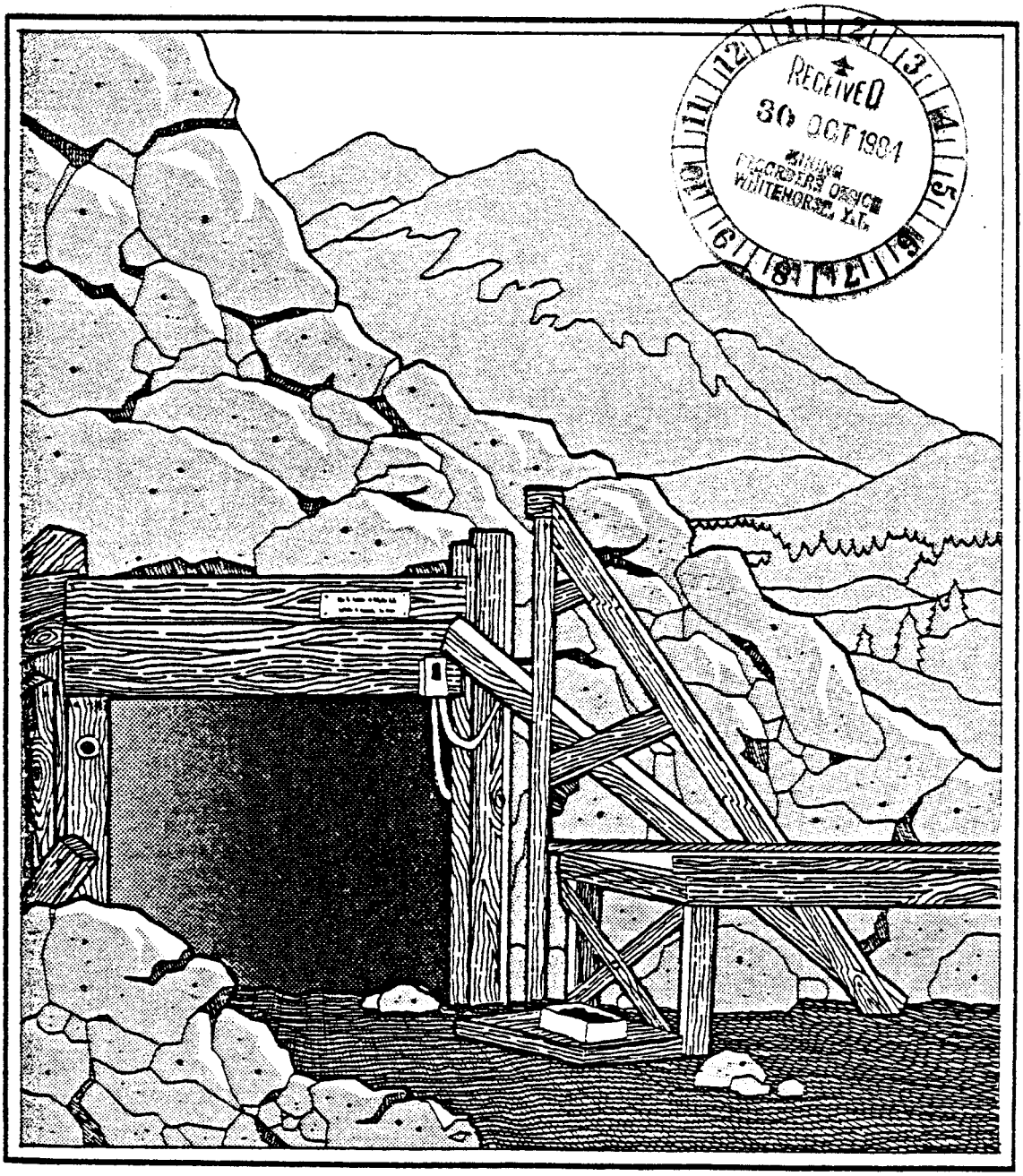
GEOLOGICAL REPORT 091624

MONTANA MOUNTAIN PROPERTY

NTS 105-D2 / 60° 04'N · 134° 43'W

Anooraq Resources Corp. Ltd.



G. MACDONALD & ASSOCIATES LTD.
WHITEHORSE - YUKON

G. MACDONALD, P. Geol.
SEPTEMBER 30, 1984

G. MACDONALD AND ASSOCIATES LIMITED
Consulting Professional Geologists

4 Hyland Crescent
Whitehorse, Y.T.
Y1A 4P6

(403) 668-2044 (403) 667-7229

GEOLOGICAL REPORT

FOR

ANOORAQ RESOURCES CORPORATION

ON THE

MONTANNA MOUNTAIN PROPERTY

NTS CLAIM SHEET 105D - 2

by

G. MACDONALD, P. GEOL.

Whitehorse, Yukon September 30. 1984

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INTRODUCTION

This report was prepared at the request of Mr. M. Neilson, Director of Anooraq Resources Corporation. The report summarizes two visits to the property during August 1984 accompanied by Mr. T. McCrory, Prospector and, on one occassion, by Mr. R. Watson, the property vendor. Available public and private data were reveiwed in conjunction with this summary. The author is familiar with the area having being involved with exploration projects in the vicinity between 1970 and 1984.

SUMMARY

The Anooraq Montanna Mountain Property, comprised of 22 located and 3 leased Yukon Mineral Claims, covers significant occurrences of gold and silver mineralization in three distinct environments. The property is underlain by volcanic and granitic rocks which regionally host other known gold and silver deposits. Very high gold and silver assays were obtained during 1984 from Anooraq vein material with no visible gold, suggesting that discrete gold - silver minerals may be present. The Montanna Mountain area has a history of exploration and limited production dating from the mid 1880's.

Infrastructure locally is good with major arterial roads linked to the Anooraq Claims by a gravel access road, a nearby community (Carcross, Y.T.) and electric power available to the nearby Venus Mine (United Keno Hill Mines Ltd.).

The Anooraq property covers geology permissive to develop potentially economic precious metals deposits. Consequently a two-phase program budgeted at $162,500.00 is recommended to evaluate the claim group.

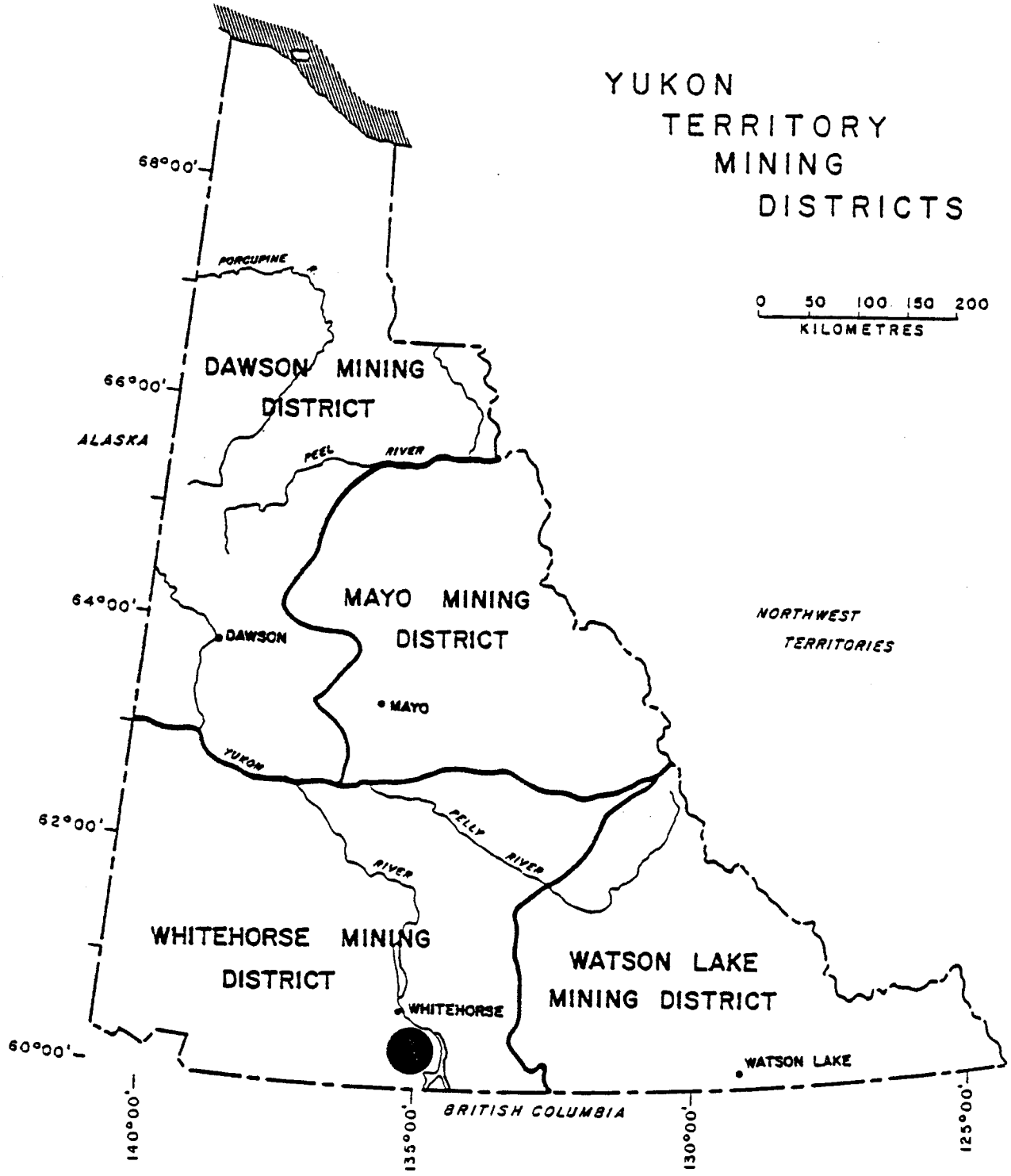
YUKON
TERRITORY
MINING
DISTRICTS
0 50 100 150 200
KILOMETRES
68°00'
66°00'
64°00'
62°00'
60°00'
140°00'
135°00'
130°00'
125°00'
PORCUPINE
DAWSON MINING
DISTRICT
ALASKA
PEEL RIVER
MAYO MINING
DISTRICT
DAWSON
MAYO
NORTHWEST
TERRITORIES
YUKON
PELLY RIVER
RIVER
WHITEHORSE MINING
DISTRICT
WHITEHORSE
WATSON LAKE
MINING DISTRICT
WATSON LAKE
BRITISH COLUMBIA

FIGURE 1

PROPERTY COMPOSITION AND LOCATION

Anooraq's Montanna Mountain property is comprised of 3 leased, and 18 located Yukon Mineral Claims as presented in table 1. In Yukon, leased claims are held on a 21-year renewable grant basis. Located claims are maintained by annual performance of assessment work totaling $100.00 per claim. In the first three years after staking (such as these Anooraq claims) work may include mapping and various surveys; after three years only physical work (eg: diamond drilling, trenching) is acceptable for assessment credit.

TABLE 1 MONTANNA MOUNTAIN PROPERTY

NAME	TYPE	GRANT NO.	EXPIRY
Jean	Lease Claim	19237	2000
Kodak	Lease Claim	19304	2000
Hazel	Lease Claim	19285	2000
MON 1-16	Located	YA82825-40	1985
TB 1-6	Located	YA82967-72	1985

These claims are located in the Whitehorse Mining District and are administered by the District Mining Recorder located at Whitehorse, Yukon.

The property is located on Montanna Mountain, 7 miles due south of the community of Carcross, Yukon, which is located at KM105 on the Skagway to Whitehorse highway. The claims are centered at 60°04'N - 134°43'W. Access to the property is by good gravel road from Carcross Y.T.

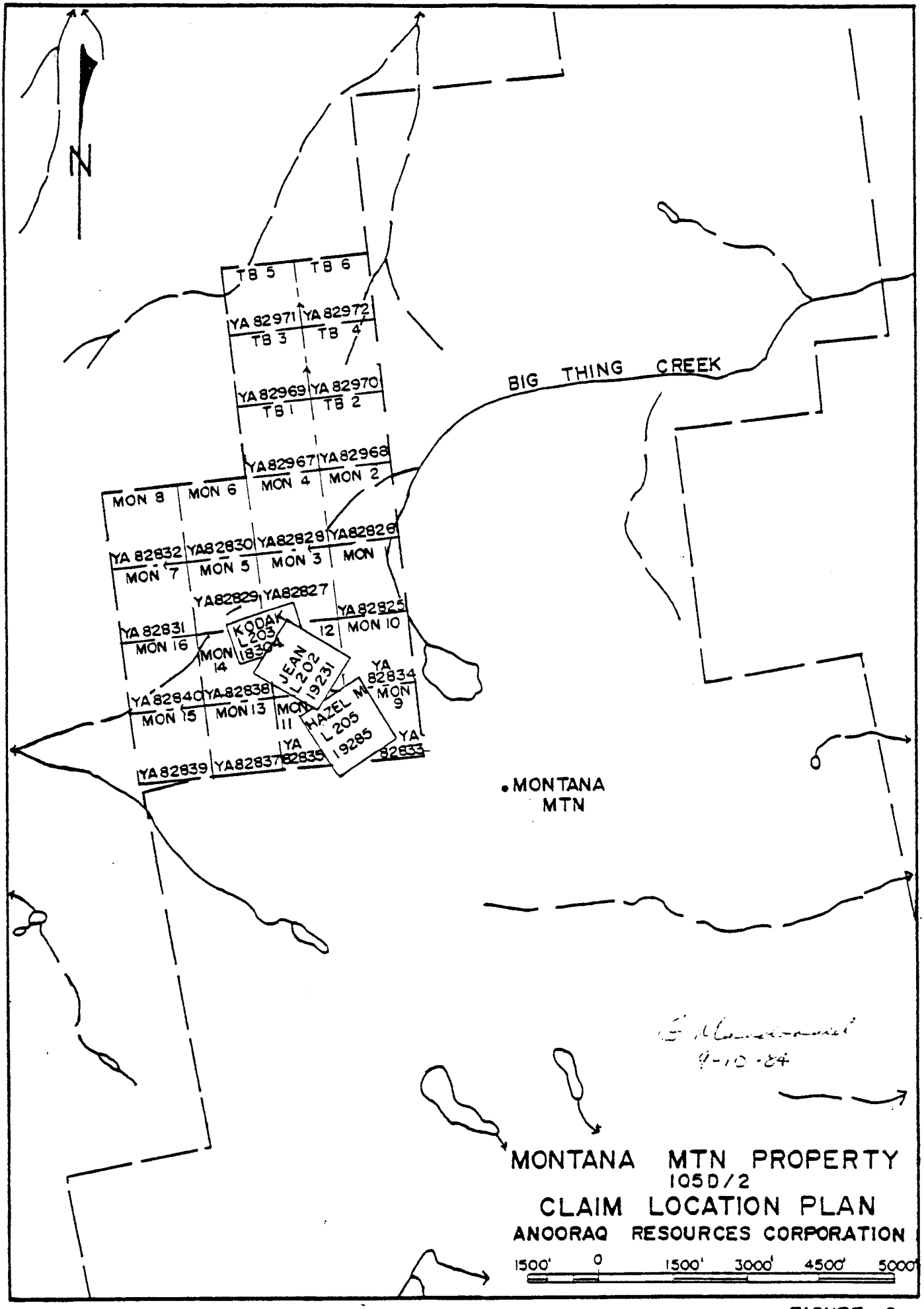
N
TB 5
TB 6
YA 82971
YA 82972
TB 3
TB 4
YA 82969
YA 82970
TB 1
TB 2
YA 82967
YA 82968
MON 8
MON 6
MON 4
MON 2
YA 82832
YA 82830
YA 82828
YA 82826
MON 7
MON 5
MON 3
MON
YA 82829
YA 82827
YA 82825
YA 82831
MON 16
KODAK
L 203
18304
12
MON 10
MON
14
JEAN
L 202
19231
YA
82834
MON
9
YA 82840
YA 82838
MON 15
MON 13
MON
11
HAZEL M
L 205
19285
YA
82835
YA
82833
YA 82839
YA 82837
BIG THING CREEK
MONTANA
MTN
9-10-84
MONTANA MTN PROPERTY
105D/2
CLAIM LOCATION PLAN
ANOORAQ RESOURCES CORPORATION
1500' 0 1500' 3000' 4500' 5000'

FIGURE 2

HISTORY AND PREVIOUS WORK

The Montanna Mountain - Wheaton River District has had a sporadic history of spurts of exploration activity followed by long periods of relative inactivity. The region was first explored for gold and silver previous to the discovery of rich placer gold deposits in the Klondike in 1896. This early phase of development by prospectors from Alaska, located precious metal deposits in the Wheaton River area. Exploration slowed following 1896, when the Klondike rush drove most miners away, until around 1906 - 1909, when numerous gold and silver occurrances were located on Montanna Mountain and in the Gold Hill - Tally-Ho Mountain areas. Between 1890 and 1921, development in the region was active and limited production was from a number of early discoveries including Venus, Montanna, Arctic - Big Thing, Tally-Ho, and others.

A period of dormancy ensued from the early 1920's (when gold discoveries in Alaska again drew many prospectors away) until the 1960's, when development was renewed at several previously operated deposits. Mills were operated briefly during the late 1960's - early 1970's at the Arctic Gold and Silver (Big Thing) and Venus Mines. However, high operating costs coupled with low precious metal prices led to termination of these projects. Additional exploration and development at the Venus veins was conducted by United Keno Hill Mines Ltd. between 1980 and 1984. A 100 tons-per-day mill was erected, but not used, by United Keno Hill Mines Ltd. for Venus during 1981 and 1982.

The Jean Claim was staked by Mathew Watson in September 1936 following discovery of gold - silver bearing quartz float 2½ miles north-west of the Montanna Mine. The Kodak and Hazel Claims were added in June 1939 following encouraging results from hand trenching programs during 1937 and 1938, which exposed a north 30° West trending vein assaying up to 8.6 oz. gold per ton over widths of 12 - 24". Development work was

idled by the outbreak ofWorld War 2. The claims were surveyed to lease in 1958 and optioned to New Imperial Mines Ltd. in 1960. Exploration by the optionees included further trenching, road construction and 200 feet of adit-entry drifting which did not achieve its target, in 1961 and 1962. The option was terminated following this program. Additional exploration consisting of four short underground drill holes, was performed by Arctic Gold and Silver Mines Ltd. under an option in 1967 as a part of their assessment of all the available locally known gold-silver occurrences in conjunction with their Big Thing mill and mine development project. DuPont Exploration identified a gold silt sample anomaly on the stream draining the property to the west and performed limited mapping on claims staked as a follow-up in 1981.

TOPOGRAPHY AND CLIMATE

The Montanna Mountain district occupies a transition area between the interior plateau region and the granitic mountains of the Coast Range. Montanna Mountain is a high rugged group of peaks rising 4000 to 5000 feet above the larger lake levels and separates Lake Bennett on the west from Nares and Tagish Lakes to the north and east. Maximum elevations exceed 7000 feet above sea level and deep incision by small drainage systems has left many very steep (+45°) slopes locally. Montanna Mountain is surrounded on three sides by deeply cut glacial valleys. De-glaciation features, (till, hanging valleys etc.) are common in the area.

The Montanna Mountain region is characterized by a moderated interior continental climate with warm summers and generally cloudy, cold winters. Close proximity to the Pacific Ocean, and a series of mountain icefields to the south, tends to result in fairly continuous strong southerly winds in the area, particularly at higher altitudes. Snowfall is moderate to heavy, reflecting the effect of moist Pacific air impacting on the higher mountain elevations.

REGIONAL GEOLOGY

Montanna Mountain is underlain by a complex assemblage of stratified rocks intruded by granitic plutons and rhyolite dykes and sills. The oldest rocks present are Jurassic Laberge Group greywackes and conglomerates. An older meta-volcanic assemblage, perhaps equivalent to the Permian Taku Group (?) apparently occupies the lower eastern portion of the mountain, bordering Tagish Lake. This unit is in an uncertain fault relationship with other lithologies. A younger volcanic assemblage comprised of porphyritic andesite flows, breccias, tuffs, and rhyolites, possibly of Triassic or early Cretaceous age, underlies the south east quadrant of Montanna Mountain. A third volcanic lithology, perhaps equivalent to the oldest volcanic unit, is present on the west flank of Montanna Mountain along the east side of Bennett Lake.

Cretaceous granitic rocks are present intruding the stratified rocks and underlying much of the lower southeast and northern portions of Montanna Mountain. These rocks are commonly fresh, medium grained, equigranular quartz monzonite or quartz diorites.

The youngest rocks on Montanna Mountain are late Tertiary rhyolite porphyry dykes and sills. Rhyolite dykes are present, cutting all earlier units. See Table 2 for a summary of geology.

TABLE 2	UNIT	TABLE OF FORMATIONS
Quaternary	Q	Glacial debris; till
Tertiary	Vr	Rhyolite porphry
Cretaceous	Kg	Hornblende-biotite Quartz Monzonite and Quartz Diorite
Cretaceous (?)	Kva	Andesitic flows, breccia and tuff, rhyolite flows, may be porphyritic, regionally weakly altered
Triassic	Tra	Adesite flows and pyroclastic equivalents
Jurassic	Jge	Greywackes; conglomerate
Permian	Pva	Meta-volcanics; may be equivalent to Tra, contains peridotite lenses

PROPERTY GEOLOGY

The Anooraq property covers an intrusive contact region between early Cretaceous (?) Hutshi Group andesitic flow volcanics and late Cretaceous quartz monzonite. The andesites are weakly regionally metamorphosed but only moderately contact altered by the intruding action. Granitic rocks are fresh near the contact environment and may be moderately to intensly fractured locally. Tectonic action has produced a series of large fractures, generally striking about N 30° W with a subsidiary fracture system developed perpendicular to the prominent orientation.

Quartz-calcite veins and micro-veins have been emplaced in the fracture systems. Widths of these veins vary from 1/8" to 1" in cross-fault veinlets to 12" - 24" in main orientation veining.

The main veining is apparently present as two sub-parallel vein systems oriented approximately along the granite-andesite contact. These two zones may be actually faulted portions of one vein. The quartz-calcite veins carry moderate amounts of sulphide material in both localities observed. The upper zone contains up to 20% of galena-sphalerite-pyrite ± arsenopyrite over widths up to 24", while the lower zone contains a stibnite-arsenopyrite-sphalerite-pyrite-galena-assemblage in a vein fracture swarm over 8 - 10 feet wide. The lowest mineralized portions of the upper zone assayed high in gold content (Sample No's 8430 and 8433). See Table 3 for a summary of assay results. A larger boulder of well mineralized quartz float approximately 300 feet north west of a Zone 1 (upper zone) trench was assayed as samples No. 8434 and 8436. Check assays of this material confirmed gold values of 27.4, 15.1 and 13.28 ounces of gold per ton, respectively. Portions of the lower zone (Zone 2) were tested by three samples (W4, W5 and 8440). These all returned gold values in relatively high concentrations. (1.96, 0.43 and 1.918 OPT gold, respectively).

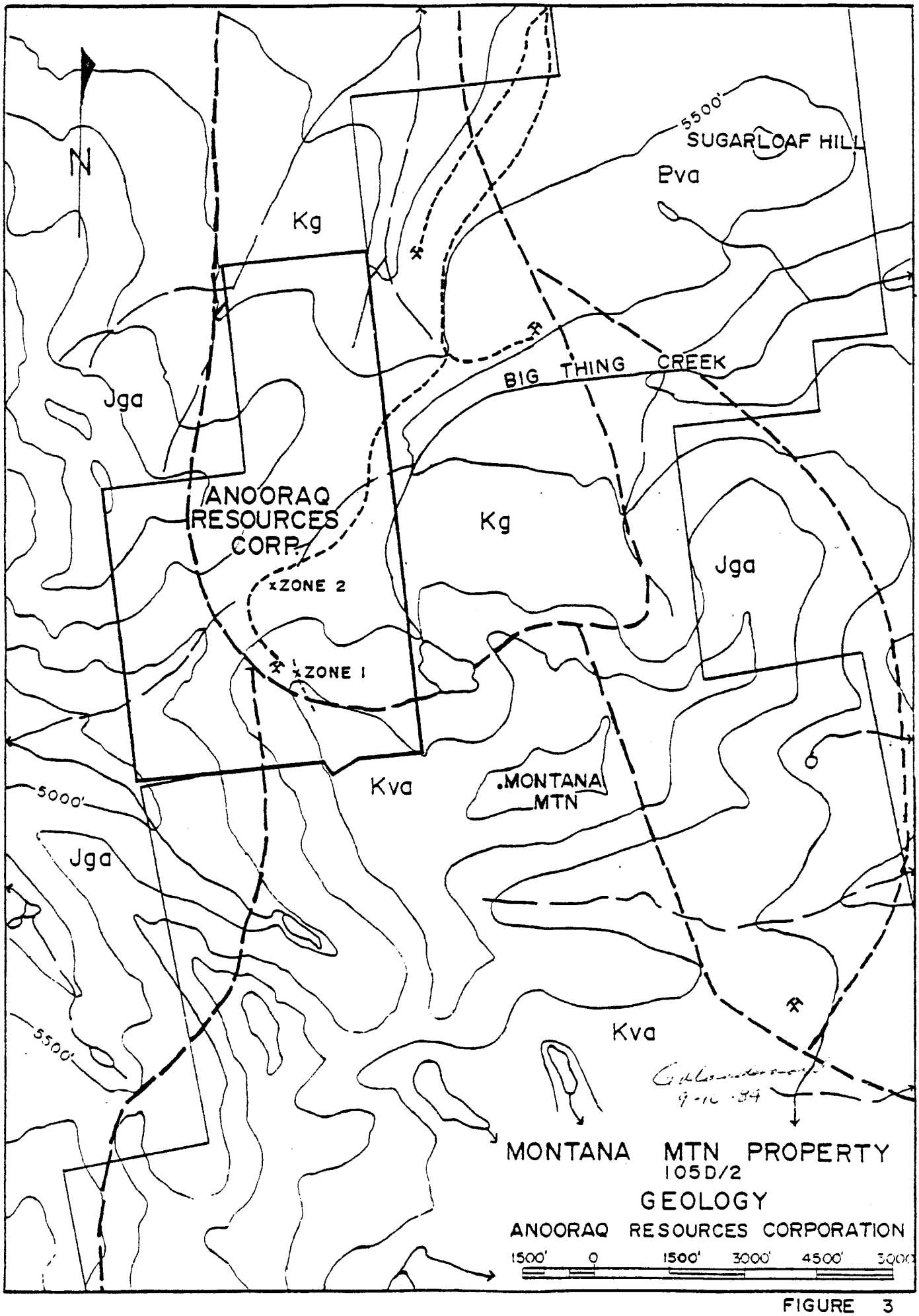
N
5500'
SUGARLOAF HILL
Pva
Kg
BIG THING CREEK
Jga
ANOORAQ RESOURCES CORP.
ZONE 2
ZONE 1
Kg
Jga
Kva
MONTANA MTN
5000'
Jga
5500'
Kva
MONTANA MTN PROPERTY
105D/2
GEOLOGY
ANOORAQ RESOURCES CORPORATION
1500' 0 1500' 3000' 4500' 6000'

FIGURE 3

No visible gold has been observed in either zone. Silver to lead (OPT/%) ratios commonly exceed 2:1 and are usually above 3:1 for the higher grade samples. This feature, coupled with a lack of visible gold in the high assay samples, suggests that a discrete gold-silver mineral, perhaps electrum or a telluride is present. In addition, grab samples of pyritized quartz monzonite with approximately 15% finely disseminated pyrite (No. 8435) from the dump of the New Imperial Mines adit (now closed), returned an assay of 0.126 OPT gold. This rock is weakly altered to the propylitic stage, and did not exhibit either fracturing or veining. Several apparently unmineralized quartz-carbonate veins, 1"-3" wide, present cutting the andesite volcanic lithology were assayed (No's. 8428, 8429, 8437, 8438, 8439 and 8441) and returned values from 0.01 to 0.128 OPT gold.

Precious metals are therefore present in three different environments on the Anooraq claims:

(a) Associated with base metals in North 30° West trending quartz veins up to 24" wide:

(b) In apparently unmineralized (low sulphide) quartz veins up to 3" wide trending approximately west in andesite;

(c) With finely disseminated pyrite in weakly altered granitic rock in the old adit.

TABLE 3 ASSAY SUMMARY

Sample No.	Location	Width	Au (OPT)	Ag (OPT)	Pb %	Zn %
8428	Andesite SE of adit	Grab	0.01	---	---	---
8429	Andesite SE of adit	Grab	0.01	---	---	---
8430	Upper trench	12"	27.42	32.04	10.6	6.52
8431	Upper trench wall	Grab	0.208	0.43	0.32	---
8432	Lower trench wall	Grab	0.046	0.03	0.10	---
8433	1m SE of 8430	18"	1.008	5.00	3.74	---
8434	Boulder 100m NW of upper trench	Grab	15.11	17.99	7.10	---
8435	Adit dump	Grab	0.126	---	---	---
8436	Same as 8434	Grab	13.28	18.60	5.98	3.05
8437	Andesite SE of adit	Grab	0.128	---	---	---
8438	Andesite SE of adit	Grab	0.032	---	---	---
8439	Andesite SE of adit	Grab	0.032	---	---	---
8440	Lower zone	6"	1.918	5.12	2.14	---
8441	Andesite	Grab	0.038	---	---	---
W1	Upper trench	Grab	1.072	4.03	2.42	1.11
W4	Lower zone	Grab	1.960	1.66	---	---
W5	Lower zone	Grab	0.43	0.53	---	---

CONCLUSIONS AND RECOMMENDATIONS

Gold and silver are present in significant quantity in three environments on the Anooraq Montanna Mountain property. Consequently, a two phase program is recommended undertaken to evaluate the precious metal occurrences as follows:

PHASE 1	
Survey Grid Construction	$10,000.00
Geological Mapping and Prospecting	15,000.00
Geochemical Survey (Rock and Soil)	10,000.00
Geophysical Survey (VLF-EM and Magnetometer)	7,500.00
Adit Rehabilitation and Sampling	5,000.00
Trenching	15,000.00
Road Construction and Maintenance	5,000.00
Total Phase 1	$67,000.00

PHASE 2	
Surface Diamond Drilling 1000 feet	$ 40,000.00
Bulk Trench Sampling	10,000.00
Underground Drilling	25,000.00
Geological Laboratory Study	5,000.00
Air Photo Study	5,000.00
Total Phase 2	$ 85,000.00
Contingency	10,000.00
Total Project Cost	$162,500.00

Respectfully submitted

G. Macdonald, P. Geol.

APPENDIX 1

STATEMENT OF QUALIFICATIONS

G. MACDONALD AND ASSOCIATES LIMITED
Consulting Professional Geologists

4 Hyland Crescent
Whitehorse, Y.T.
Y1A 4P6

(403) 668-2044 (403) 667-7229

CERTIFICATE OF QUALIFICATIONS

I, Glen C. Macdonald, with business and residential address in Whitehorse, Yukon, do hereby certify that:

1. I am a consulting professional geologist.

2. I am a graduate of the University of British Columbia (B.Sc. Geology, 1973 and B.A. Economics 1971).

3. I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (No. 36214).

4. I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (No. L166).

5. I am a member in good standing of the Canadian Institute of Mining and Metallurgy.

6. I have practiced Mining and Exploration geology in Yukon, northern British Columbia and Northwest Territories since 1973. I began private practice in 1982 after leaving the position of Regional Geologist for Noranda Exploration Company, Limited, Whitehorse, Yukon.

7. I have examined the showings and area of the Montanna Mountain property of Anooraq Resources, Corporation and have reviewed all available private and public information on the property to compile this report.

8. I have not received, nor do I expect to receive, any interest in properties or securities of Anooraq Resources, Corporation.

9. I hereby grant my permission for Anooraq Resources Corporation to use this report for filing with the Vancouver Stock Exchange as partial requirement of a Statement of Material Facts or for any legal purposes normal to the business of Anooraq Resources Corporation.

DATED at Whitehorse, Yukon this 30th day of September, 1984.

Glen C. Macdonald, P. Geol.

APPENDIX 2

LIST OF REFERENCES

LIST OF REFERENCES

i) CAIRNES, D.D.
GSC, Memoir 31, Wheaton District 1912

ii) GSC Paper 64 - 36 Pages 39 - 40

iii) WHEELER, J.O.
GSC Memoir 312
Whitehorse Map Area 1916

APPENDIX 3

ASSAY WORK SHEET

Chemex Labs Ltd.

*Analytical Chemists ** Geochemists ** Registered Assayers*

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Telephone:(604) 984-0221
Telex: 043-52597

CERTIFICATE OF ASSAY

TO : NEILSON, MIKE

12447 - 208 ST.
MAPLE RIDGE, B.C.
V2X 4X1

** CERT. # : A8415311-001-A
INVOICE # : I8415311
DATE : 6-SEP-84
P.O. # : NONE

Sample description	Prep code	Pb %	Zn %	Ag oz/T RUSH FA	Au oz/T RUSH FA		
8428	236	--	--	--	0.010	--	--
8429	236	--	--	--	0.010	--	--
8430	236	10.60	6.52	32.04	27.422	--	--
8431	236	0.32	--	0.43	0.208	--	--
8432	236	0.10	--	0.03	0.046	--	--
8433	236	3.74	--	5.00	1.008	--	--
8434	236	7.10	--	17.99	15.112	--	--
8435	236	--	--	--	0.126	--	--
8436	236	5.98	3.05	18.60	13.280	--	--
8437	236	--	--	--	0.128	--	--
8438	236	--	--	--	0.032	--	--
8439	236	--	--	--	0.032	--	--
8440 Lee 3~	236	2.14	--	5.12	1.918	--	--
8441	236	--	--	--	0.038	--	--

Registered Assayer, Province of British Columbia

Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Telephone:(604) 984-0221
Telex: 043-52597

CERTIFICATE OF ASSAY

TO : ANOORAQ RESOURCES CORPORATION

12447 - 208TH. ST.
MAPLE RIDGE, B.C.
V2X 4X1

CERT. # : A8415094-001-
INVOICE # : I8415094
DATE : 27-AUG-84
P.O. # : NONE

Sample description	Prep code	Cu %	Pb %	Zn %	Ag FA oz/T	Au FA oz/T	
BO-1	207	1.04	--	--	--	<0.003	--
TMO-14	207	--	--	--	--	0.008	--
W-1	207	--	2.42	1.11	4.03	1.072	--
W-2	207	--	--	--	0.37	0.032	--
W-3	207	--	0.32	0.14	0.30	0.062	--
W-4	207	--	--	--	1.66	1.960	--
W-5	207	--	--	--	0.53	0.430	--
W-6	207	--	--	--	0.10	0.024	--

Registered Assayer, Province of British Columbia

McCrory Holdings (Yukon) Ltd.
307 Jarvis Street, Whitehorse, Yukon Y1A 2H3
Telephone (403) 668-7106

Bill Preston
(403) 667-7175
Terry McCrory
JR 25882
Lebarge Channel

October 30, 1984

Anooraq Resources Corporation
200-11965 Fraser St.
Maple Ridge, BC
V2X 8H7

Re: Montana Property

Clean up access road to lower zone and trail to upper sections. Position compressor and equipment. Clean up showings. Trenching, drilling and blasting. Sampling and prospecting of trenches. Geophysical (VLF-EM) . Heater and propane positioned in adit. Demob. equipment. Prospecting on MON group.

47½	Man days @ $300.00/day	$14250.00
20	Truck days @ $50.00/day	1000.00
23	Cat hrs @ $40.00/hr	920.00
14	Snowmobile days @ $25.00/day	350.00
9	Heater days @ $55.00/day	495.00
3	Compressor days @ $100.00/day	300.00
	Powder, Amex, Fuses, E-Cord	500.00
	Trucking fees for Cat	400.00
	G. Macdonald and Associates	3728.00
	Assaycost	142.50
	Helicopter charter	719.39
	Fuel, Oil, Propane, Phone calls, Photo copying, Parts, Maps, Airfreight, etc.	2527.31
	Total	$25332.20

Thank you for doing business with us.

Sincerely,

J McCrory

T. McCrory