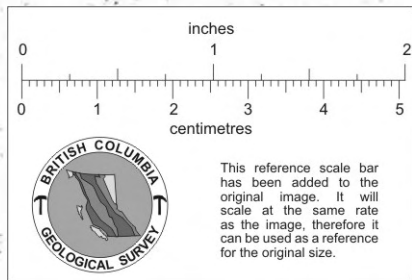
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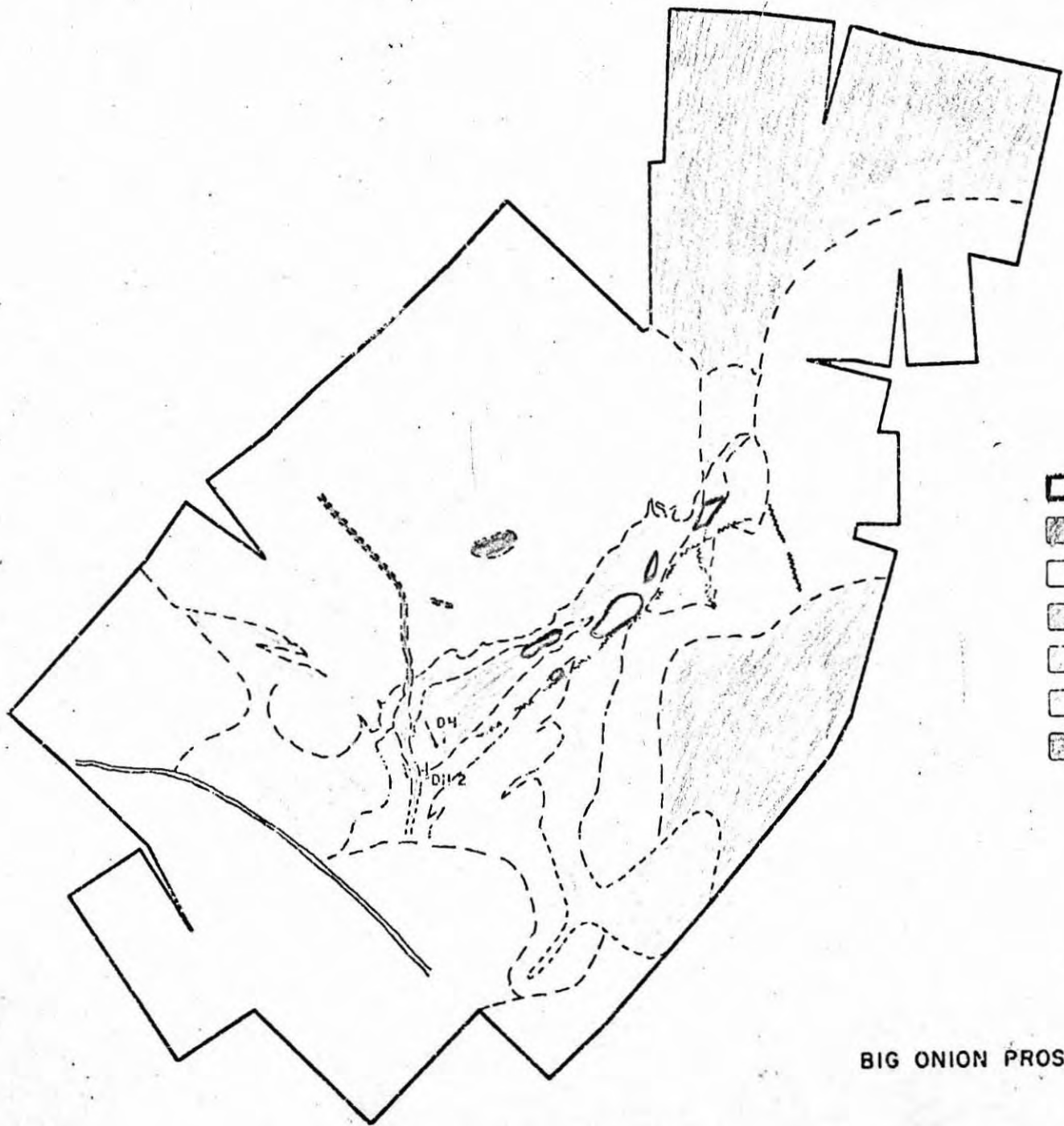









For Management Committee

DATE: _____



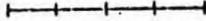
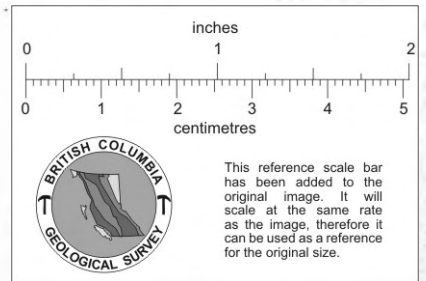




-  GOSSAN
-  ARGILLITES, ARENITES, MINOR TUFF
-  ANDESITES AND TUFF
-  PORPHYRITIC DIORITE DYKE
-  QUARTZ PORPHYRY
-  QUARTZ DIORITE
-  QUARTZ - FELDSPAR PORPHYRY



1/4" = 600'

BIG ONION PROSPECT

2011

MEMORANDUM

TO: K. Lieber

July 30, 1970

FROM: C. A. Mark

SUBJECT: Big Onion AFE

Attached for your review and signature is the AFE No. 29-69-B, Big Onion Prospect, in the amount of \$145,000, estimated total expenditure \$236,000.

C. A. Mark

CAM/pc
Attachment

MEMORANDUM

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C. A. Mark

CAM/pc
Attachment

MEMORANDUM

file

TO: R. R. Grantham

July 30, 1970

FROM: C. A. Mark

SUBJECT: Big Onion AFE

Attached for your review are two copies of the AFE No. 29-69-B, Big Onion Prospect, in the amount of \$145,000, estimated total expenditure \$236,000.

C. A. Mark

CAM/pc c
Attachments

INTER OFFICE MEMO

CYPRUS EXPLORATION CORPORATION LTD.
VANCOUVER OFFICE

Car

TO	REPLY	
	COMMENT	
RETURN TO		
JUN 18 1970		
1	C.A.M.	5
2		6
3		7
4		8

Date: June 12, 1970

Ref. 308-CVL

To: C. A. Mark
From: J.B.P. Sawyer
Subject: A.F.E. No. 14-69-B

I acknowledge receipt of the approved A.F.E. No. 14-69-B covering proposed drilling in Area 2 and 3 of the Buster Lake prospect.

J.B.P. Sawyer

*
ANVILCORP LSA
CYPRUSEXPL VCR

JANUARY 8/70

TO T S MELANCON

FROM J B P SAWYER

SUBJECT BIG ONION A F E

REF 12-WVL

COULD YOU TELEX UP THE FIGURES UNDER THE VARIOUS HEADINGS
IN THE FIRST A F E NBR 29-69 BY RETURN PLEASE

TO	REPLY	
	COMMENT	
RETURN TO		
JAN 8 1970		
1	<i>TSM</i>	5
2		6
3		7
4		8

*
ANVILCORP LSA
CYPRUSEXPL VCR
V

*
CYPRUSEXPL VCR

ANVILCORP LSA

JANUARY 8, 1970

TO: J B P SAWYER

ACQUISITION	\$ 6,000
WAGES	500
SURVEYING & MAPPING	500
OUTSIDE CONTRACT SERVICES	500
ASSAYING & SAMPLING	250
TRAVEL	250

TOTAL	\$ 8,000

PRESPECT DESCRIPTION:

THE BIG ONION PROSPECT IS LOCATED APPROXIMATELY 11 MILES EAST OF SMITHERS, BRITISH COLUMBIA, ON THE CANADIAN NATIONAL RAILWAY. THE PROPERTY INCLUDES A TOTAL OF 93 FULL AND 6 FRACTIONAL CLAIMS ON THE SOUTHERN SLOPES OF ASTLAIS (BIG ONION) MOUNTAIN.

CMC HAS AN OPTION TO PURCHASE THE PROPERTY FOR A TOTAL OF \$250,000. PAYMENTS ARE TO BE MADE ON THE FOLLOWING SCHEDULE:

\$4,000 DOWN
\$4,000 END OF FIRST YEAR
~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~
\$4,000 END OF SECOND YEAR
\$4,000 END OF THIRD YEAR
BALANCE END OF THE FOURTH YEAR

TERMS OF THE OPTION STIPULATE THAT WE MUST PERFORM ANNUAL ASSESSMENT WORK TO KEEP THE CLAIMS IN GOOD STANDING.

THE PROSPECT LIES ON THE SOUTHWESTERN FLANK OF THE BABINE MOUNTAINS, A NORTHWEST-STRIKING SEQUENCE OF JURASSIC AND CRETACEOUS (?) VOLCANIC AND SEDIMENTARY ROCKS ASSIGNED TO THE HAZELTON GROUP. ON THE BIG ONION PROPERTY, VOLCANICS OF THE LOWER (?) DIVISION OF THE HAZELTON GROUP HAVE BEEN INTRUDED BY A NORTHEAST-STRIKING IGNEOUS COMPLEX, CONSISTING OF QUARTZ DIORITE AND QUARTZ PORPHYRY ACCOMPANIED BY VARYING AMOUNTS OF SULFIDE MINERALIZATION. THE ORE MINERALS OCCUR IN SHEAR AND FRACTURE FILLINGS AND AS DISSEMINATIONS IN THE QUARTZ DIORITE, QUARTZ PORPHYRY, AND PROPHYLITIZED ANDESITE, AND TEND TO ACHIEVE THEIR BEST DEVELOPMENT AT OR NEAR CONTACT ZONES.

IN ADDITION, SEVERAL GOSSANS ARE PRESENT ON THE SLOPES WEST OF AND IN ASTLAIS CREEK. THE GOSSANS GENERALLY CONTAIN A VARIETY OF ANGULAR TO ROUNDED ROCK FRAGMENTS REPRESENTING ALL ROCK TYPES IN THE AREA.

THE PROPERTY WAS FIRST STAKED IN 1918 AND WORKED INTERMITTENTLY BY DIFFERENT PROSPECTORS. ONLY MINOR AMOUNTS OF CHALCOPYRITE AND MOLYBDENUM WERE DISCOVERED. IN 1964, NORANDA DID CONSIDERABLE STRIPPING AND ROAD BUILDING AND 250 FEET OF DIAMOND DRILLING. NORANDA'S DIAMOND DRILLING INTERSECTED 50 FEET GRADING 0.20 PERCENT CU IN DDH-1 AND 148 FEET GRADING 0.24 PERCENT CU IN DDH-2. ONE 10-FOOT WIDTH ASSAYED UP TO 0.50 PERCENT CU IN QUARTZ PORPHYRY IN DDH-2.

TEXAS GULF SULPHUR OPTIONED THE PROPERTY IN 1965, AND BEGAN WORK IN 1966 WITH I. P. AND RESISTIVITY SURVEYING, GEOCHEMICAL SURVEYING, AND GEOLOGICAL MAPPING. TWO MAJOR GEOCHEMICAL ANOMALIES FOR COPPER AND MOLYBDENUM WERE DELINEATED. THE I. P. SURVEY REVEALED TWO AREAS WITH HIGH CHARGEABILITIES, MEASURING APPROXIMATELY ~~XXXXXXXXXXXX~~ 3,400 FEET X 2,000 FEET AND 2,000 FEET X 1,600 FEET, PARTLY COINCIDENT WITH GEOCHEMICAL ANOMALIES. DURING 1966-67, SEVEN DIAMOND DRILL HOLES TOTALLING 3,993 FEET TESTED BOTH I. P. AND GEOCHEMICAL ANOMALIES IN PART. COPPER ASSAYS NEVER EXCEEDED 0.30 PERCENT CU AND WERE GENERALLY AROUND 0.10 PERCENT CU WITH MOLYBDENUM AVERAGING 0.02 PERCENT.

REINTERPRETATION OF THE GEOPHYSICAL SURVEY MAY OUTLINE OTHER AREAS FOR EXPLORATION WHEN MORE DETAILED GEOLOGIC INFORMATION IS AVAILABLE. OF PARTICULAR INTEREST IS THE SUGGESTED MAGNETIC MINERALIZATION OF THE RHYOLITE-ANDESITE CONTACT ALONG THE EAST SIDE OF THE GRID.

WORK PROGRAM:

THE PRELIMINARY EXPLORATION PROGRAM WILL INCLUDE REEVALUATION OF AVAILABLE GEOLOGIC DATA, SURVEYING, GEOLOGICAL MAPPING, SAMPLING, AND ASSAYING. IF, WITH THE ADDITIONAL PROGRAM PLANNED, WE ARE ABLE TO OUTLINE EXPLORATION TARGETS, A SUPPLEMENTAL AFE WILL BE PRESENTED TO PROVIDE FUNDS FOR DETAILED MAPPING AND PRELIMINARY DRILLING.

JUSTIFICATION:

WE BELIEVE THAT PREVIOUS GEOLOGICAL STUDIES HAVE INDICATED LARGE AREAS OF POTENTIAL DISSEMINATED MINERALIZATION THAT HAVE NOT BEEN FULLY TESTED TO DATE. WE PLAN A PROGRAM OF ADDITIONAL GEOLOGICAL STUDY TO REINTERPRET THE DATA FOR ADDITIONAL EXPLORATION TARGETS. WE BELIEVE THE BIG ONION PROSPECT OFFERS AN EXCELLENT TARGET FOR A DISSEMINATED AND/OR SECONDARY ENRICHED COPPER-MOLYBDENUM ORE DEPOSIT OF LARGE DIMENSIONS.

RECOMMENDATION:

WE RECOMMEND THE EXPENDITURE OF \$8,000 TO IMPLEMENT THE EXPLORATION WORK PROGRAM ON THE BIG ONION PROSPECT.

T S MELANCON

*
CYPRUSEXPL VCR

T

TELETYPE (TOP) BPS SAWYER
VANCOUVER

TITLE: Big Onion Prospect, Smithers Area,
British Columbia

ESTIMATED
COST:

Budget Title	Proposed AFE No. 29-69
Acquisition	\$ 6,000
Wages	500
Surveying & Mapping	500
Outside Contract Services	500
Assaying & Sampling	250
Travel	250
Total	<u>\$ 8,000</u>

PROSPECT
DESCRIPTION:

The Big Onion prospect is located approximately 11 miles east of Smithers, British Columbia, on the Canadian National Railway. The property includes a total of 93 full and 6 fractional claims on the southern slopes of Astlais (Big Onion) Mountain.

CMC has an option to purchase the property for a total of \$250,000. Payments are to be made on the following schedule:

- \$4,000 down
- \$4,000 end of first year
- \$4,000 end of second year
- \$4,000 end of third year
- Balance end of the fourth year

Terms of the option stipulate that we must perform annual assessment work to keep the claims in good standing.

The prospect lies on the southwestern flank of the Babine Mountains, a northwest-striking sequence of Jurassic and Cretaceous(?) volcanic and sedimentary rocks assigned to the Hazelton Group. On the Big Onion property, volcanics of the lower(?) division of the Hazelton Group have been intruded by a northeast-striking igneous complex, consisting of quartz diorite and quartz porphyry accompanied by varying amounts of sulfide mineralization. The ore minerals occur in shear and fracture fillings and as disseminations in the quartz diorite, quartz porphyry, and prophyllitized andesite, and tend to achieve their best development at or near contact zones.

In addition, several gossans are present on the slopes west of and in Astlais Creek. The gossans generally contain a variety of angular to rounded rock fragments representing all rock types in the area.

The property was first staked in 1918 and worked intermittently by different prospectors. Only minor amounts of chalcopyrite and molybdenum were discovered. In 1964, Noranda did considerable stripping and road building and 250 feet of diamond drilling. Noranda's diamond drilling intersected 50 feet grading 0.20% Cu in DDH-1 and 148 feet grading 0.24% Cu in DDH-2. One 10-foot width assayed up to 0.50% Cu in quartz porphyry in DDH-2.

Texas Gulf Sulphur optioned the property in 1965, and began work in 1966 with I. P. and resistivity surveying, geochemical surveying, and geological mapping. Two major geochemical anomalies for copper and molybdenum were delineated. The I. P. survey revealed two areas with high chargeabilities, measuring approximately 3,400 feet x 2,000 feet and 2,000 feet x 1,600 feet, partly coincident with geochemical anomalies. During 1966-67, seven diamond drill holes totalling 3,993 feet tested both I. P. and geochemical anomalies in part. Copper assays never exceeded 0.30% Cu and were generally around 0.10% Cu with molybdenum averaging 0.02%.

Reinterpretation of the geophysical survey may outline other areas for exploration when more detailed geologic information is available. Of particular interest is the suggested magnetic mineralization of the rhyolite-andesite contact along the east side of the grid.

WORK
PROGRAM:

The preliminary exploration program will include reevaluation of available geologic data, surveying, geological mapping, sampling, and assaying. If, with the additional program planned, we are able to outline exploration targets, a supplemental AFE will be presented to provide funds for detailed mapping and preliminary drilling.

JUSTIFICATION:

We believe that previous geological studies have indicated large areas of potential disseminated mineralization that have not been fully tested to date. We plan a program of additional geological study to reinterpret the data for additional exploration targets. We believe the Big Onion prospect offers an excellent target for

a disseminated and/or secondary enriched copper-molybdenum ore deposit of large dimensions.

RECOMMENDATION: We recommend the expenditure of \$8,000 to implement the exploration work program on the Big Onion prospect.

J. B. P. Sawyer
J. B. P. Sawyer
by T. S. Melancon

C. A. Mark
C. A. Mark
by T. S. Melancon

APPROVED:

J. G. Hansen
J. G. Hansen

11-10-69
Date