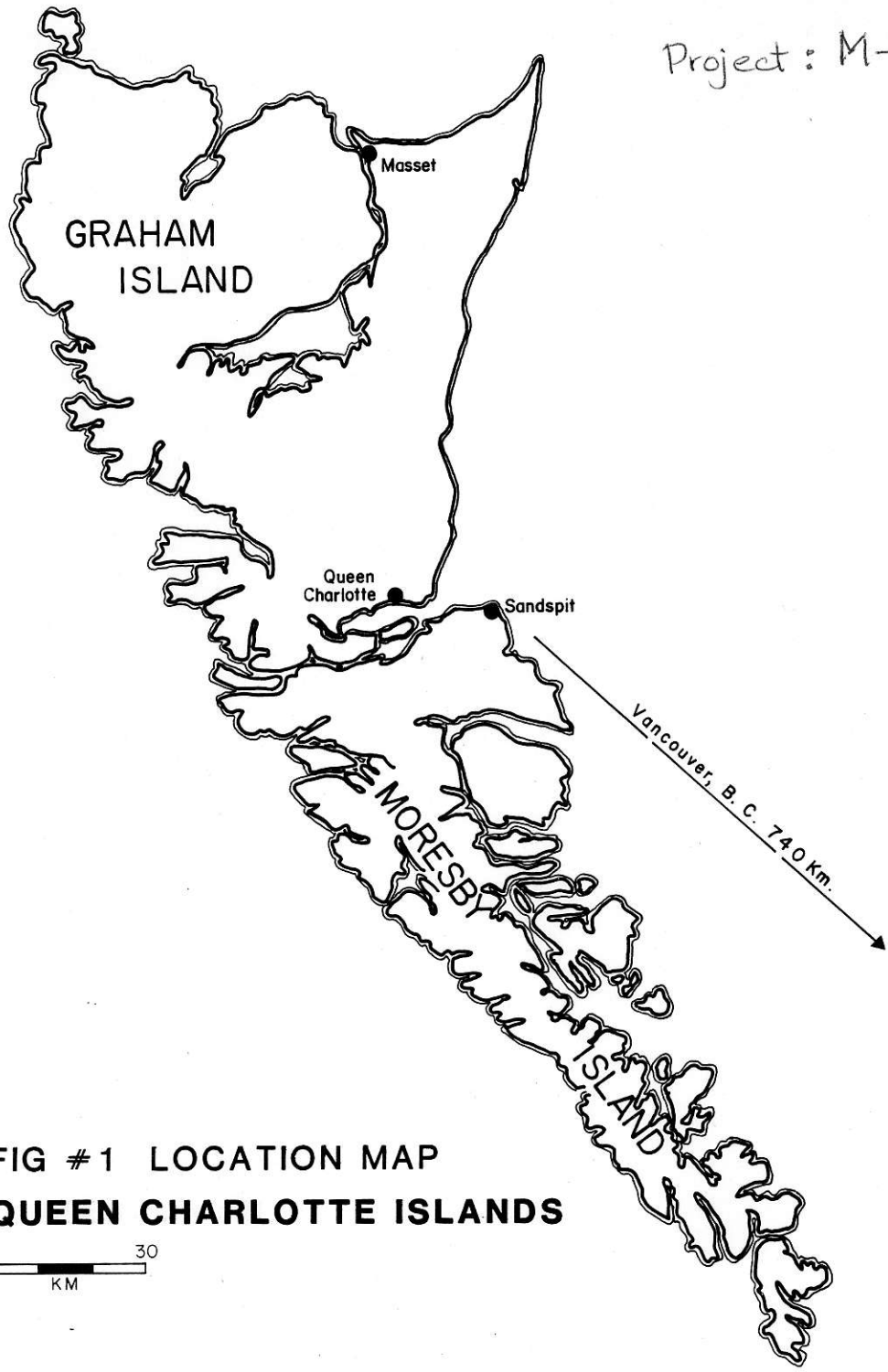


840429
Presentation:
Queen Charlotte
Gold

Project: M-466



**FIG #1 LOCATION MAP
QUEEN CHARLOTTE ISLANDS**

QUEEN CHARLOTTE GOLD

IN 1981 WE PARTIALLY DRILL TESTED TWO OF OUR SEVEN PROPERTIES WITH MIXED ASSAY RESULTS. A CLEAR DIRECTION FOR FUTURE DRILLING IS INDICATED.

FROM DETAILED SURFACE WORK WE HAVE LEARNED MORE ABOUT THE DISTRIBUTION OF GOLD AND DEVELOPED PROMISING ANOMALIES.

OUR CONCEPTUAL UNDERSTANDING BASED ON OTHER DEVELOPMENTS HAS BROADENED. THIS FACT, PLUS THE DEGREE OF COMPETITION, AS WELL AS THE RICH POTENTIAL OF OUR OVERALL TARGET, SUGGEST THAT OUR QUEEN CHARLOTTE PROGRAM SHOULD BE KEPT AT A HIGH LEVEL AND SHOULD INCLUDE REGIONAL WORK.

QUEEN CHARLOTTE GOLD
RECOMMENDED 1981 PROGRAM

<u>WORK</u>	<u>COST</u>	<u>M.M.</u>	<u>OBJECTIVE</u>
DIAMOND DRILL PROGRAMS ON 4 PROPERTIES (TOTAL 6000 FEET)	\$360,000.	8	A GOLD DEPOSIT WITH IN-SITU GROSS VALUE OF: US \$1,250,000,000.
SURFACE GEOLOGY AND GEOCHEMISTRY ON 6 PROPERTIES	140,000.	13	
REGIONAL PROGRAMS (2)	55,000.	3	
LAND AND ADMINISTRATIVE	<u>175,000.</u>	<u>15</u>	
	\$730,000.	39	

QUEEN CHARLOTTE GOLD

Properties	Acres	Host	Alteration	Mineralization	Geochemistry peak anomaly	Size	Comments
1. KING	3600	Cretaceous sediments	Silica, pyrite		>10,000 ppb Hg > 5,000 ppb As	3000'x8000'	Near Masset unconformity
2. COURTE	3365	Jurassic volcanics	Sericite, clay, carbonate, silica	0.04 oz/ton 0.2 oz/ton	5400 ppb Au	200'x1000' 600'x2000' 8'+	NW fault system Near Masset unconformity
3. MARIE	2975	Triassic limestone, Cretaceous arenites, Tertiary volcanics	Silica, pyrite, tourmaline	0.07 oz/ton 0.03 oz/ton	110 ppb Au	7' 20' 6000'x?	Near Masset unconformity. Strong leaching
4. AERO	4200	Cretaceous and Triassic sediments	Pyrite		60 ppb Au 3150 ppb Hg >1000 ppm As	2000'x10000' (regional)	On Louscoone fault system
5. BUCKHORN	1365	Triassic volcanics and limestone	Silica, pyrite, clay		240 ppb Au	1000'x3000'	Strong As association
6. SECURITY	4090	Triassic volcanics and limestone	Silica, pyrite, clay, tourmaline	1.3 oz/ton	1555 ppb Au	700'x5000'	
7. HUSTON	2640	Triassic volcanic. Cretaceous Intrusives	Silica, pyrite, skarn		510 ppb Au	?	2 miles S. of Jedway Mine. Numerous Cu-Fe showings.

1982 BUDGET

MASSIVE SULPHIDE	AGASSIZ-WEAVER	US \$200,000.
	NICOLA	US <u>\$100,000.</u>
	TOTAL	US \$300,000.
GOLD	QUEEN CHARLOTTE	US <u>\$500,000.</u>

QUEEN CHARLOTTE GOLD

PROGRAM AND BUDGET

SECURITY

(A) GEOLOGICAL MAPPING AND PROSPECTING]	\$157,000.
(B) SOIL SAMPLING]	
(C) DIAMOND DRILLING 2500'	180,000.

COURTE

(A) ALTERATION STUDY AND EVALUATION OF CORE	33,000.
(B) DIAMOND DRILLING IF DIRECTION CAN BE FOUND (1000')	60,000.

REGIONAL

(A) EVALUATION OF TARGETS	<u>70,000.</u>
---------------------------	----------------

TOTAL	\$500,000.
-------	------------

IN HOUSE - \$110,000.

OUT HOUSE - \$390,000.

MASSETT GOLD

1. Two main geological criteria:
 - (a) "Cinola" model (late felsic dyking)
 - (b) Lyell Island (disseminated gold within Masset pyroclastics)
2. Massett comprised of: felsic pyroclastics and flows (locally pyritic) as well as basic flows
3. Reason for exploration
 - (a) potential of unexamined areas
 - (b) contributory to knowledge of Massett stratigraphy elsewhere on Queen Charlotte Islands
4. Initial study to be focused initially on one area of Massett characterized by favourable structure and accessibility
5. Budget requirement: \$30,000 US

REGIONAL TARGET SELECTION

CRITERIA

- (1) PROXIMITY TO MAJOR FAULTS - LOOSCOONE
- SANDSPIT
- BERESFORD
- (2) CROSS FAULTING - CHANGE IN ORIENTATION OF MAJOR FAULTS
- (3) POROUS HOST - UNCONSOLIDATED CONGLOMERATE
- CALCAREOUS SILTSTONES
- (4) TERTIARY INTRUSIVE ACTIVITY - HEAT PUMP

QUEEN CHARLOTTE GOLD

PROBLEMS

ROUGH TERRAIN.
HEAVY TIMBER COVER.
LARGE FAVOURABLE AREAS.

GEOLOGY

WIDESPREAD SILICEOUS AND CARBONATE ALTERATION WITH PYRITIZATION
IN SEDIMENTS AND VOLCANICS OF TRIASSIC TO TERTIARY AGE.
POSSIBLE CONTROL BY MAJOR FAULTS.

INDICATIONS

WIDESPREAD GOLD MERCURY AND/OR ARSENIC ANOMALIES IN SOIL, SILT AND ROCK.
SIX BEST SELECTED.

OUTLOOK

1979 - SURFACE DETAILING BY GEOLOGY AND GEOCHEMISTRY AND LOCAL
PERCUSSION DRILLING.
GOOD POTENTIAL FOR HIGH TONNAGE GOLD DEPOSIT SIMILAR TO OR BETTER THAN
NEARBY SPECOGNA DEPOSIT (2.7 M TONS .10 OZ Au/TON
50 M TONS .06 OZ Au/TON).

QUEEN CHARLOTTE GOLD
GEOLOGICAL ENVIRONMENTS

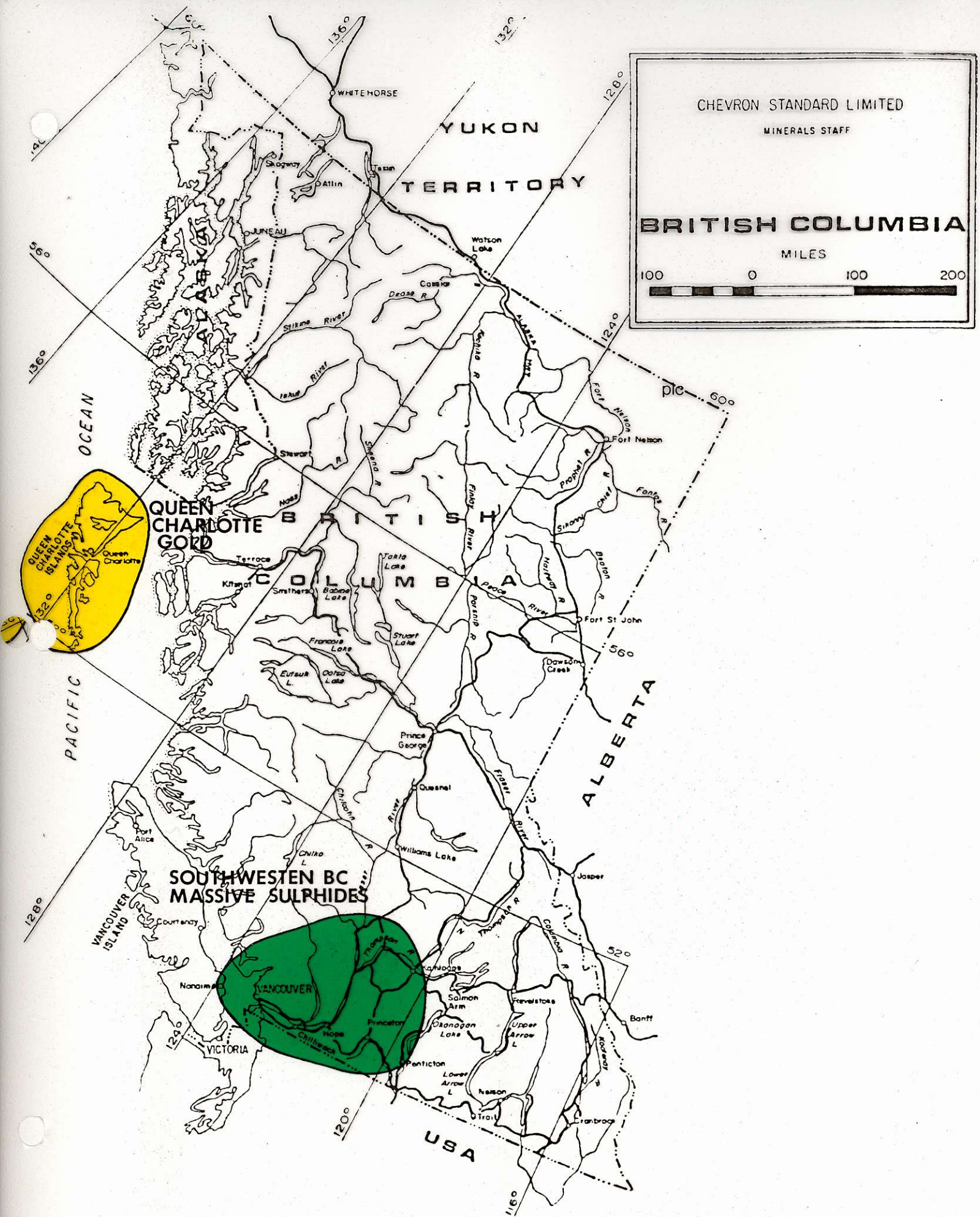
	Tertiary unconformity	Major faulting	Silica	Sericite	Carbonate	Sulphides	Hg	As	Au	Porphyry dykes	Triassic host	
CINOLA	●	●	●	●	○	●	●	●	●	●		CINOLA TYPE
KING	●	●	●	●	○	●	●			●		
COURTE	●	●	●	●	●	●	○	●	●	●		
MARIE	●	●	●	●	○	●	○	●	○	○		
AERO		●				●		●	○			
SECURITY		●	●	●	○	○		●	●	●	●	TRIASSIC HOSTED TYPE
BUCKHORN		○	○	○	○	○		●	●		●	
HUSTON		○				●		●	●	○	●	

● Strong
○ Moderate

CHEVRON STANDARD LIMITED
MINERALS STAFF

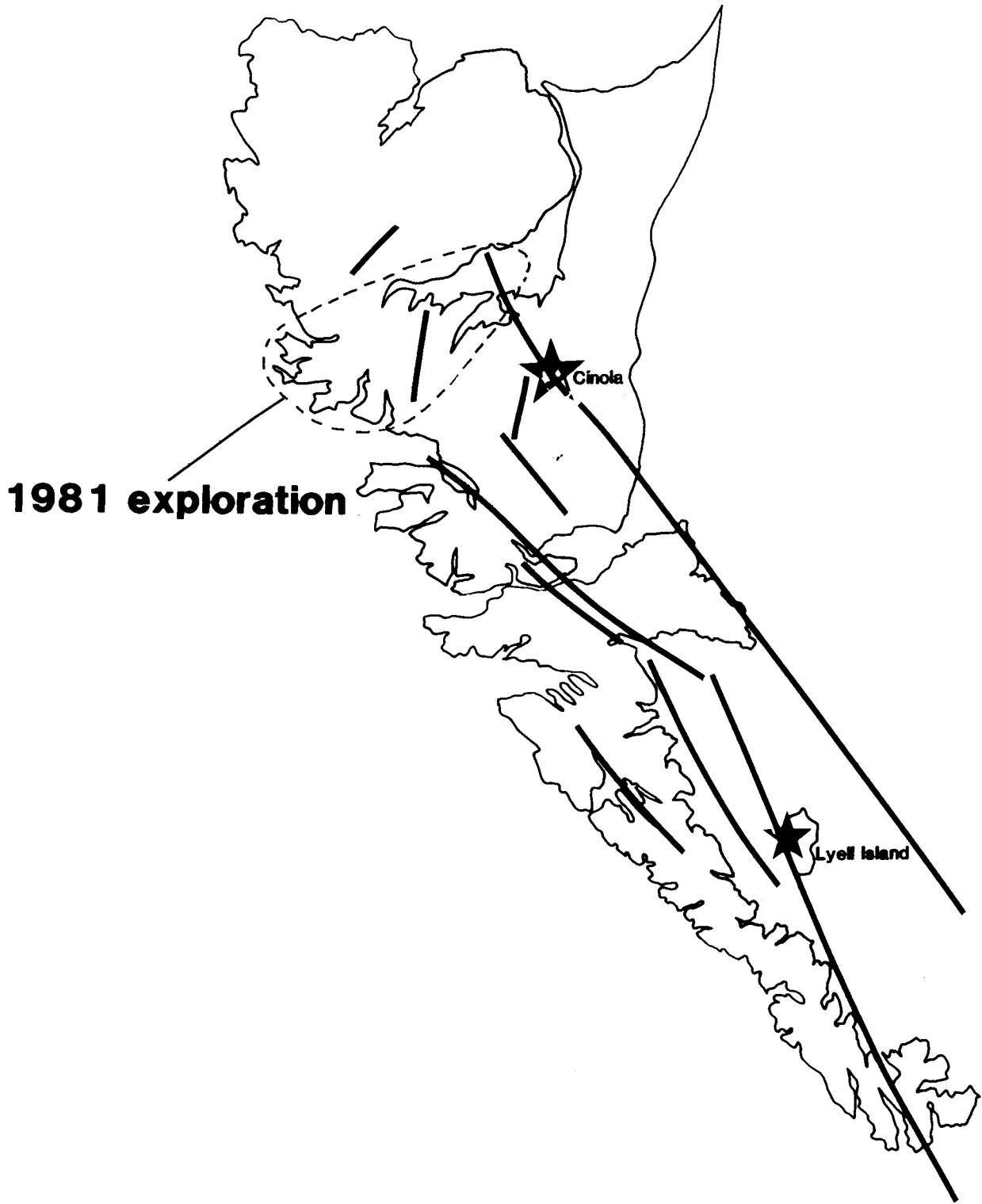
BRITISH COLUMBIA

MILES



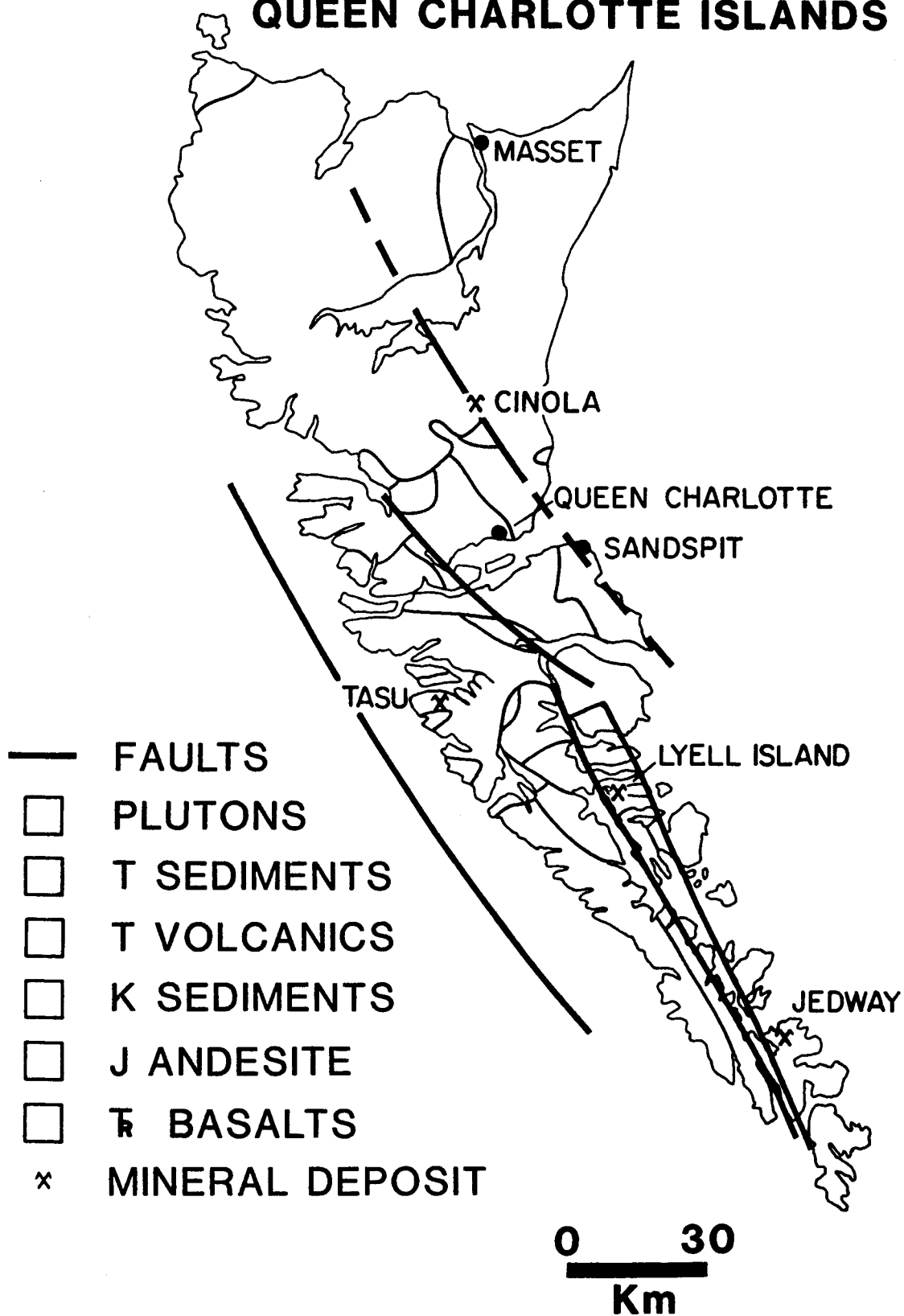


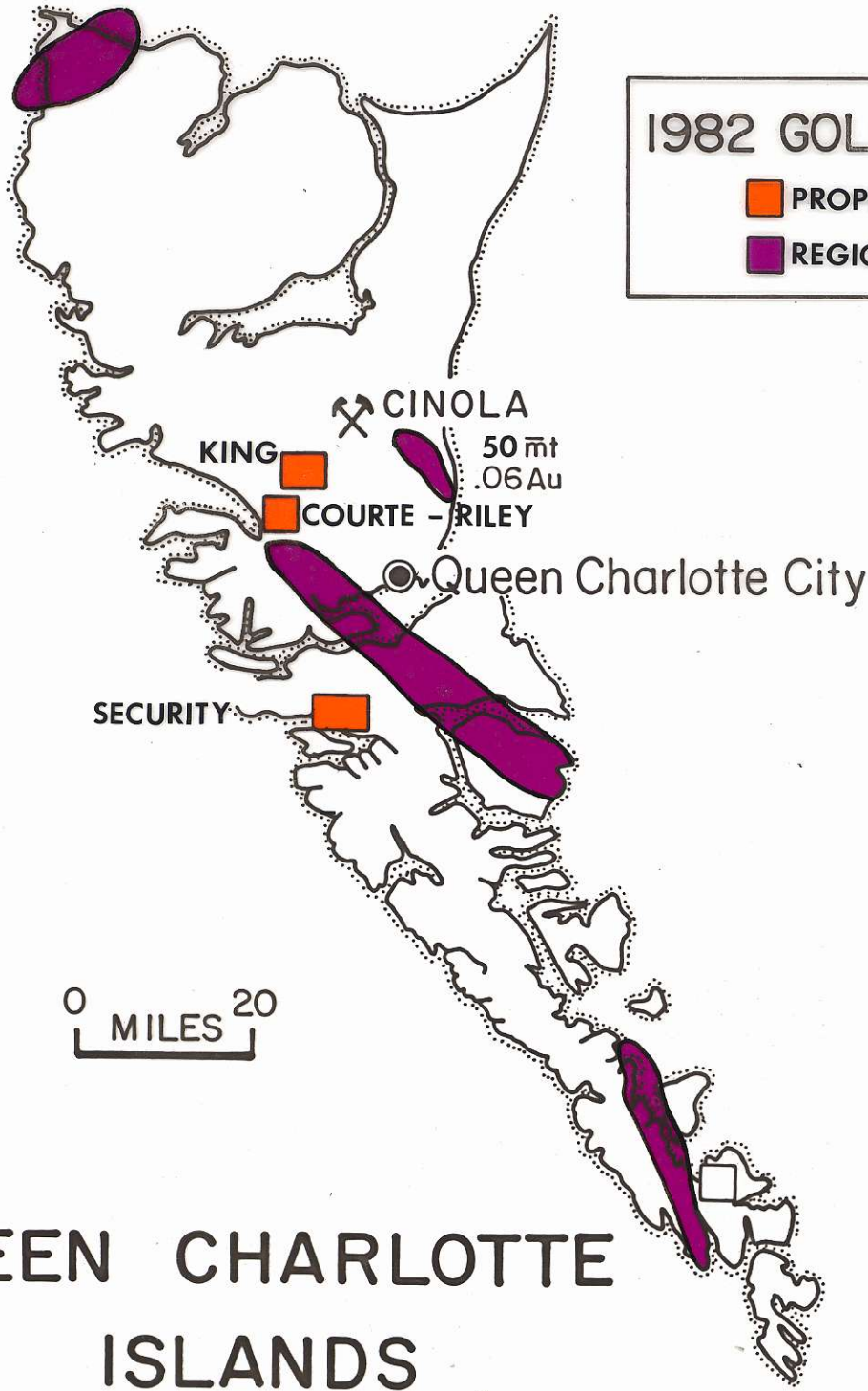
QUEEN CHARLOTTE GOLD PROPERTIES



Major Structures

QUEEN CHARLOTTE ISLANDS



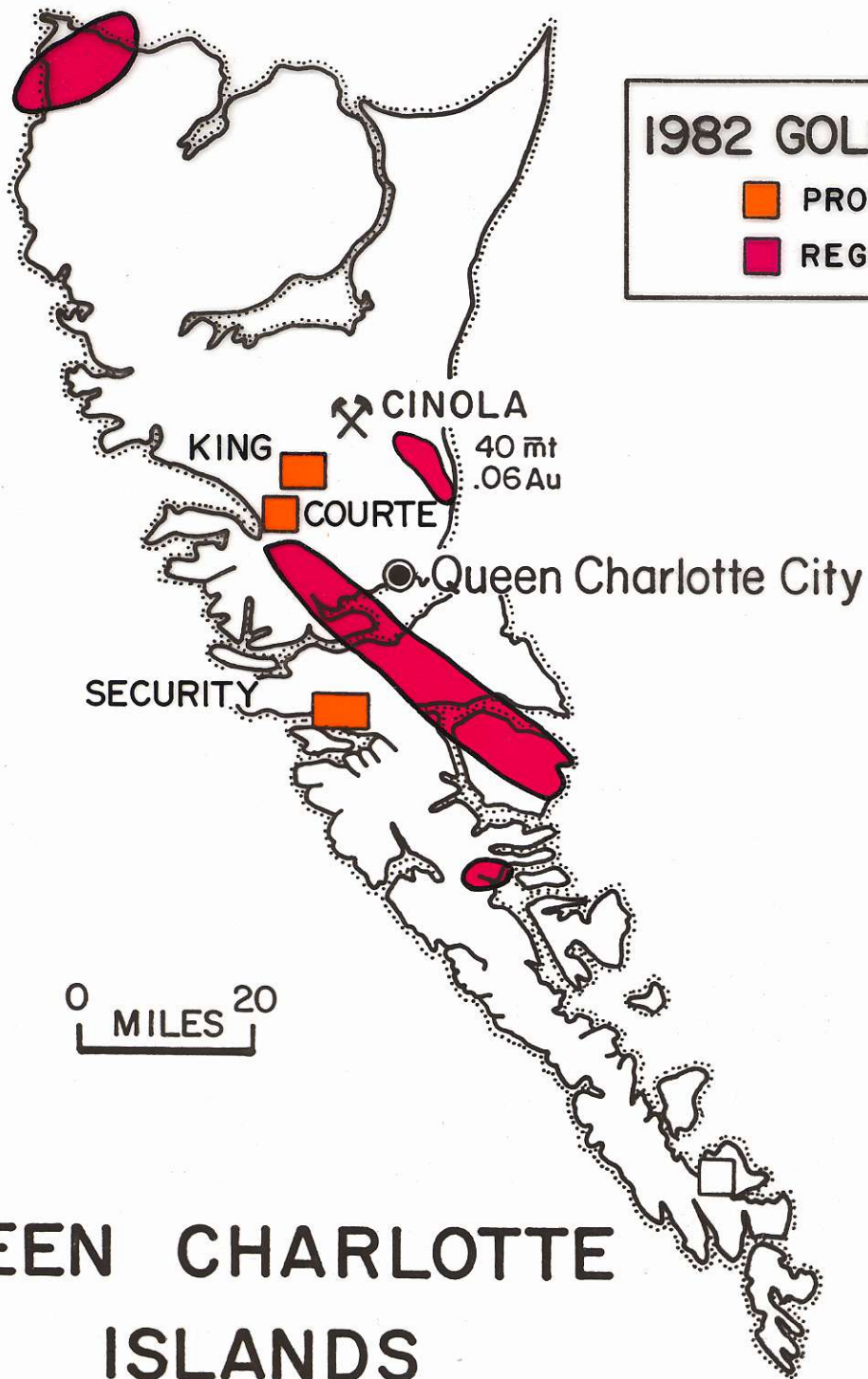


1982 GOLD PROJECT

PROPERTIES

REGIONAL

QUEEN CHARLOTTE ISLANDS

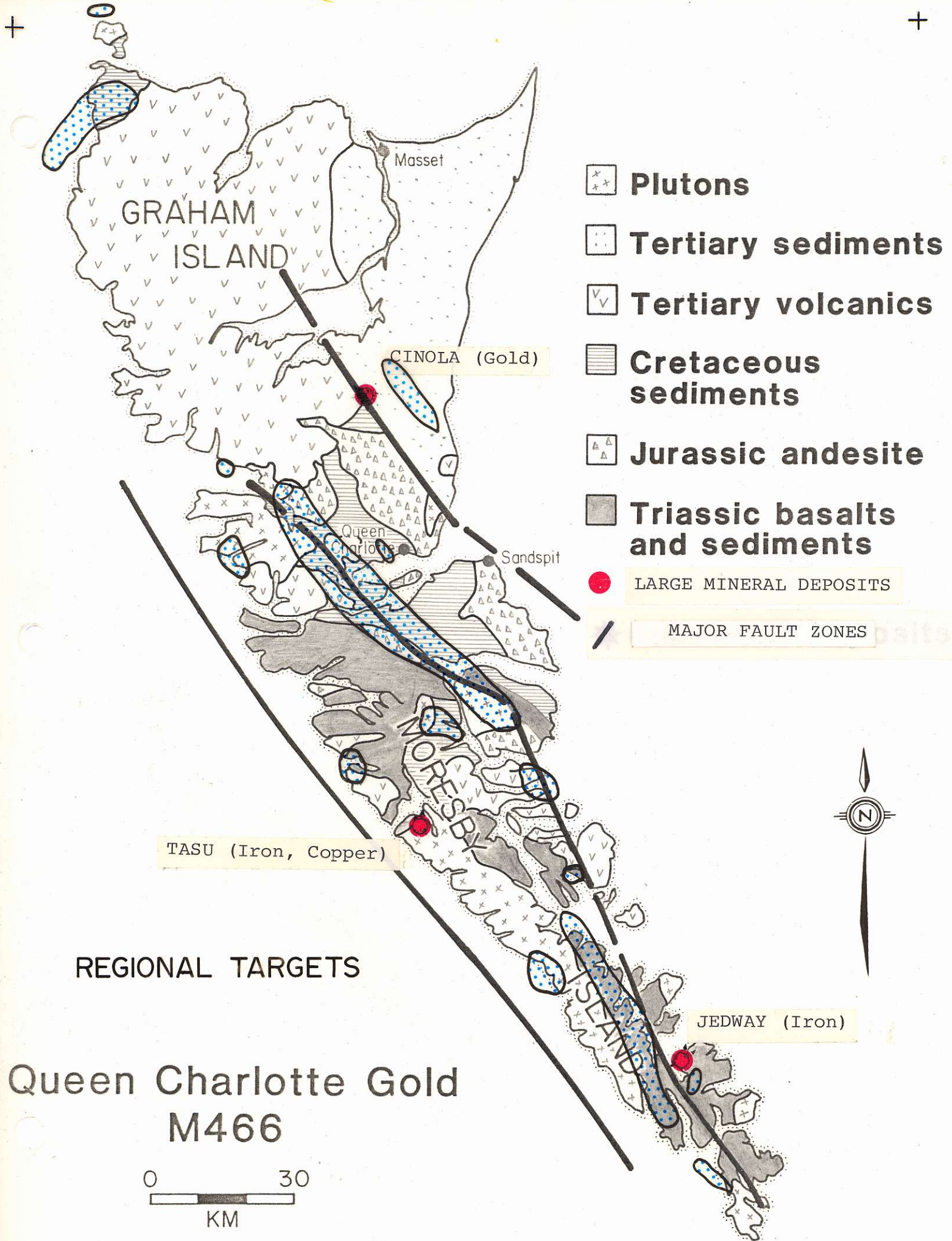


1982 GOLD PROJECT

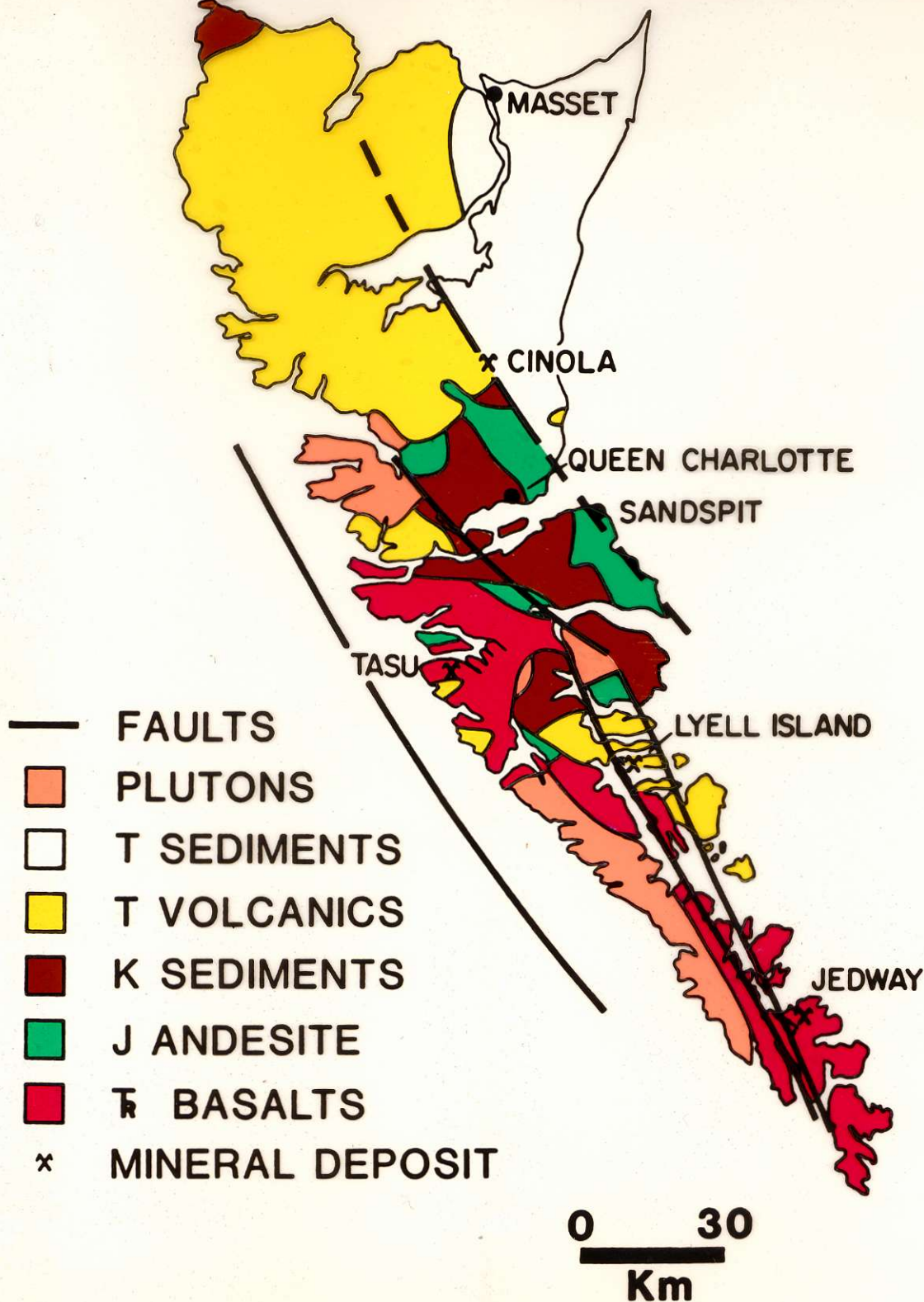
- PROPERTIES
- REGIONAL

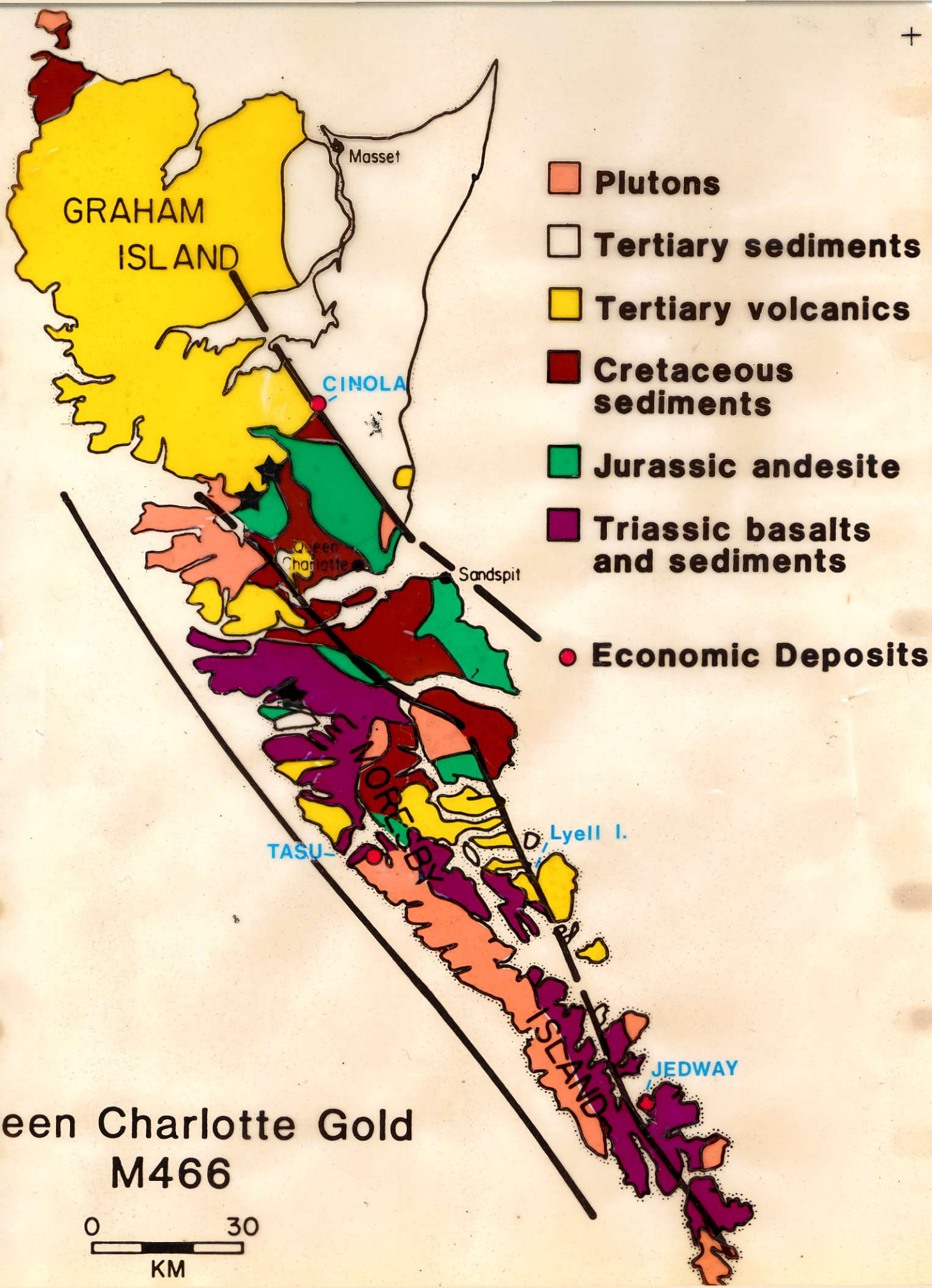
0 MILES 20

QUEEN CHARLOTTE ISLANDS

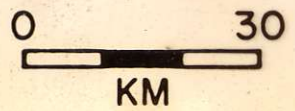


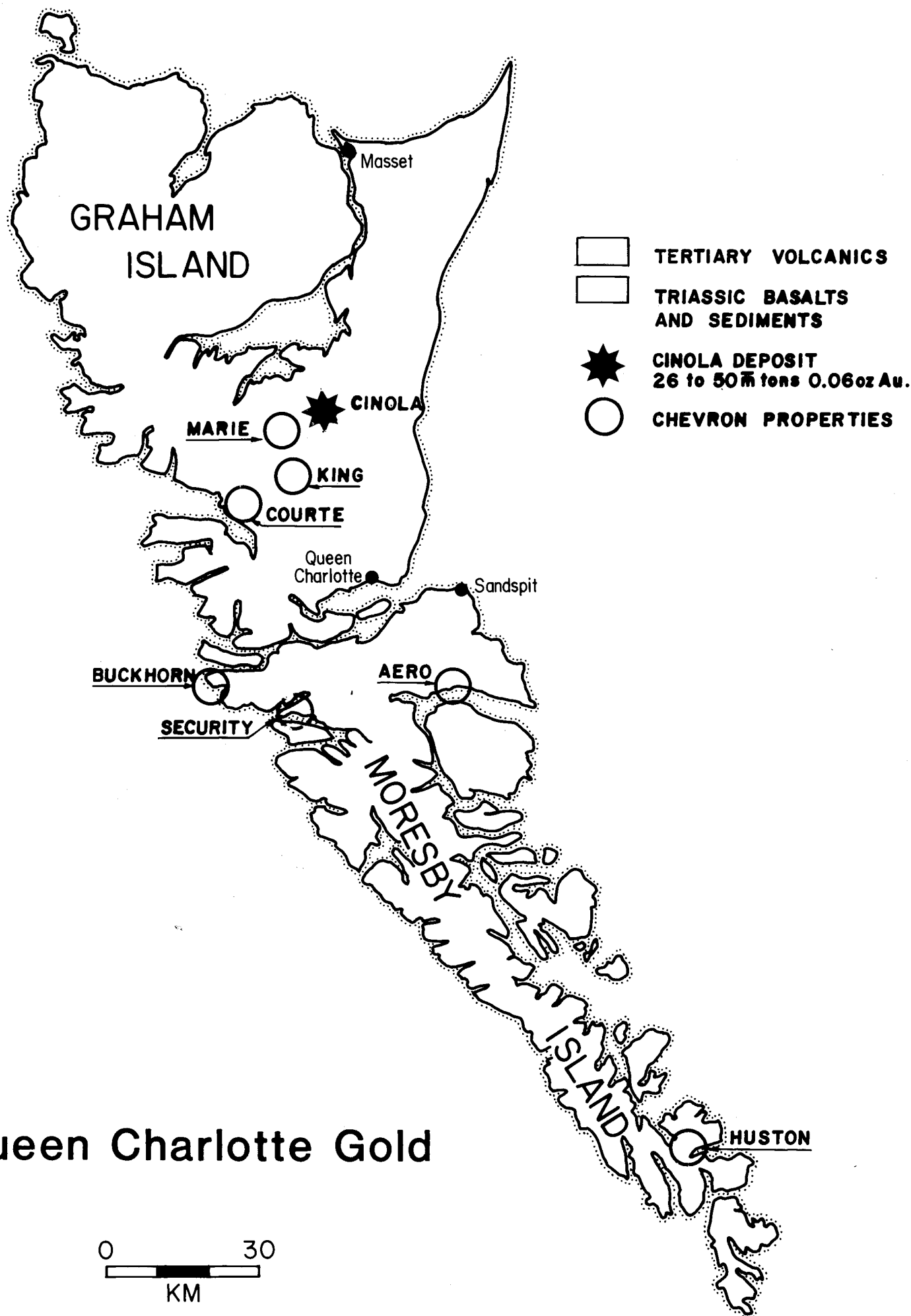
QUEEN CHARLOTTE ISLANDS





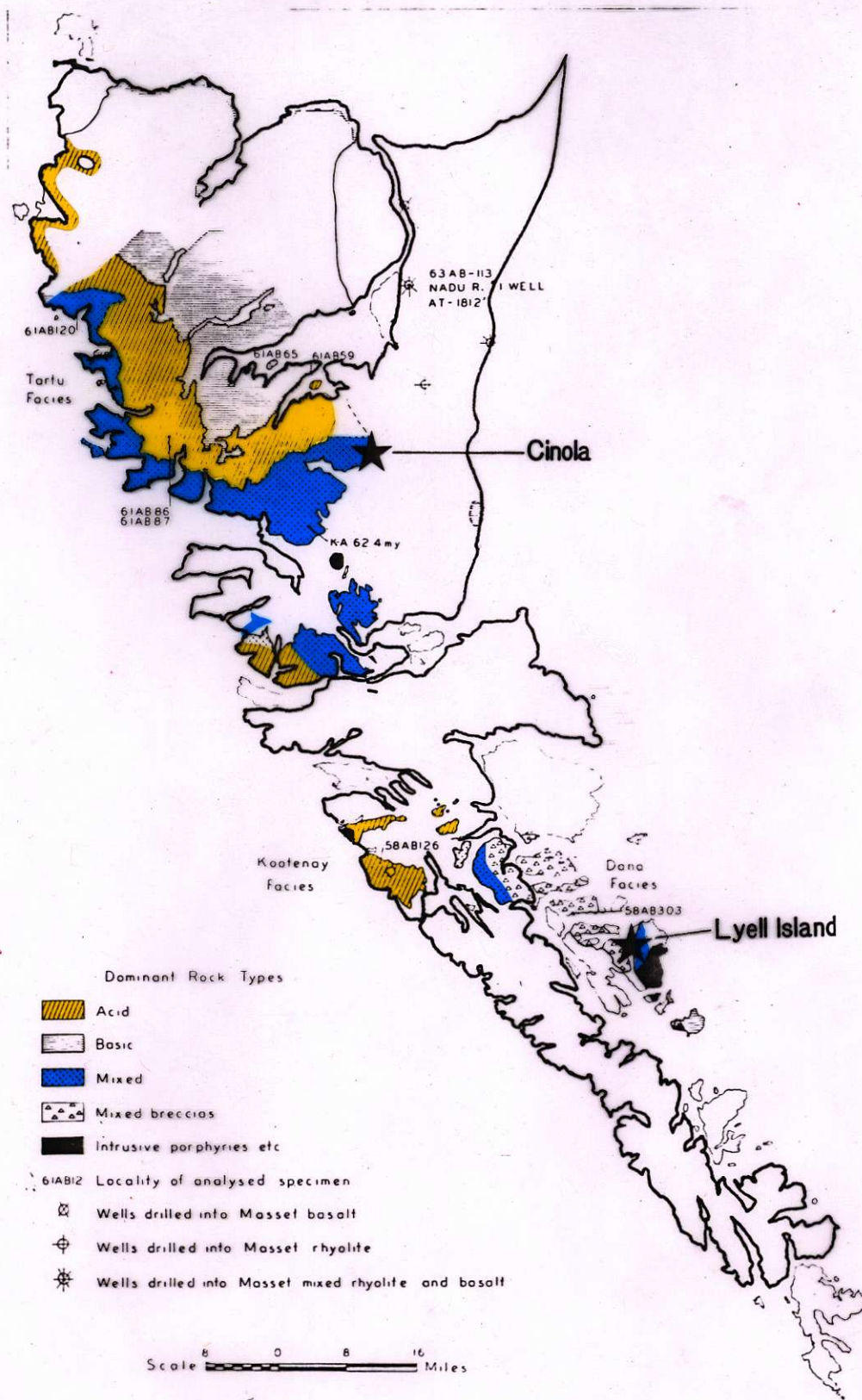
**Queen Charlotte Gold
M466**





Queen Charlotte Gold





Distribution of Tertiary volcanics

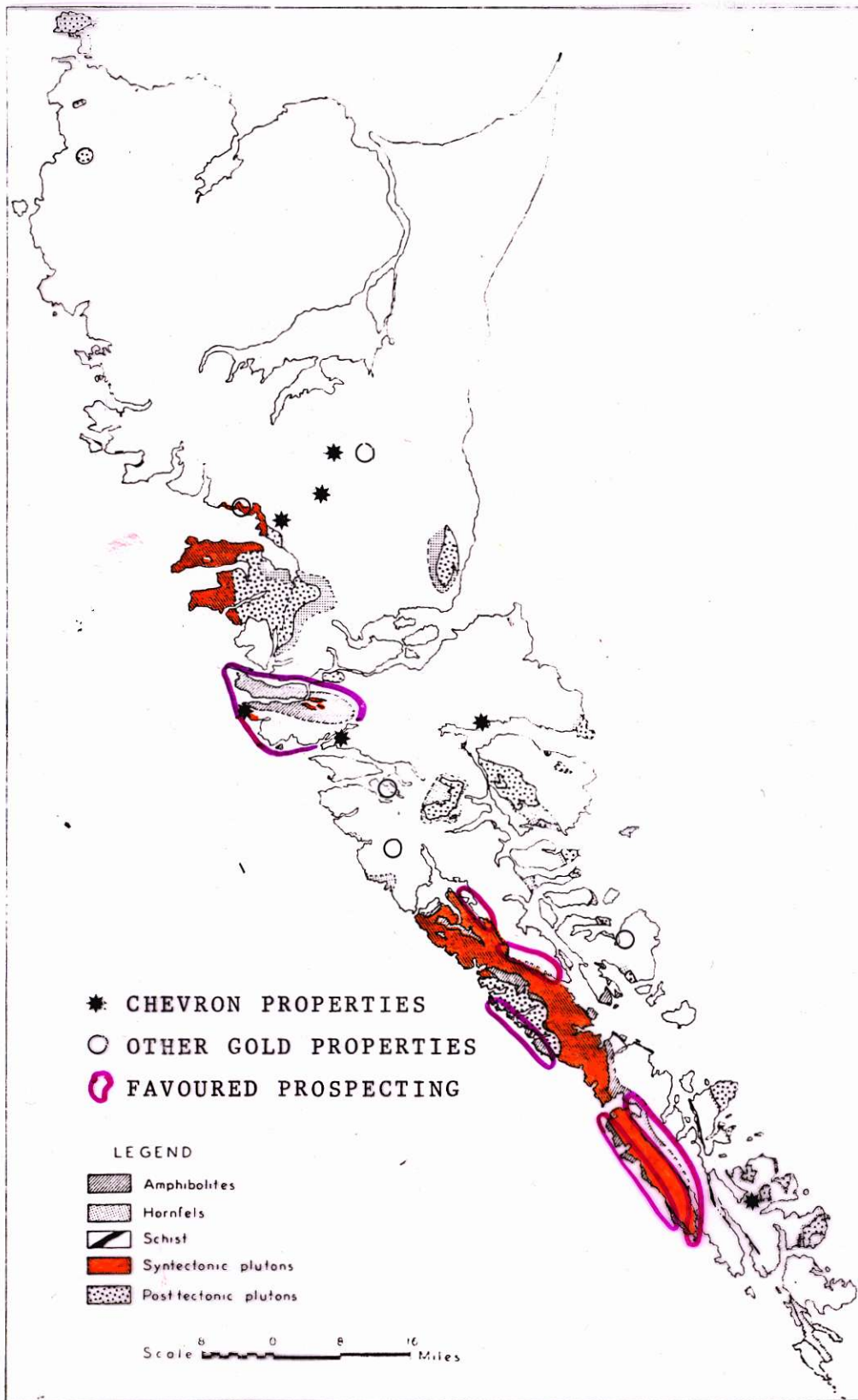
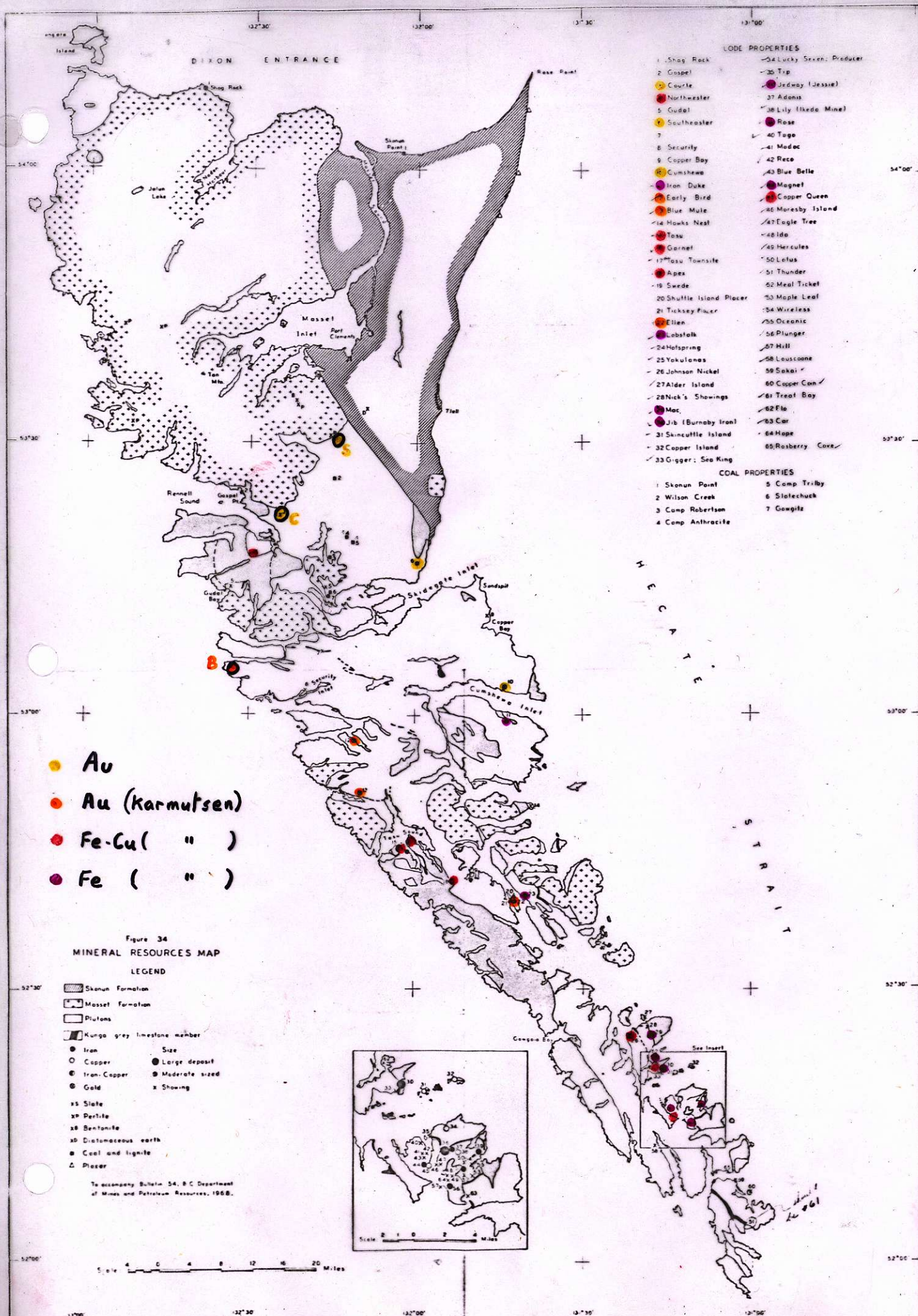


Fig. 24. Distribution of metamorphic and plutonic rocks.



- Au
- Au (Karmutsen)
- Fe-Cu (")
- Fe (")

Figure 34
MINERAL RESOURCES MAP
LEGEND

- Skanun Formation
- Masset Formation
- Plutons
- Kunga grey limestone member
- Iron
- Copper
- Iron-Copper
- Gold
- Slate
- Perlite
- Bentonite
- Diatomaceous earth
- Coal and lignite
- △ Placer
- Size
- Large deposit
- Moderate sized
- Showing

To accompany Bulletin 54, B.C. Department of Mines and Petroleum Resources, 1968.

- LODE PROPERTIES**
- 1 Shag Rock
 - 2 Gospel
 - 3 Courle
 - 4 Northwester
 - 5 Gudal
 - 6 Southeaster
 - 7
 - 8 Security
 - 9 Copper Bay
 - 10 Cumshewa
 - 11 Iron Duke
 - 12 Early Bird
 - 13 Blue Mule
 - 14 Hawks Nest
 - 15 Tassu
 - 16 Garnet
 - 17 Tassu Townsite
 - 18 Apex
 - 19 Swede
 - 20 Shuttle Island Placer
 - 21 Ticksy Placer
 - 22 Ellen
 - 23 Lobsfolk
 - 24 Hotspring
 - 25 Yukonias
 - 26 Johnson Nickel
 - 27 Alder Island
 - 28 Nick's Showings
 - 29 Mac
 - 30 Jib (Burnaby Iron)
 - 31 Skincuttle Island
 - 32 Copper Island
 - 33 Gigger; Sea King
 - 34 Lucky Seven; Producer
 - 35 Trip
 - 36 Jedway (Jessie)
 - 37 Adonis
 - 38 Lily (Ikeda Mine)
 - 39 Rose
 - 40 Togo
 - 41 Madoc
 - 42 Reco
 - 43 Blue Belle
 - 44 Magnet
 - 45 Copper Queen
 - 46 Moresby Island
 - 47 Eagle Tree
 - 48 Ida
 - 49 Hercules
 - 50 Lotus
 - 51 Thunder
 - 52 Meal Ticket
 - 53 Maple Leaf
 - 54 Wireless
 - 55 Oceanic
 - 56 Plunger
 - 57 Hill
 - 58 Louscane
 - 59 Sakai
 - 60 Copper Con
 - 61 Treat Bay
 - 62 Flo
 - 63 Car
 - 64 Hope
 - 65 Raspberry Cove
- COAL PROPERTIES**
- 1 Skanun Point
 - 2 Wilson Creek
 - 3 Camp Robertson
 - 4 Camp Anthracite
 - 5 Camp Triby
 - 6 Stolechuck
 - 7 Gougitz



Scale 4 0 4 8 12 16 20 Miles

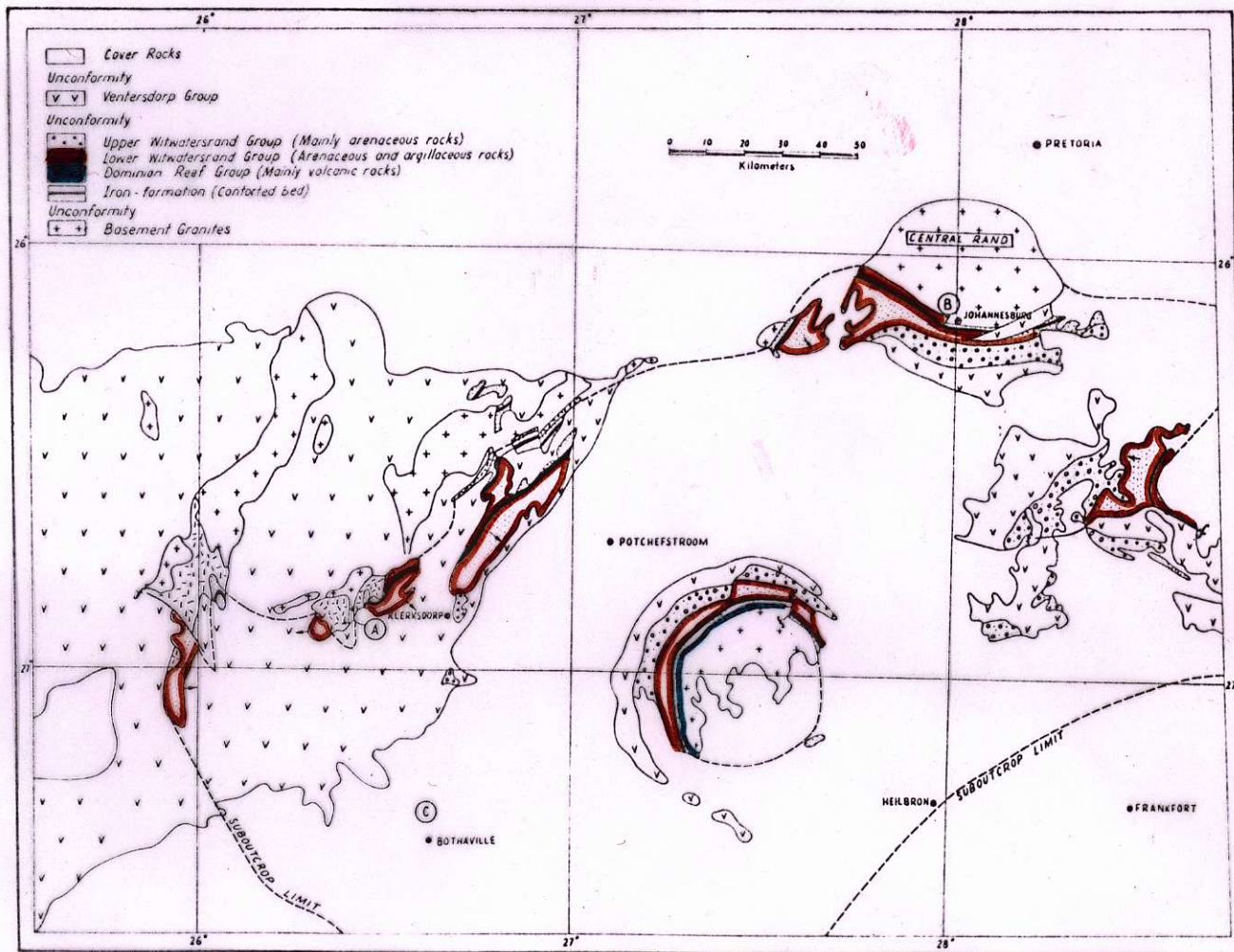
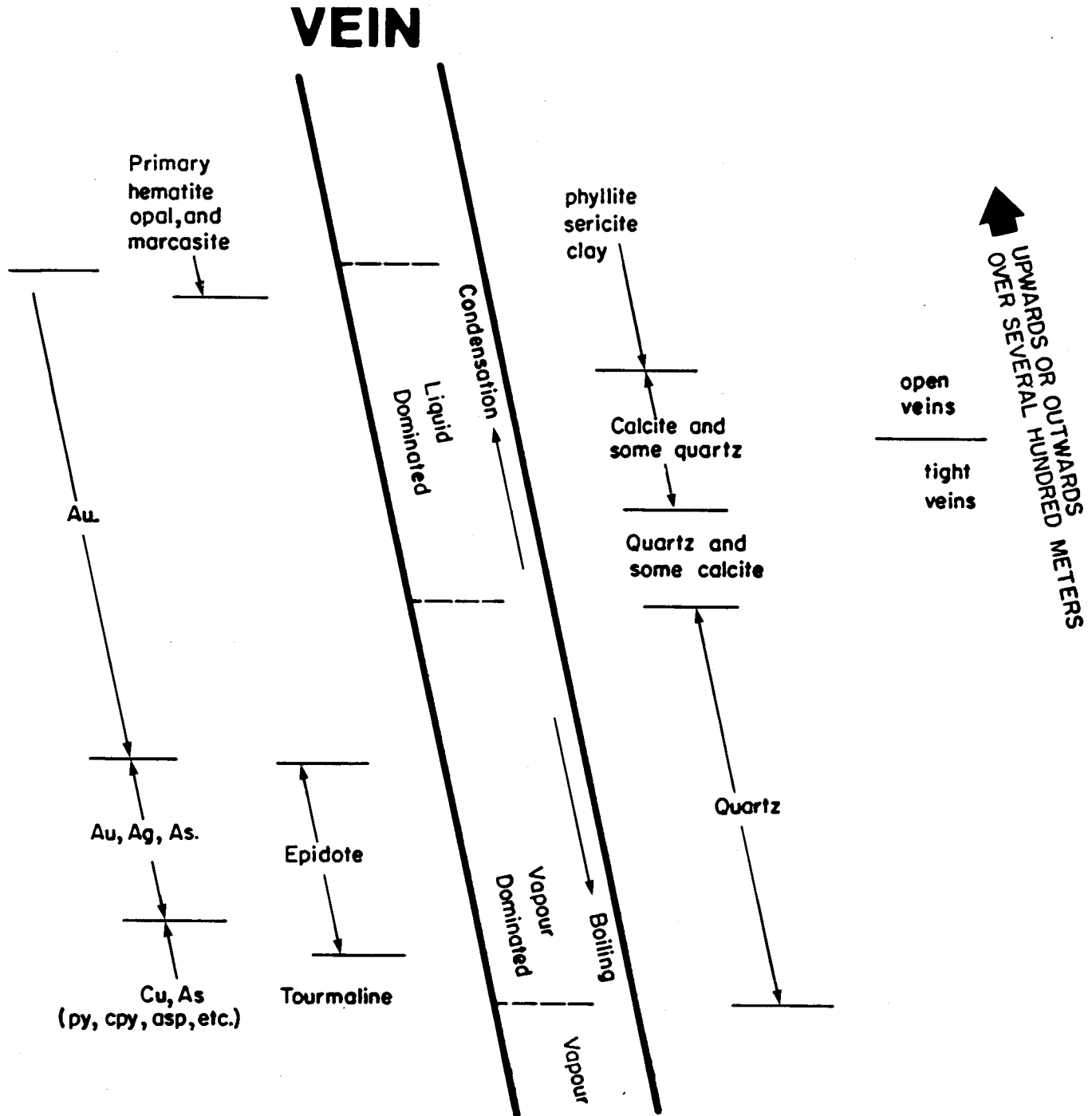


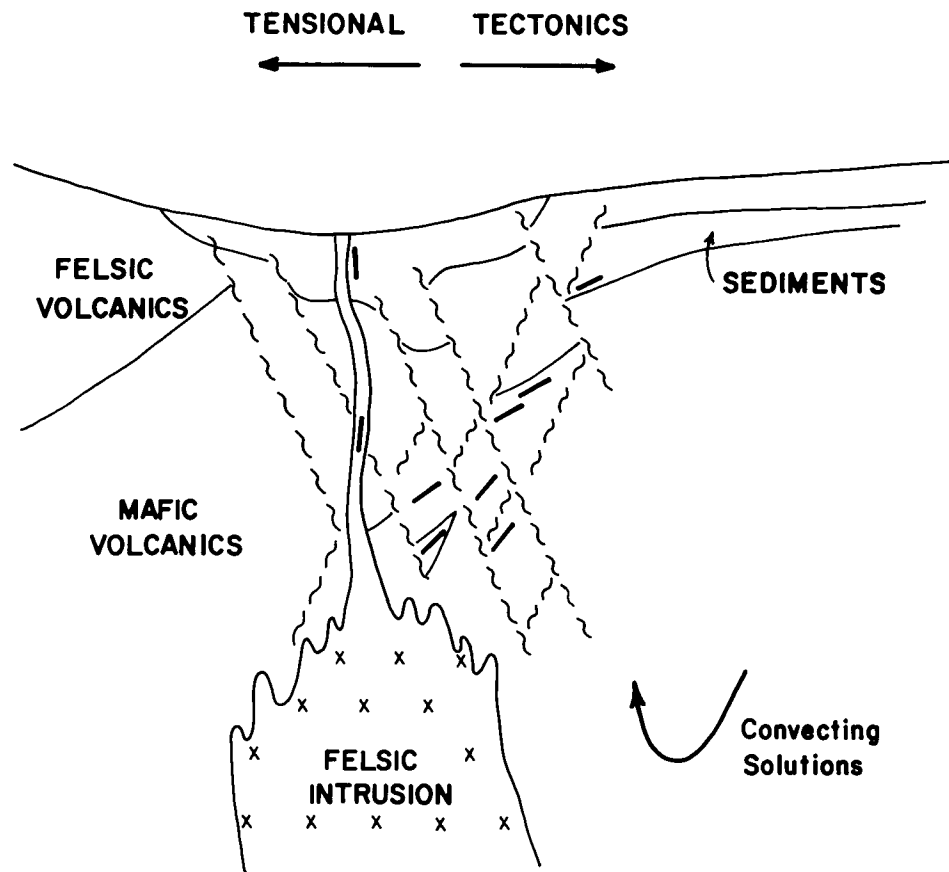
FIG. 12. Map showing distribution of the Witwatersrand Supergroup and its associated iron-formation lithosome.

Beukes, N. - Econ. Geol., Nov. 73.

MODEL SIMPLE EPITHERMAL VEIN SYSTEM

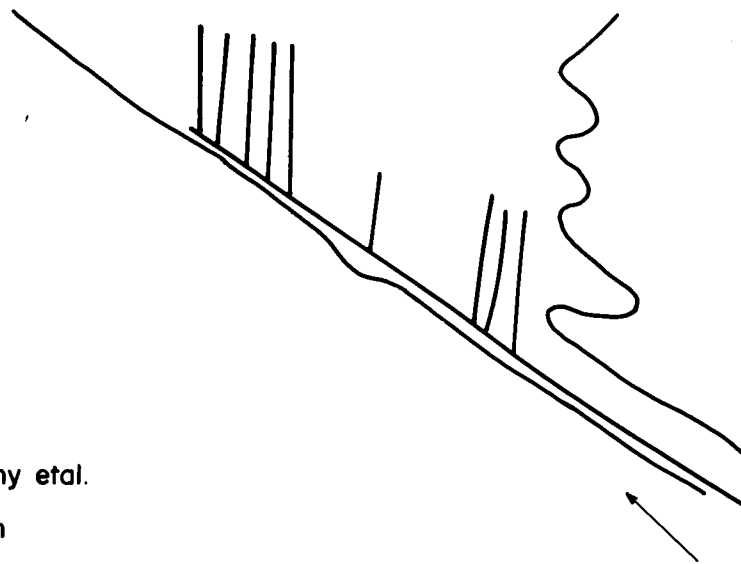
(one simplified model representing one episode of mineralization i.e. no overlapping of events)





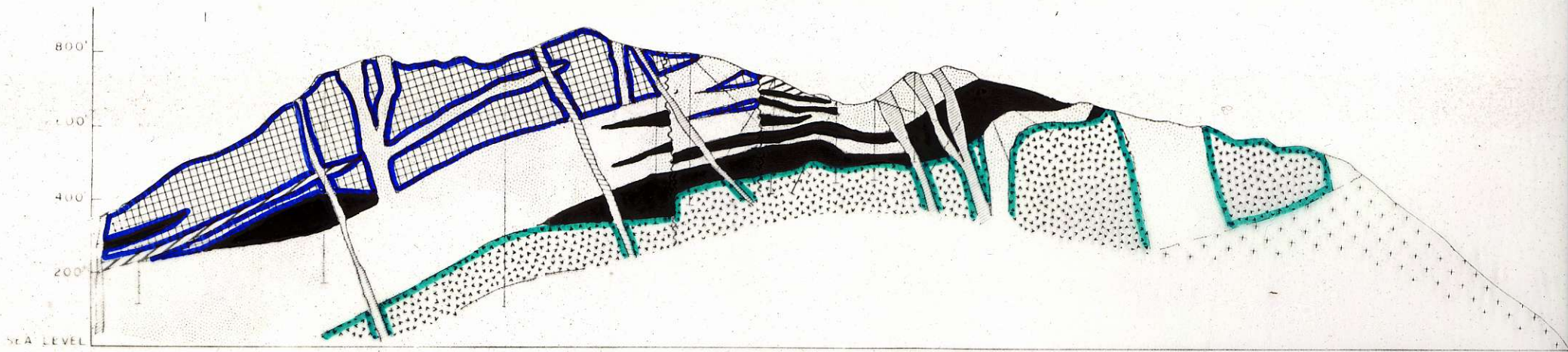
After: Jensen, L. - Archean Gold Mineralization in the Kirkland Lake - Larder Lake Areas

$Au \approx Ag$
No Au/S association



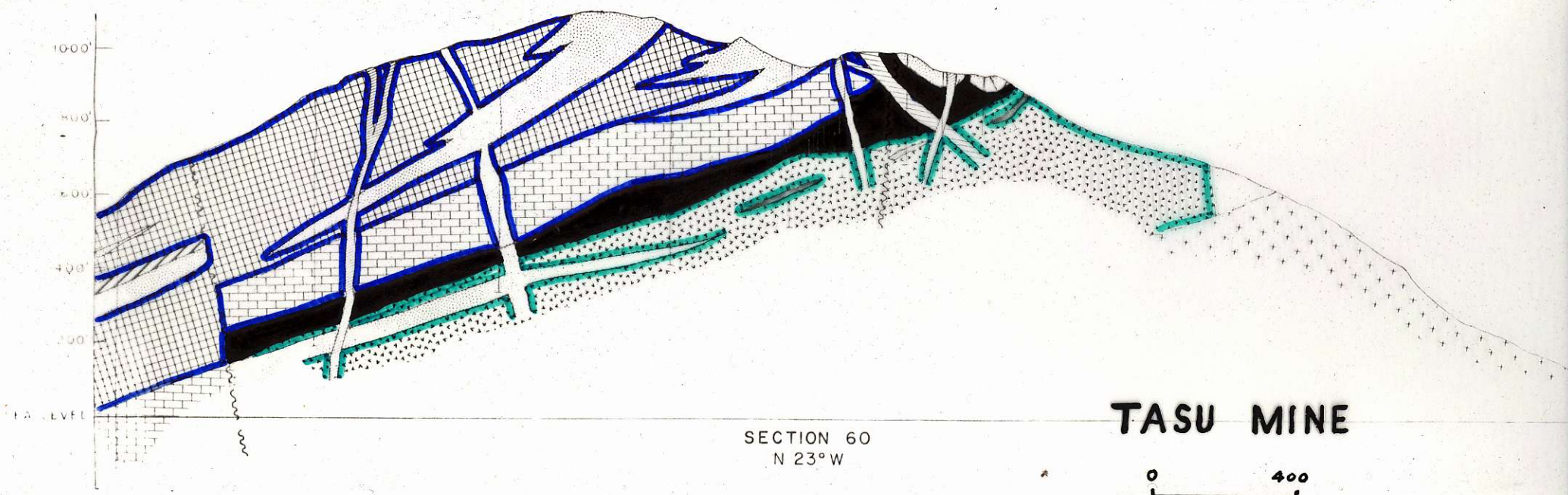
Depth of deposition:
3000-5000 feet proposed by Champiny et al.
2000ft. max. suggested by Glanzman

Non saline
waters
160° C? and 280° C?



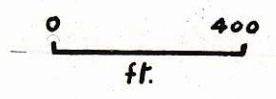
SECTION 70
N 23° W

- Kunga limestone
- Karmutsen volcanics.
- Fe-Cu ore

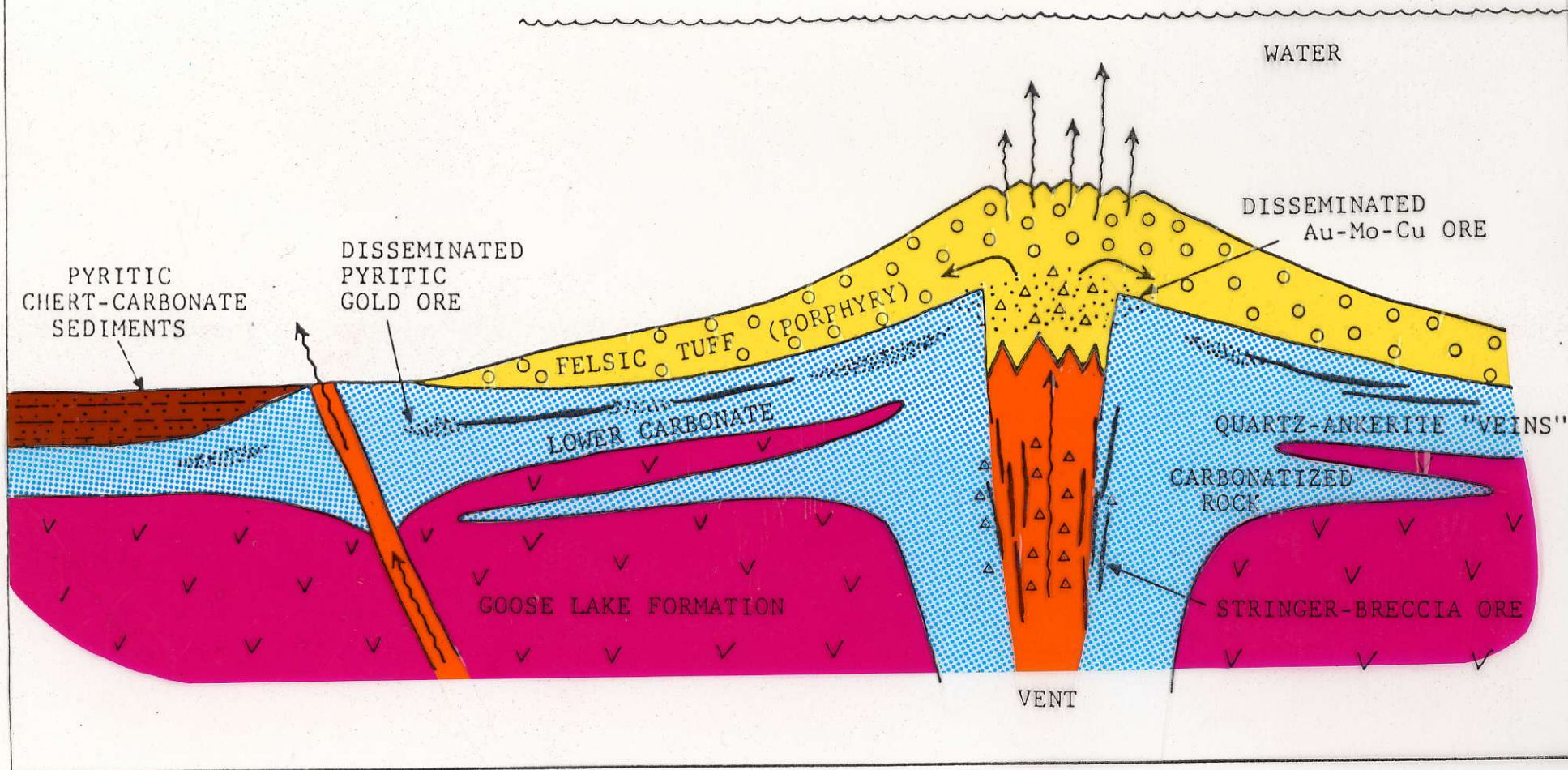


SECTION 60
N 23° W

TASU MINE



ENVIRONMENTS OF PRIMARY
GOLD DEPOSITION



From: Karvinen, W. - Geology and Evolution of Gold Deposits, Timmins Area, Ontario

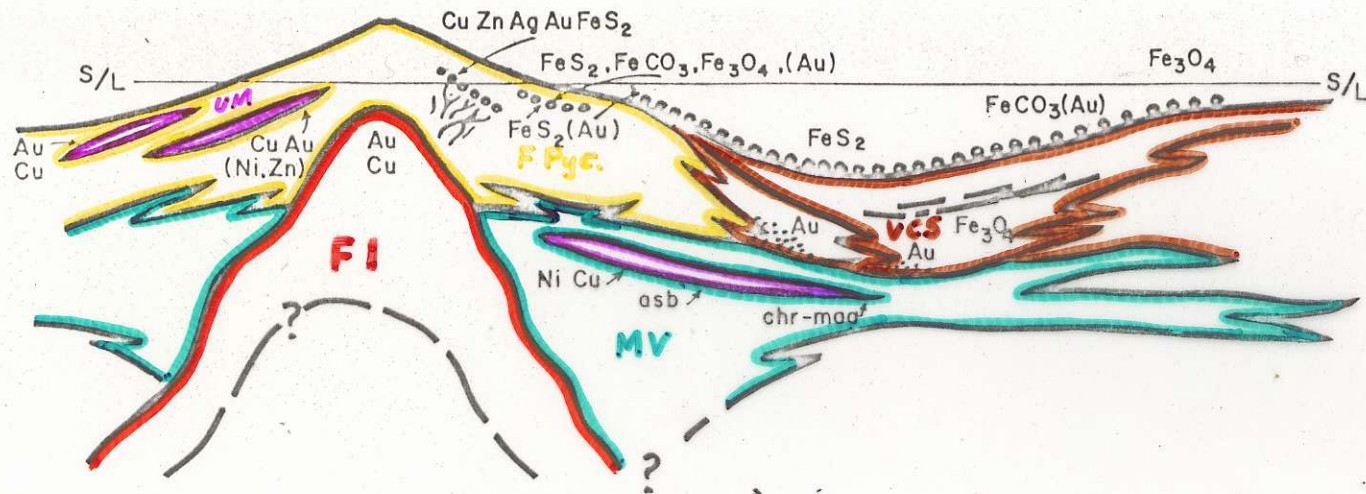
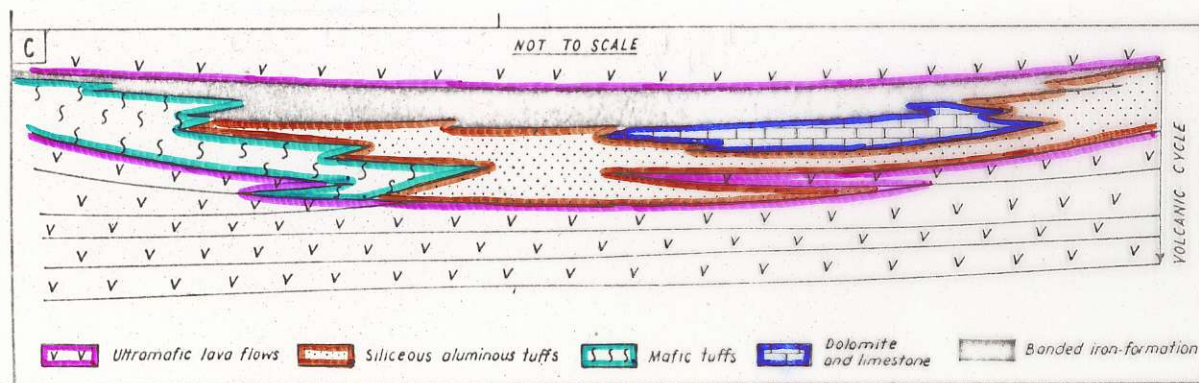


FIGURE 3 — Archean metallogeny (full width of section 50 miles; maximum vertical thickness, 10 miles).

Hutchinson, R. et al, CIM Bul., Apr. 71.



Idealized volcanic cycle in S. African
cratonic greenstone belts.
Beukes, N. - Econ. Geol., Nov. 73.

QUEEN CHARLOTTE STRATIGRAPHY





Age	Fm	Thickness	Lithology	Other Characteristics	Intrusions	Faulting
TERTIARY	SKONUN	6,000 ft.	Conglomerate and sandstone	Marine and non-marine in large basin.		
	MASSETT	18,000	Basalt to sodic rhyolite Flows and pyroclastics Hyperbyssal intrusives	Mainly subaerial.	Dykes and sills. Quartz monzonite.	Rennell Sound System Sandspit System
	SKIDEGATE	3,000	Shale, siltstone	Shallow marine basin.		
CRETACEOUS	HONNA	4,000	Polymictic conglomerate, sandstone	Fluviatile or marine basinal.		
	HAIDA	3,000	Sandstone, shale	Marine basin.		
	LONGARM	4,000	Siltstone, greywacke, shale	Marine. Deposition in unstable regime, possibly in graben.	Small plutons. Granodiorite, quartz diorite to monzonite	
	YAKOUN	3,000	Andesitic pyroclastics, minor sediments	Marine and non-marine. Source vents near and sub- parallel to Sandspit fault.		
JURASSIC	MAUDE	600	Argillite/ sandstone	Marine. Local basins.		
	KUNGA	3,000	Argillite, Limestone	Quiescent offshore regime		
TRIASSIC	KARMUTSEN	15,000	Mafic pillow lavas	Submarine	Batholiths. Hornblende and quartz diorite	

pyrite & silicification, arsenic
geochem anomaly

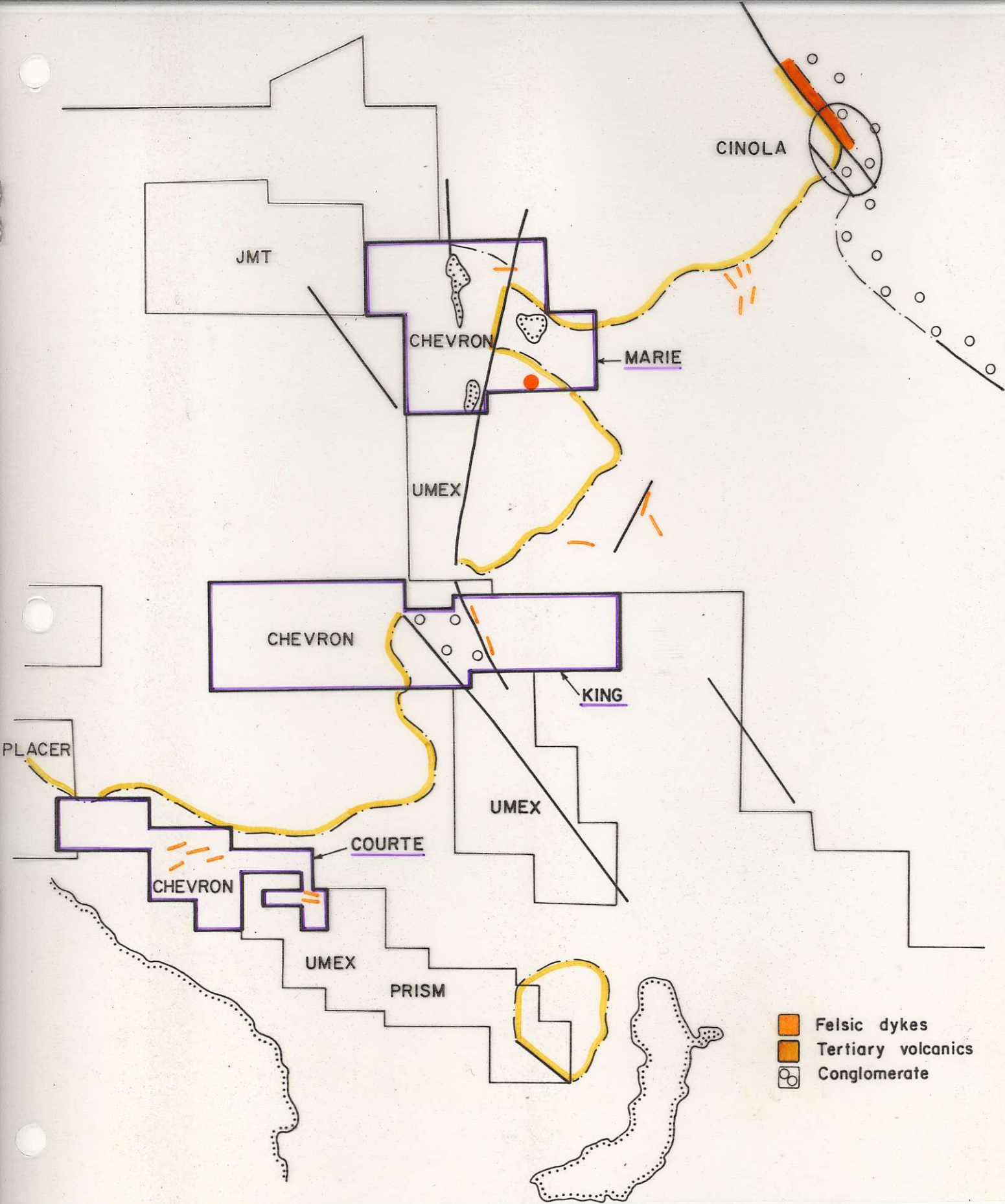
gold geochem anomaly

intense
silicification &
brecciation

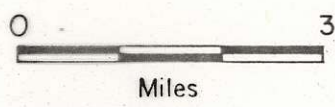


-  UNMINERALIZED SEDIMENTS
-  RHYOLITE or DACITE VOLCANICS
-  GOLD BEARING FLUID PATHWAY
-  LIMITS of ORE GRADE

QUEEN CHARLOTTE GOLD MODEL-M466



QUEEN CHARLOTTE GOLD

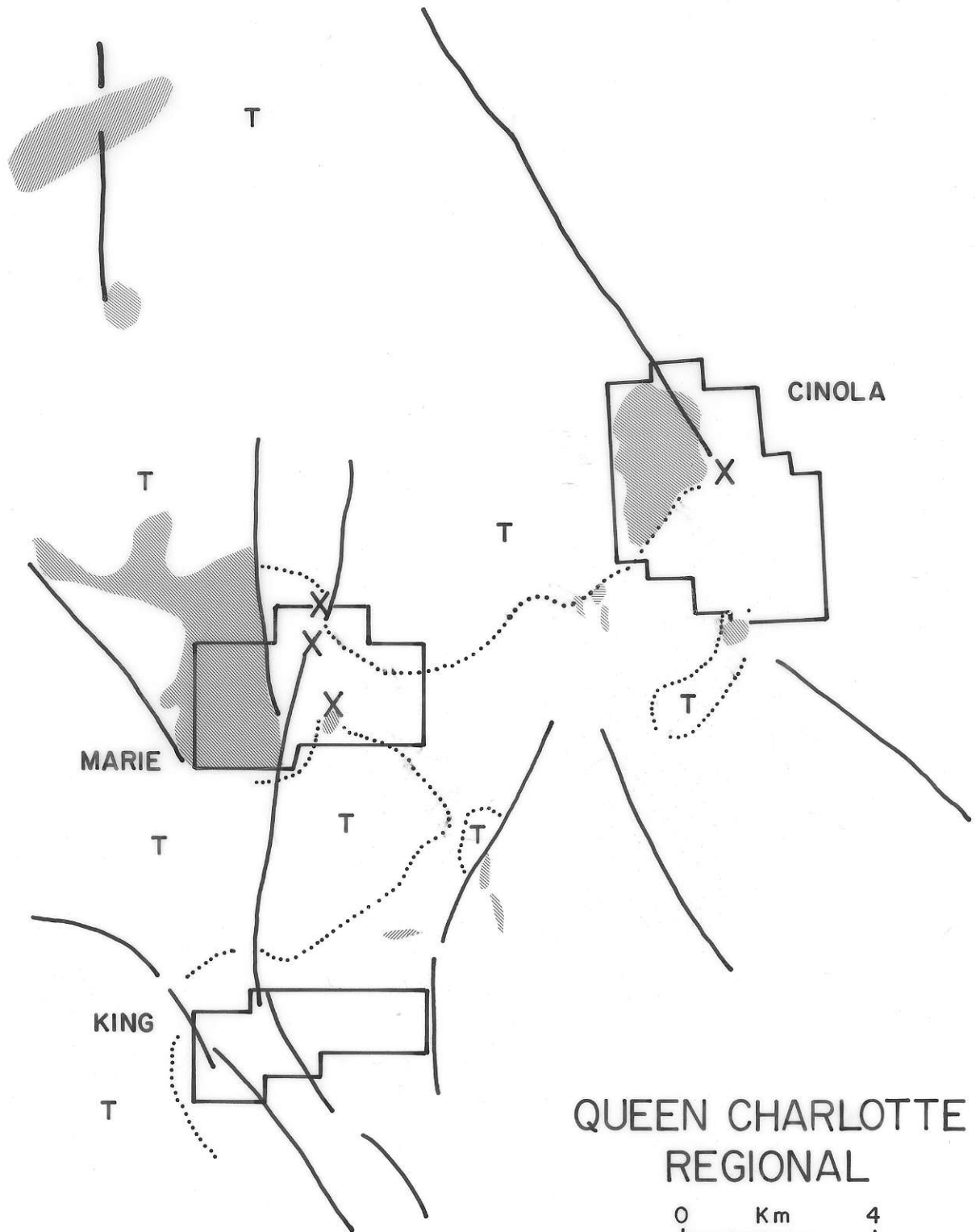


T Tertiary volcanics

X Au showing or intersections

 Felsic volcanics or dykes

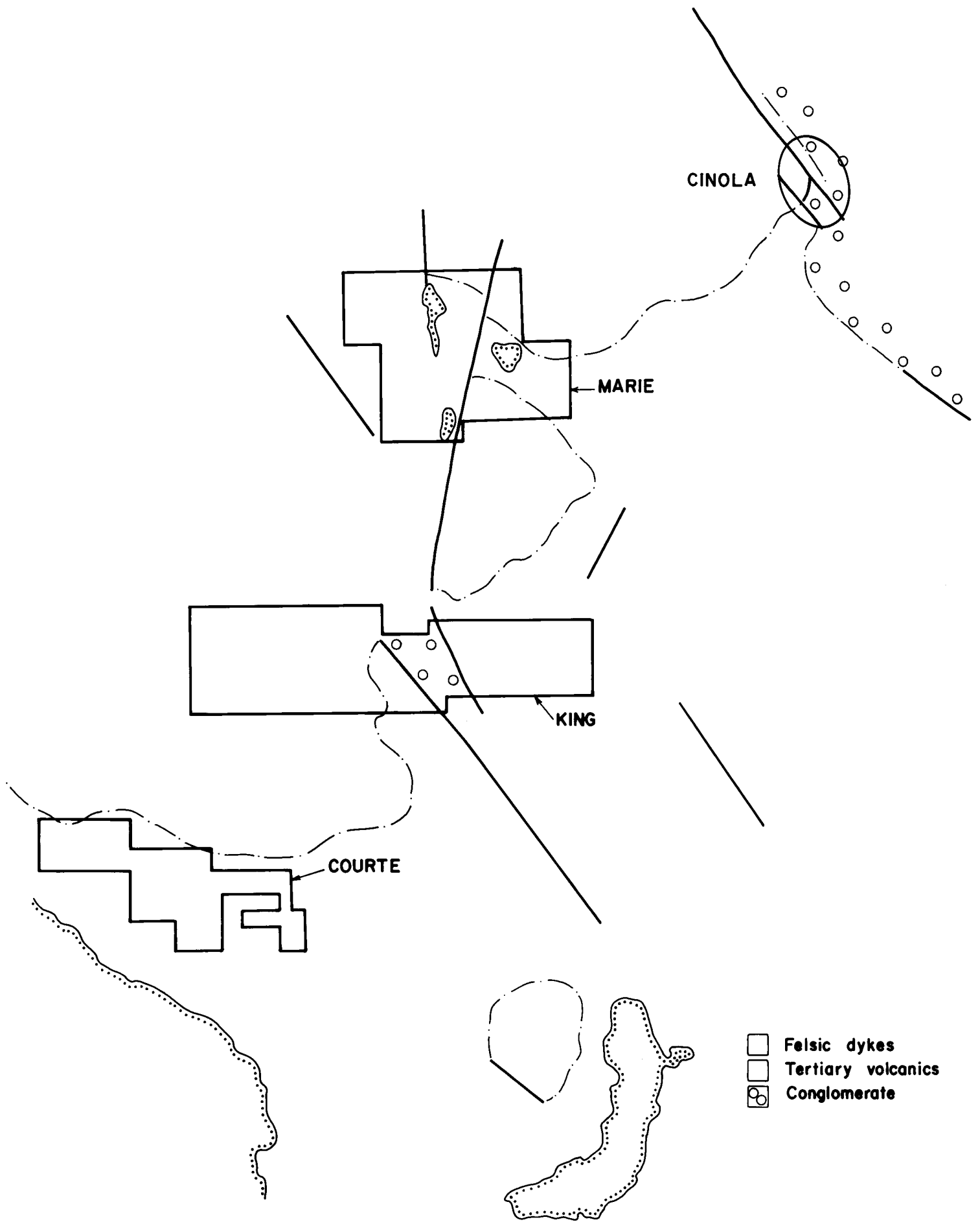
 Lineaments



QUEEN CHARLOTTE REGIONAL

0 Km 4

Aug 80.

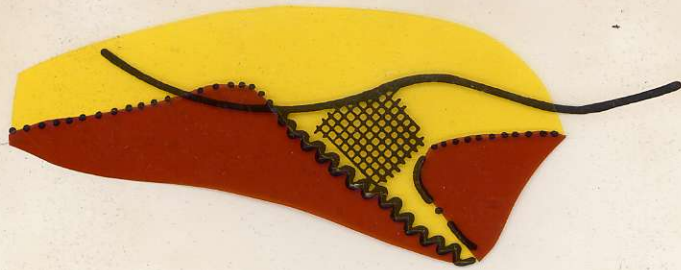


- Felsic dykes
- Tertiary volcanics
- Conglomerate

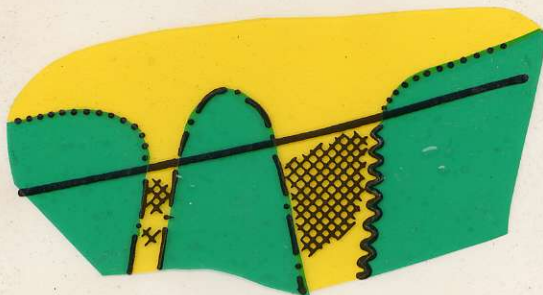
0

 3
 Miles

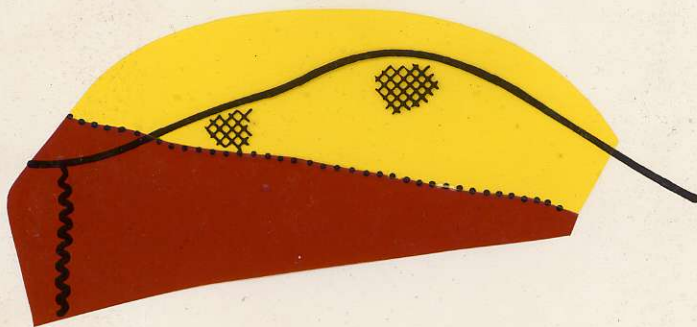
QUEEN CHARLOTTE GOLD



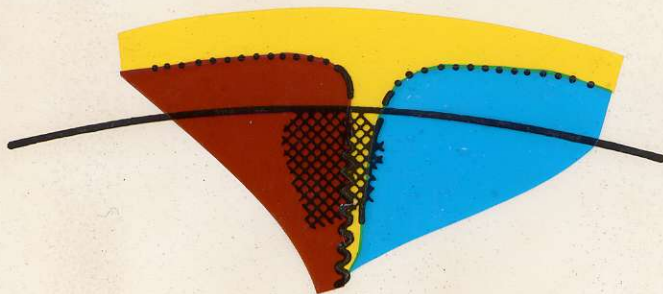
CINOLA



COURTE



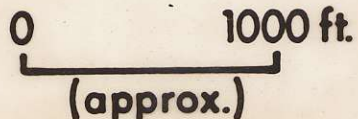
MARIE

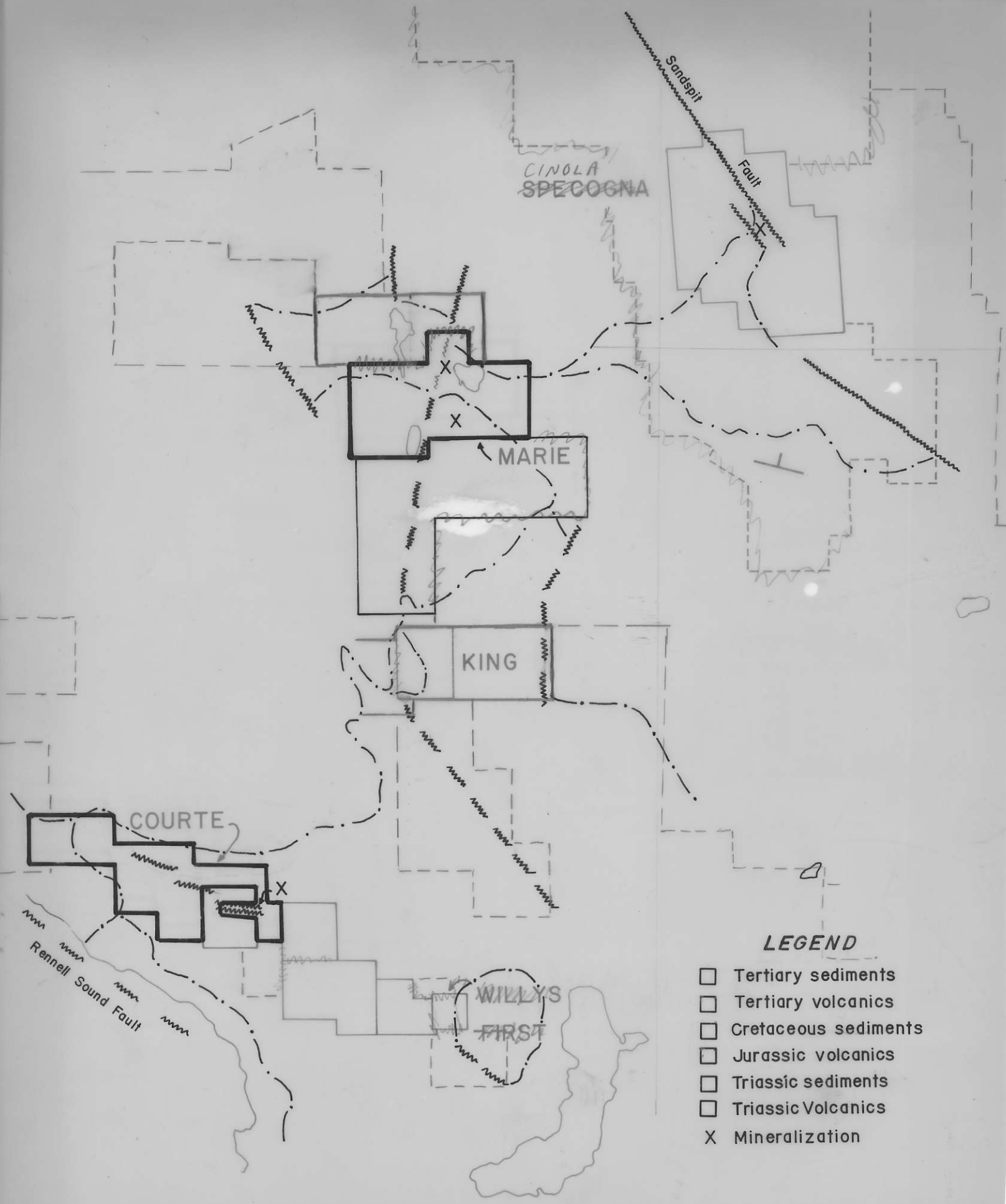


KING

- Tertiary volcanism
- Cretaceous sediments
- Jurassic volcanics
- Jurassic sediments
- Present land surface
- Hydrothermal systems

QUEEN CHARLOTTE GOLD PROJECTS



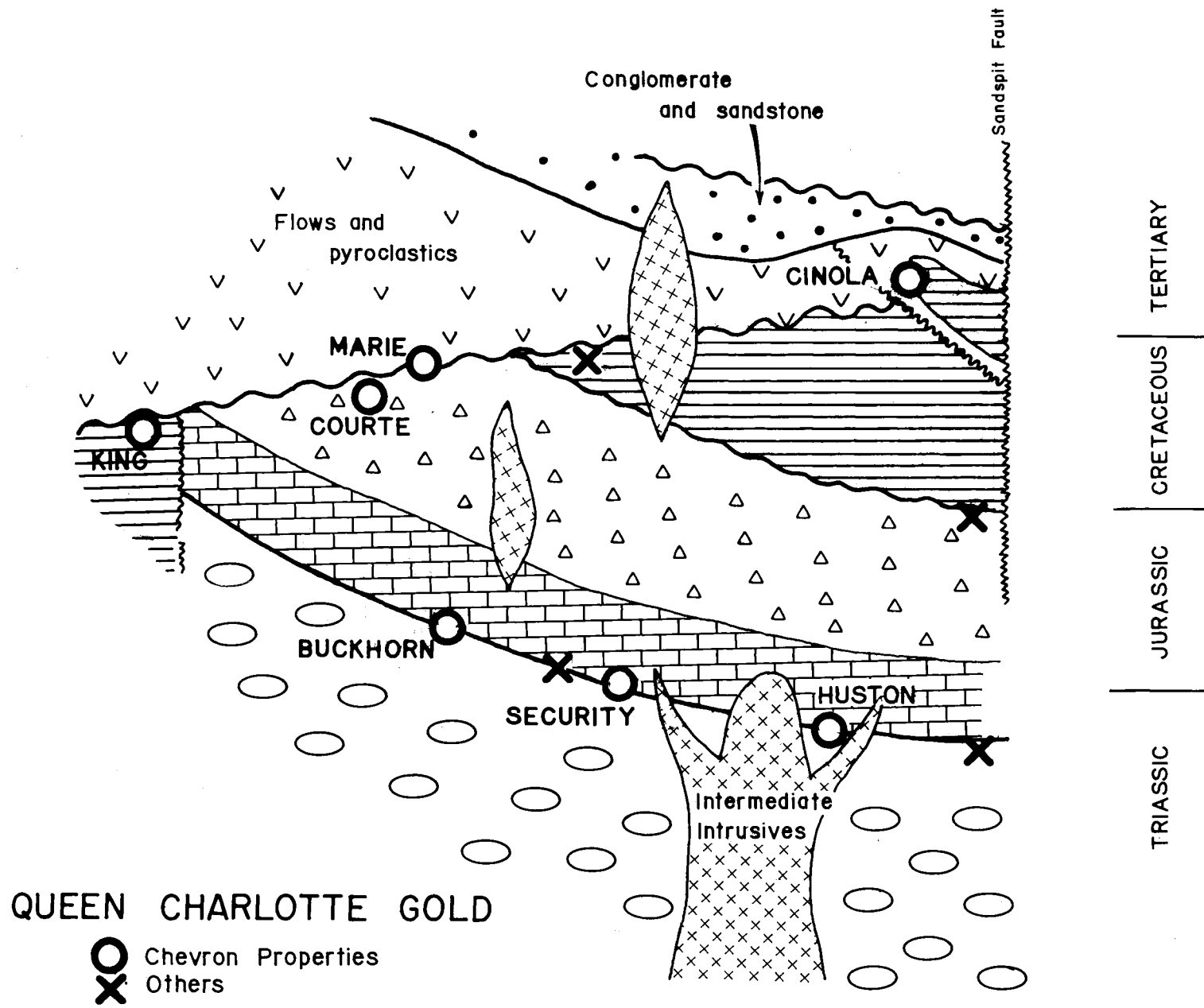


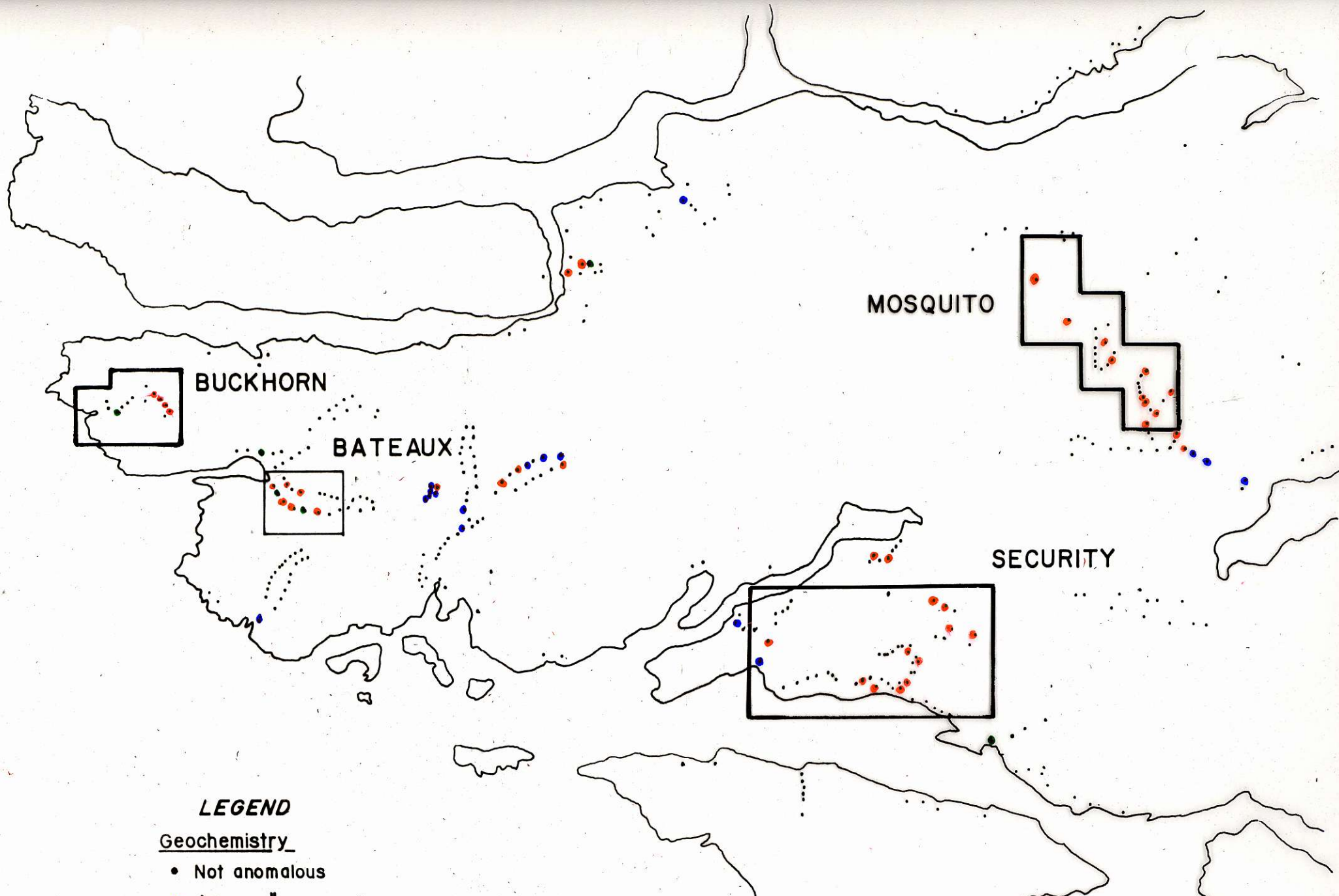
LEGEND

- Tertiary sediments
- Tertiary volcanics
- Cretaceous sediments
- Jurassic volcanics
- Triassic sediments
- Triassic Volcanics
- X Mineralization



QUEEN CHARLOTTE GOLD



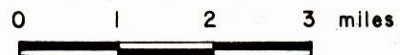


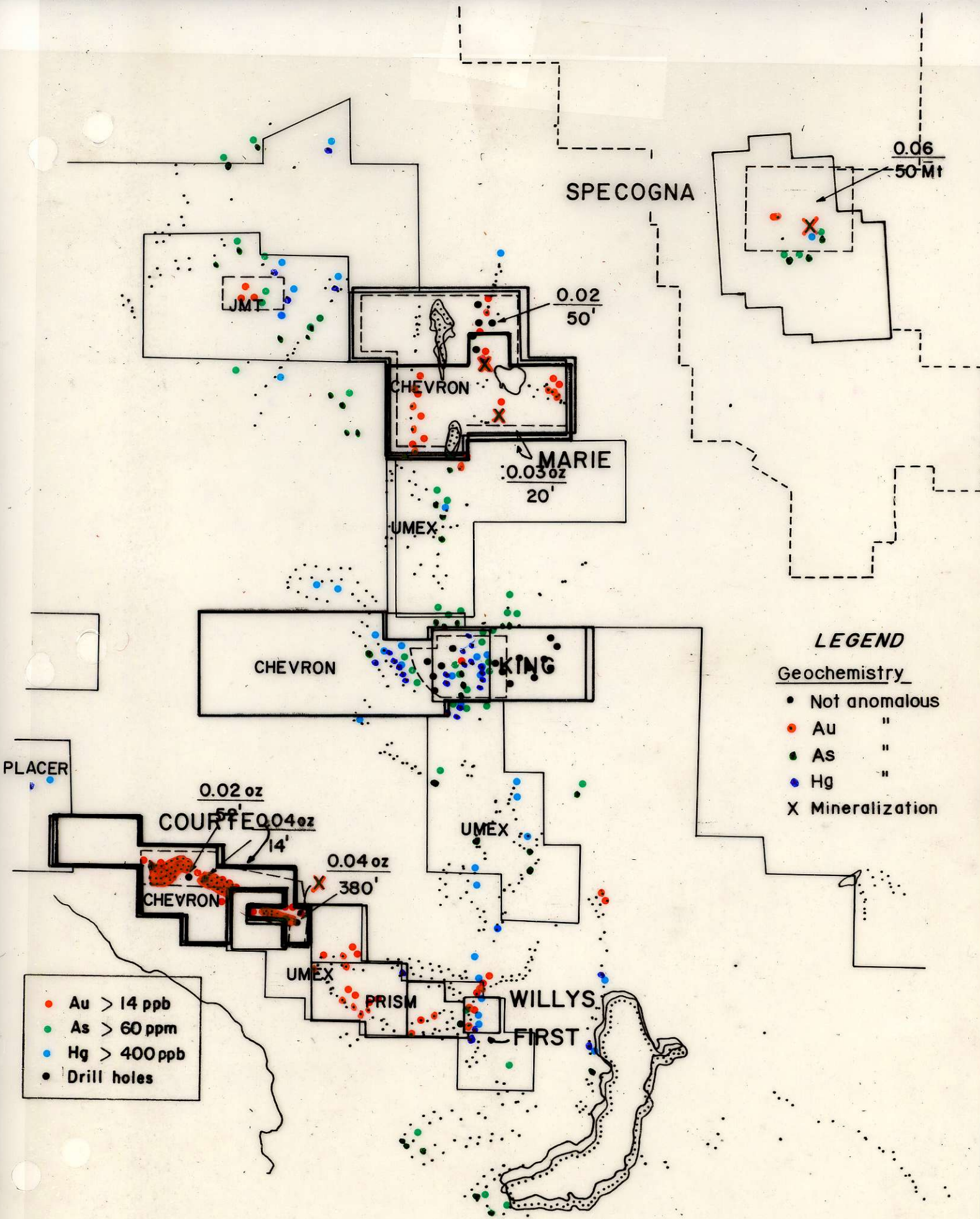
LEGEND

Geochemistry

- Not anomalous
- Au "
- As "
- Hg "

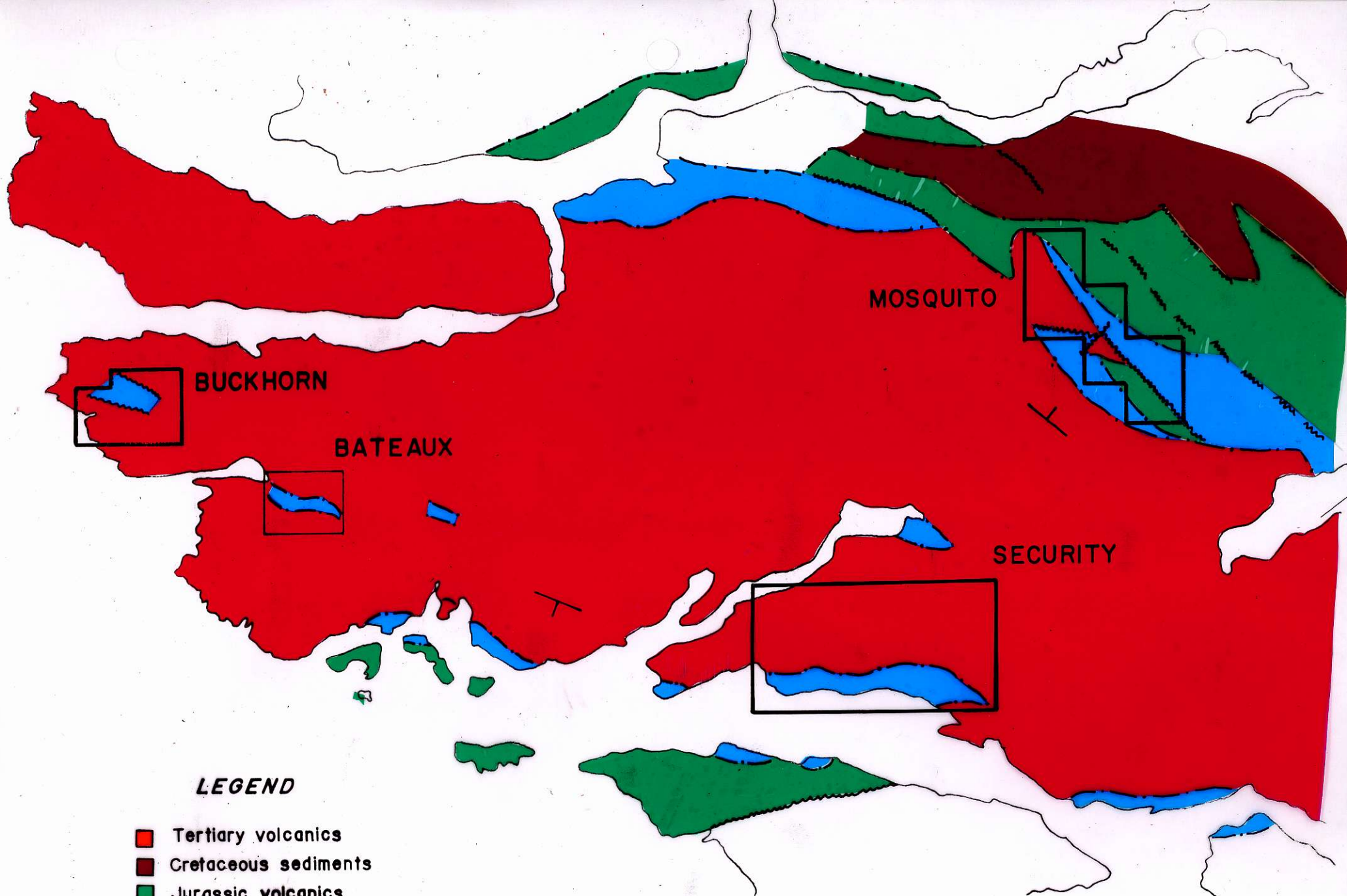
QUEEN CHARLOTTE GOLD





LEGEND
Geochemistry
 • Not anomalous
 • Au "
 • As "
 • Hg "
 X Mineralization

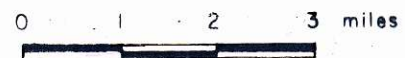
• Au > 14 ppb
 • As > 60 ppm
 • Hg > 400 ppb
 • Drill holes

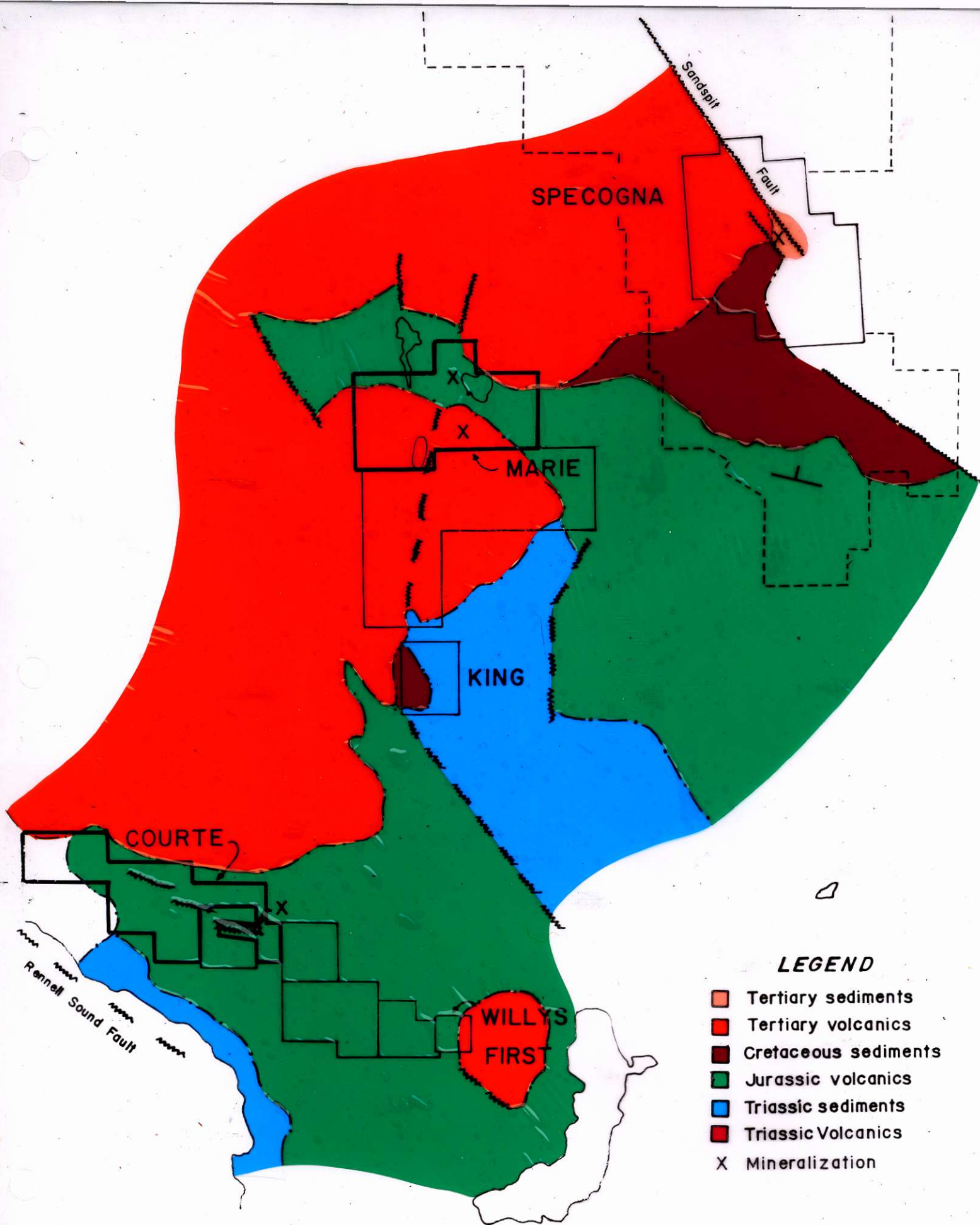


LEGEND

- Tertiary volcanics
- Cretaceous sediments
- Jurassic volcanics
- Triassic sediments
- Triassic Volcanics

QUEEN CHARLOTTE GOLD





LEGEND

- Tertiary sediments
- Tertiary volcanics
- Cretaceous sediments
- Jurassic volcanics
- Triassic sediments
- Triassic Volcanics
- X Mineralization

0 1 2 3 miles

QUEEN CHARLOTTE GOLD

Jan 79

TARGET

CARLIN MODEL:

Low grade - large tonnage of Au ore
Calcareous (and possibly carbonaceous) sediments
Silica and sericite alteration
Intense fracture systems
Deep faulting
Low temperature, epithermal, sulphide assemblages
Intermediate intrusives
Direct evidence of Au

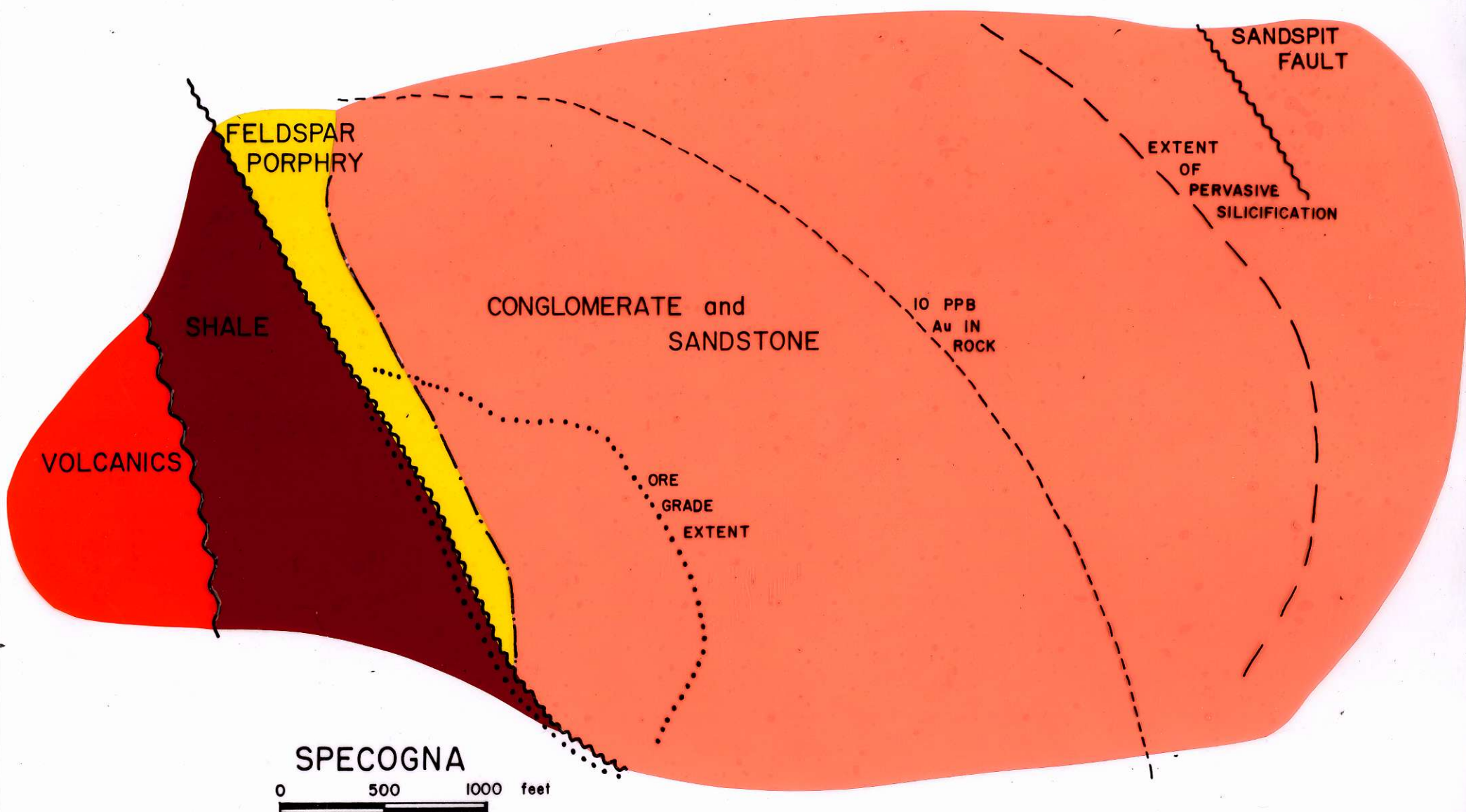
RELEVANT EXAMPLES IN B.C.:

CAROLIN MINES LTD.

Currently undergoing feasibility test
Developed: 3 - 8 M t. at 0.094 oz per ton Au

SPECOGNA

Estimated 50 M t. at 0.06 oz per ton Au
Low w/o ratio
Minimum recovery 72%
Best intersection to date
586' of 0.148 oz per ton Au
including 79' of 0.86 oz



FELDSPAR
PORPHYRY

SHALE

VOLCANICS

CONGLOMERATE and
SANDSTONE

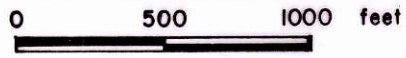
10 PPB
Au IN
ROCK

ORE
GRADE
EXTENT

SANDSPIT
FAULT

EXTENT
OF
PERVASIVE
SILICIFICATION

SPECOGNA



CINOLA

ECONOMICS:

50 M TONS @ 0.07 OZ PER TON Au (\$1750 M)

FEASIBILITY UNDERWAY

PROJECTED 10,000 TPD. 20 M DEVELOPMENT COST

GEOLOGIC CHARACTERISTICS:

SUBAERIAL TERTIARY RHYOLITIC VOLCANISM

STRONG FAULTING

TRANSECTION BY MAJOR NEAR SURFACE HYDROTHERMAL SYSTEM

CHARACTERIZED BY:

SILICA

QUARTZ AND CHALCEDONY

PYRITE

Au, As, AND Hg

EXPLORATION:

TANGIBLE EXAMPLE

EXPLORATION CRITERIA

CINOLA

50 \bar{M} TONS @ 0.056 OZ PER TON Au

\$10. PER TON OPERATING COST

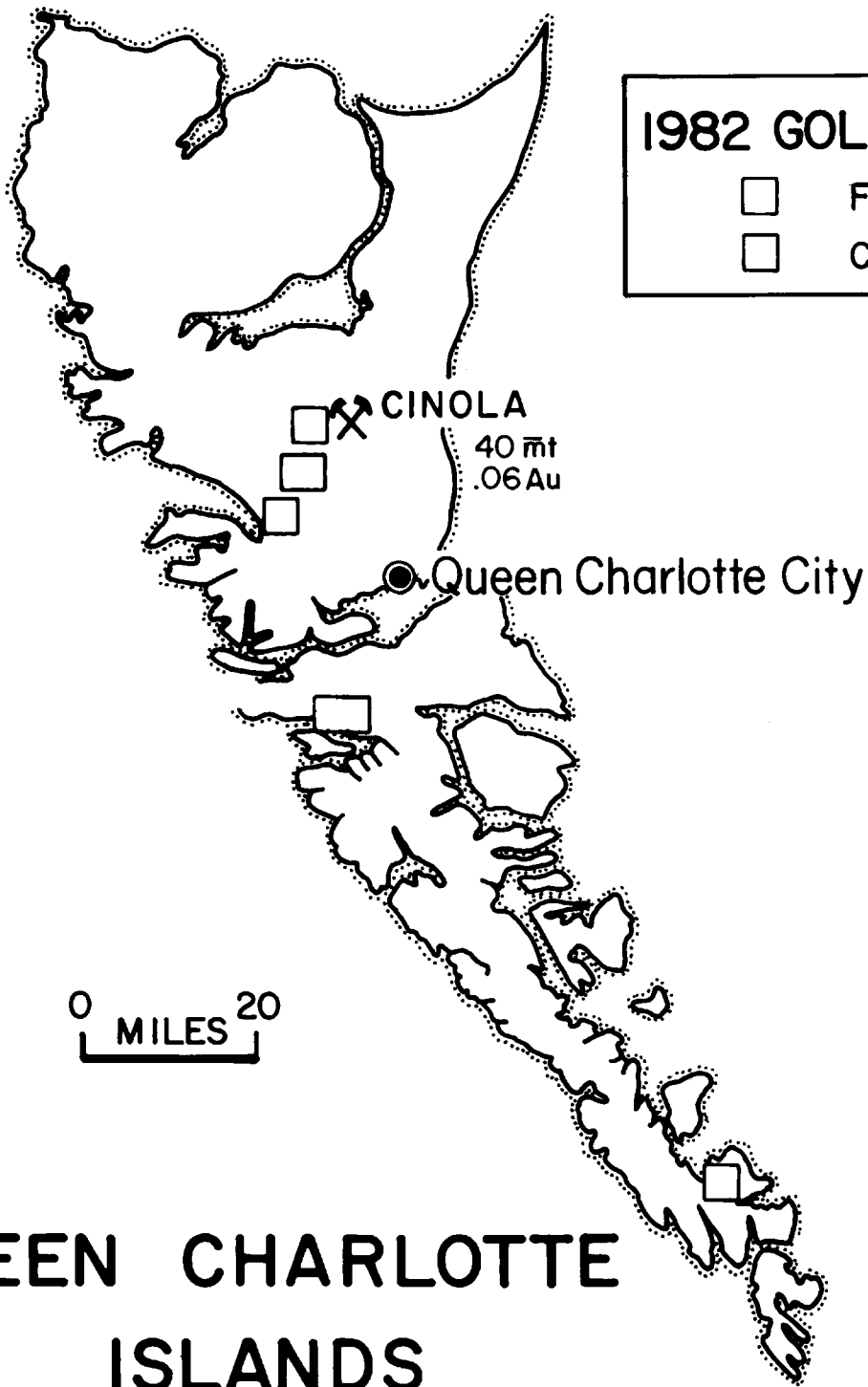
10,000 TPD

83% Au RECOVERY

Au/Ag = 1

50 TPD PILOT MILL, FEB. - JULY 1981

\$170 \bar{M} PRE-PRODUCTION COSTS. \$6 \bar{M} SPENT TO DATE



1982 GOLD PROJECT

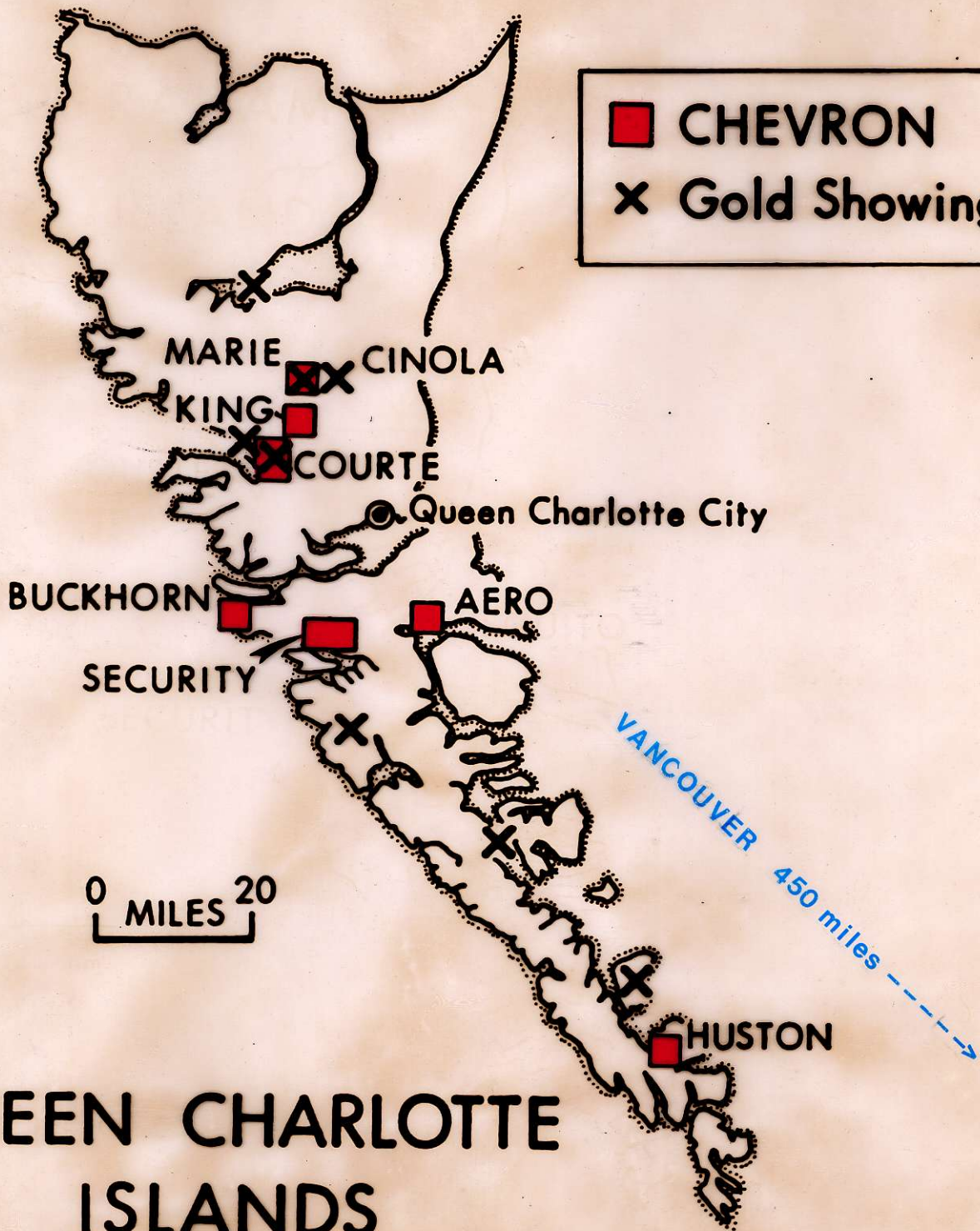
- FIRM
- CONTINGENT

CINOLA
40 mt
.06 Au

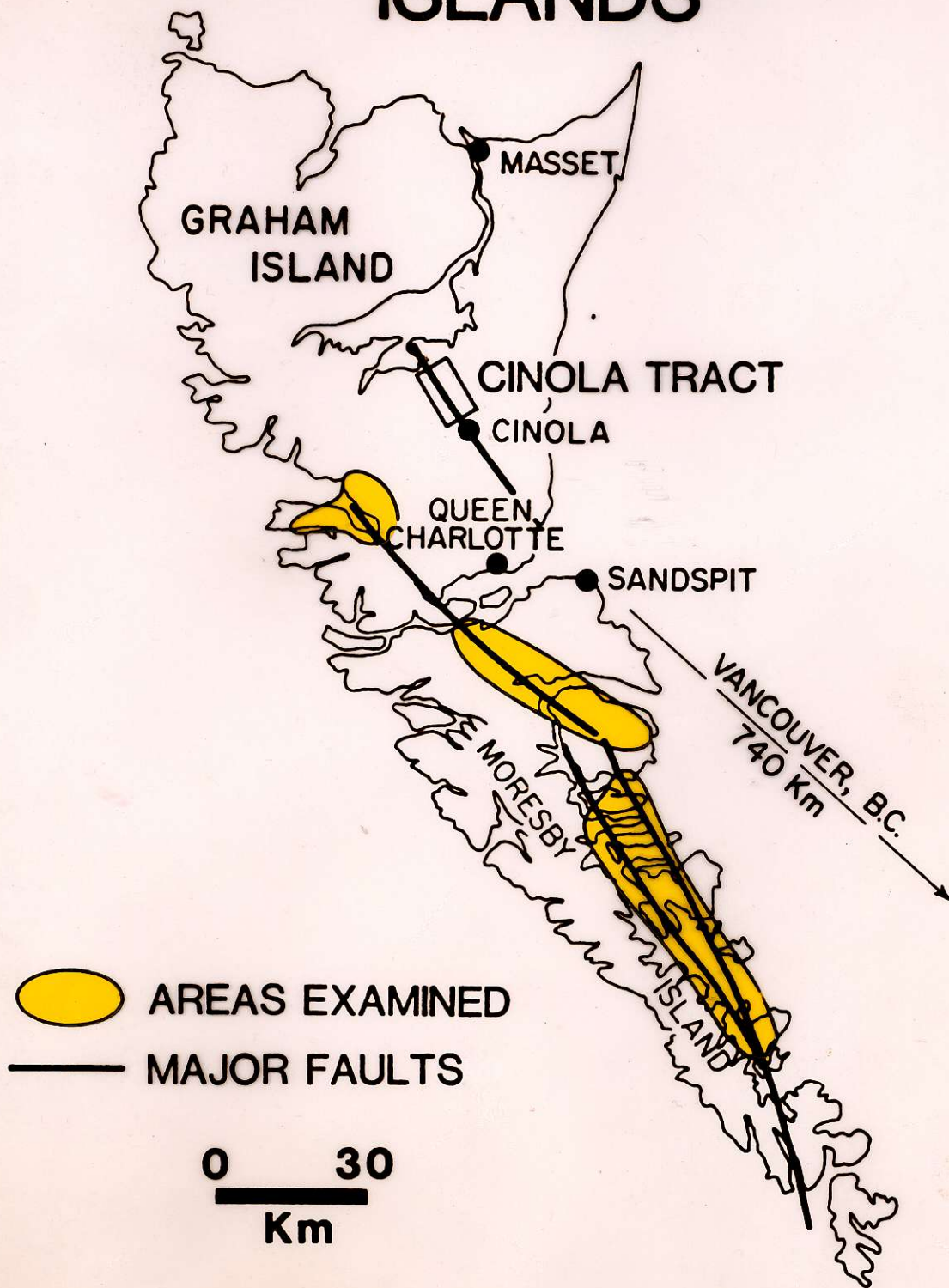
Queen Charlotte City

0 MILES 20

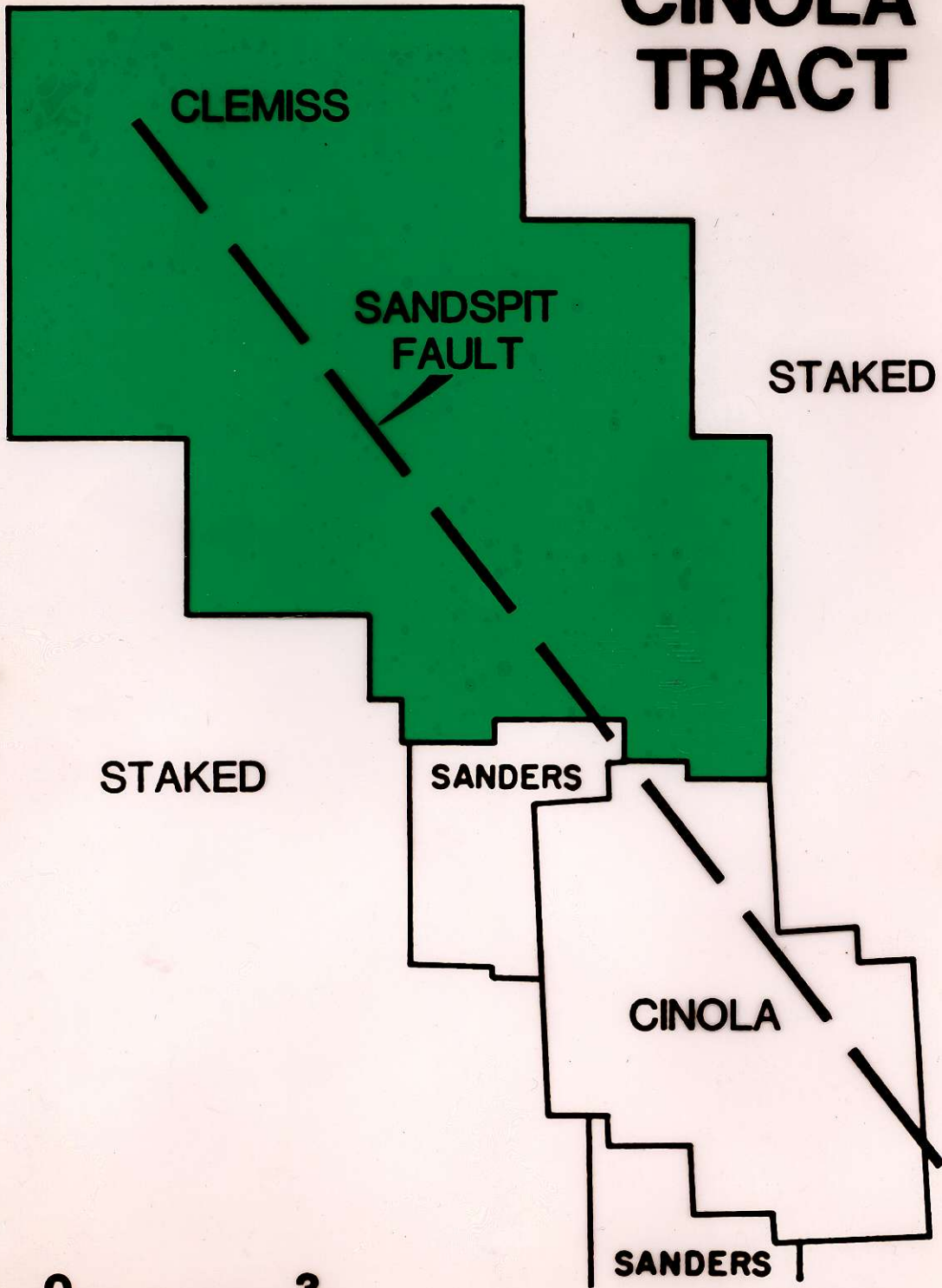
QUEEN CHARLOTTE ISLANDS

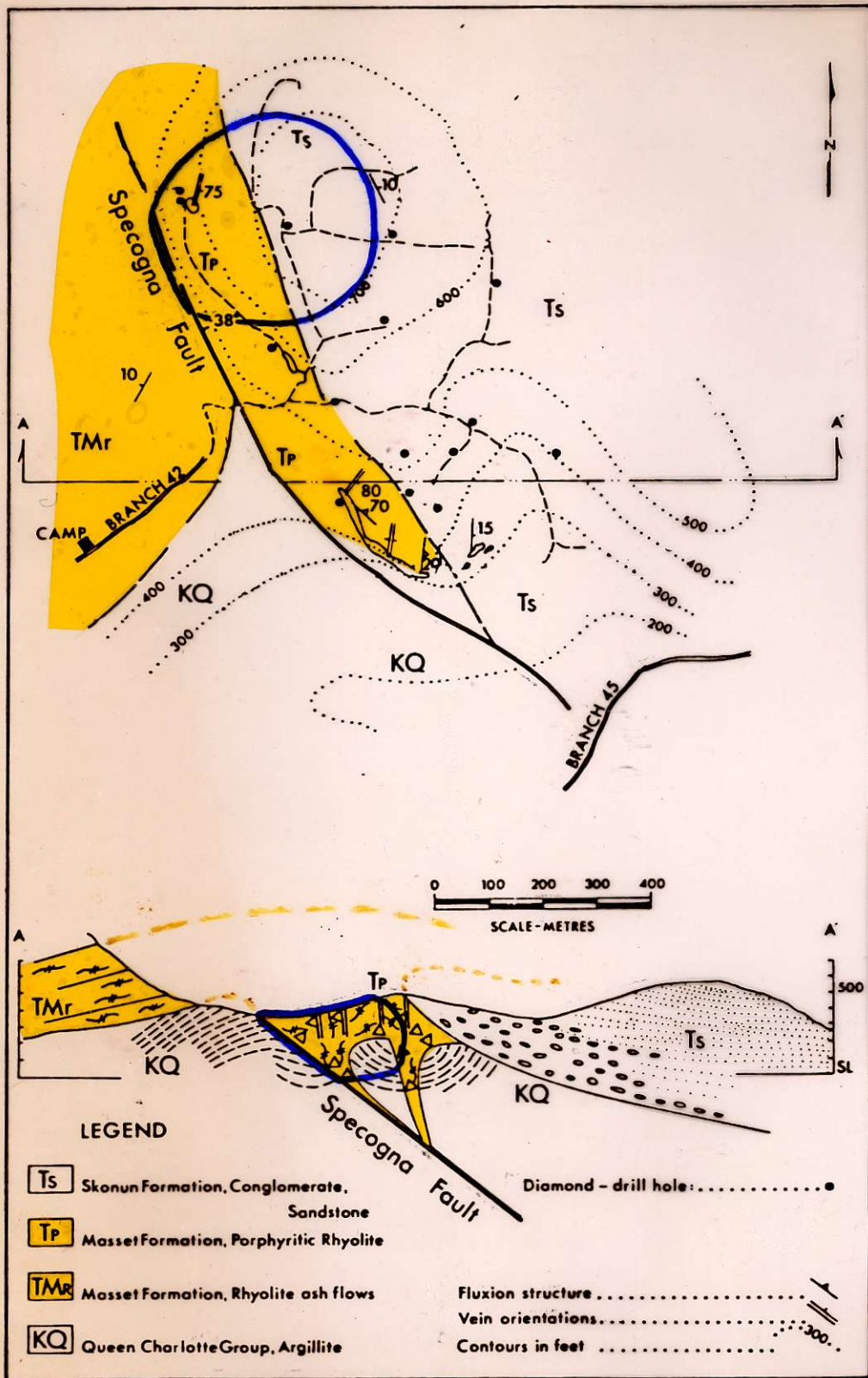


QUEEN CHARLOTTE ISLANDS



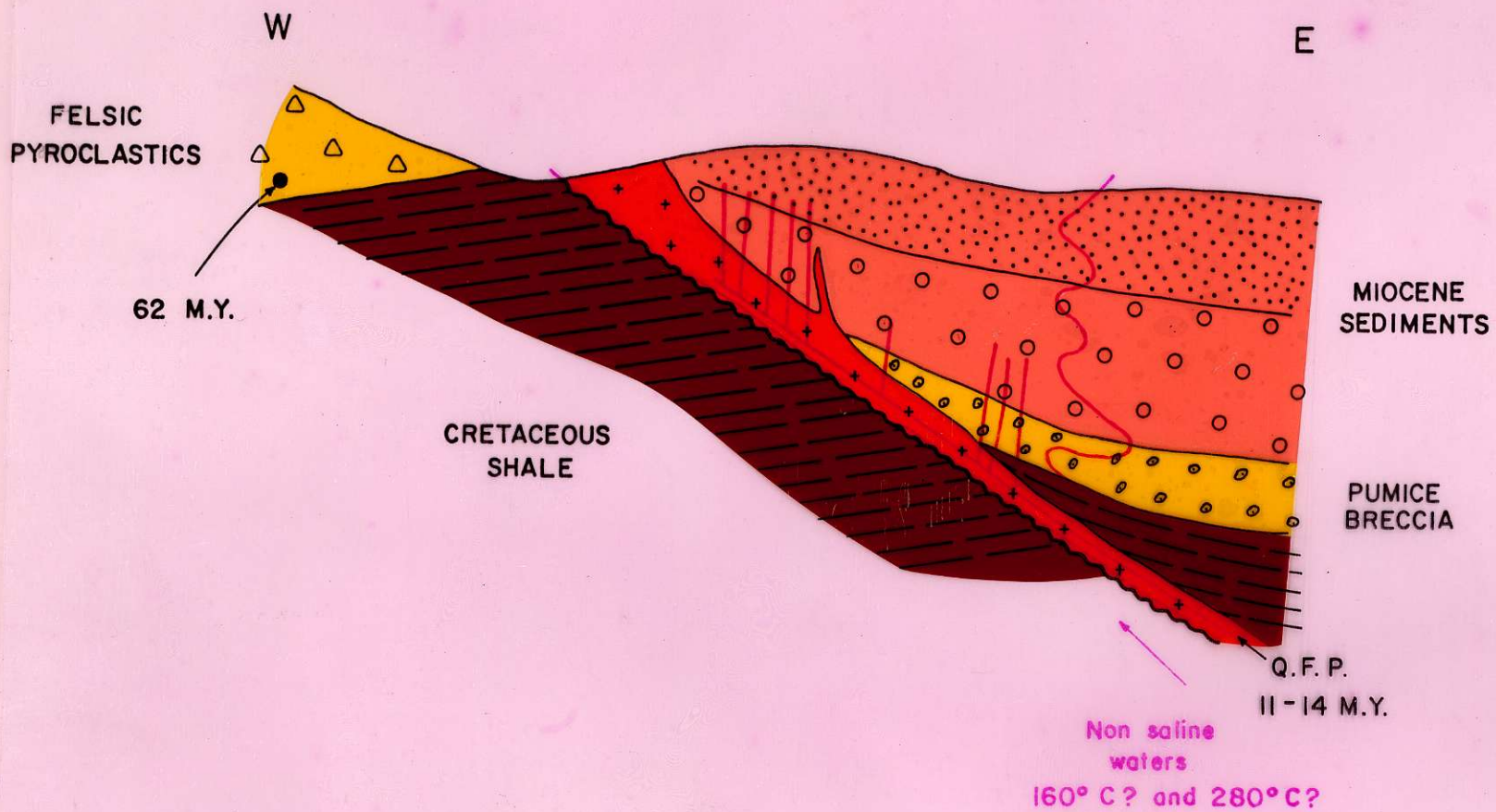
CINOLA TRACT



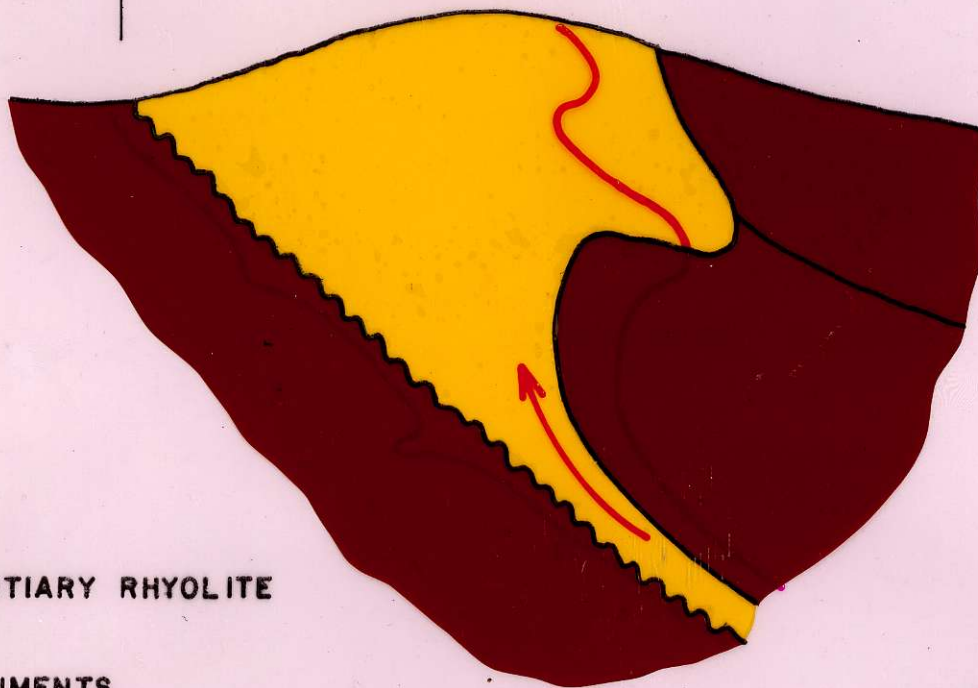
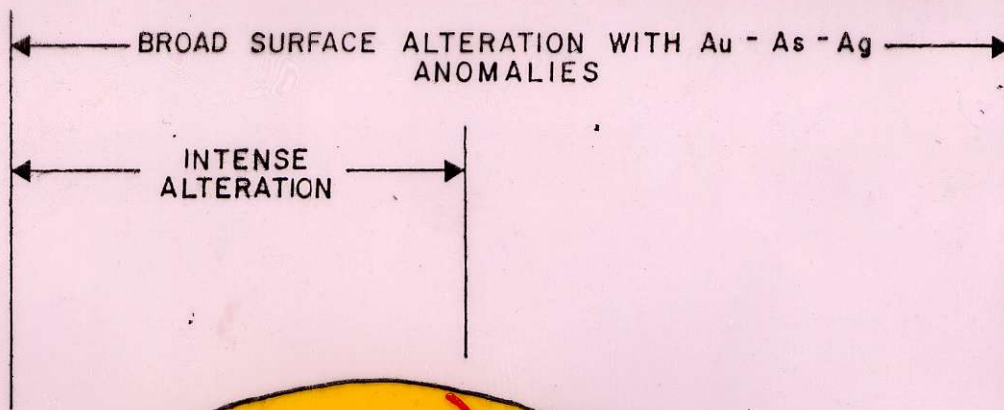


Geological sketch map and section

CINOLA



CINOLA



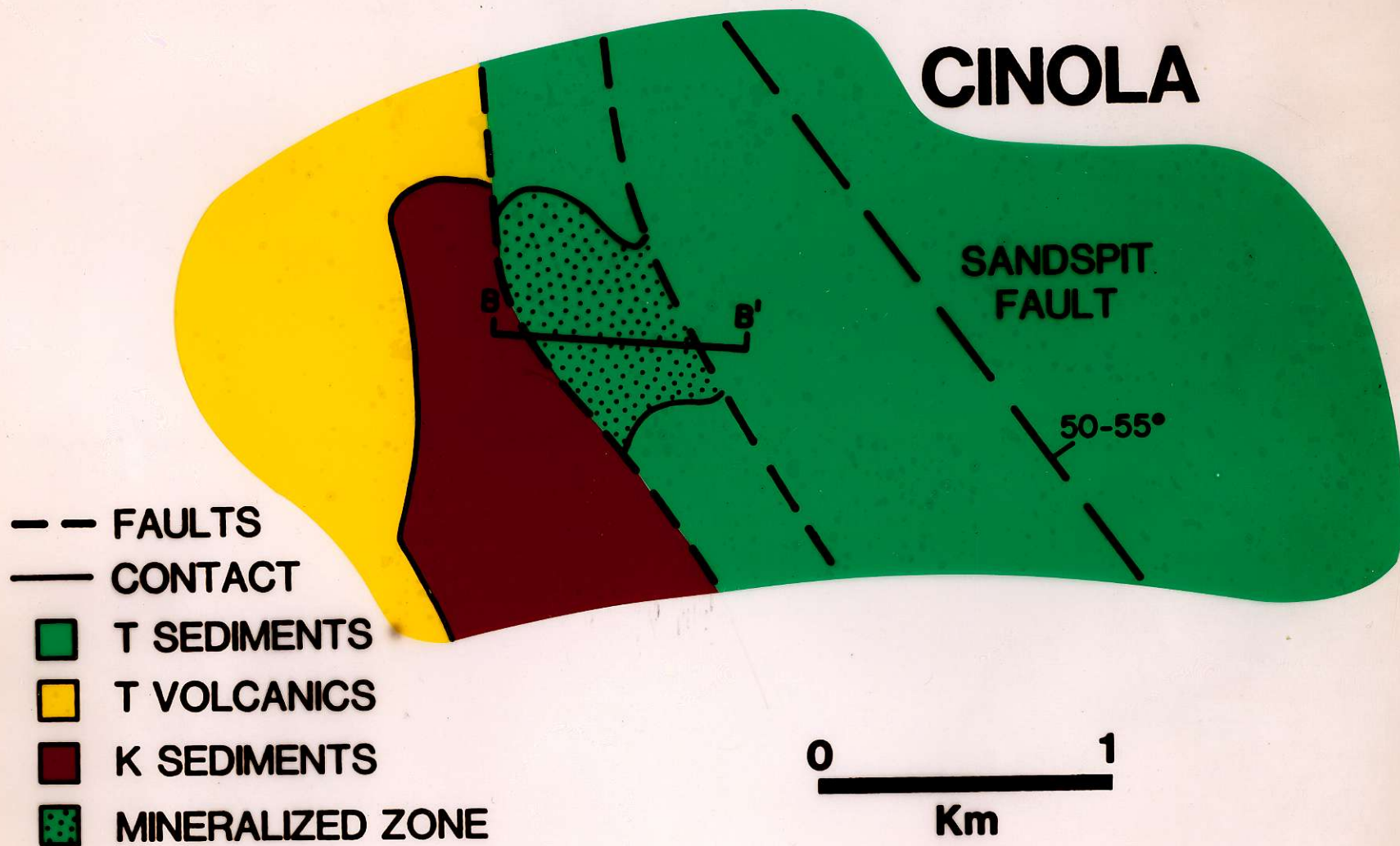
CINOLA TONNAGE
 RELEASED 27 mt 0.06oz.
 REPORTED 50 mt 0.07oz.

-  TERTIARY RHYOLITE
-  SEDIMENTS
-  GOLD MINERALIZATION

CINOLA MODEL



CINOLA

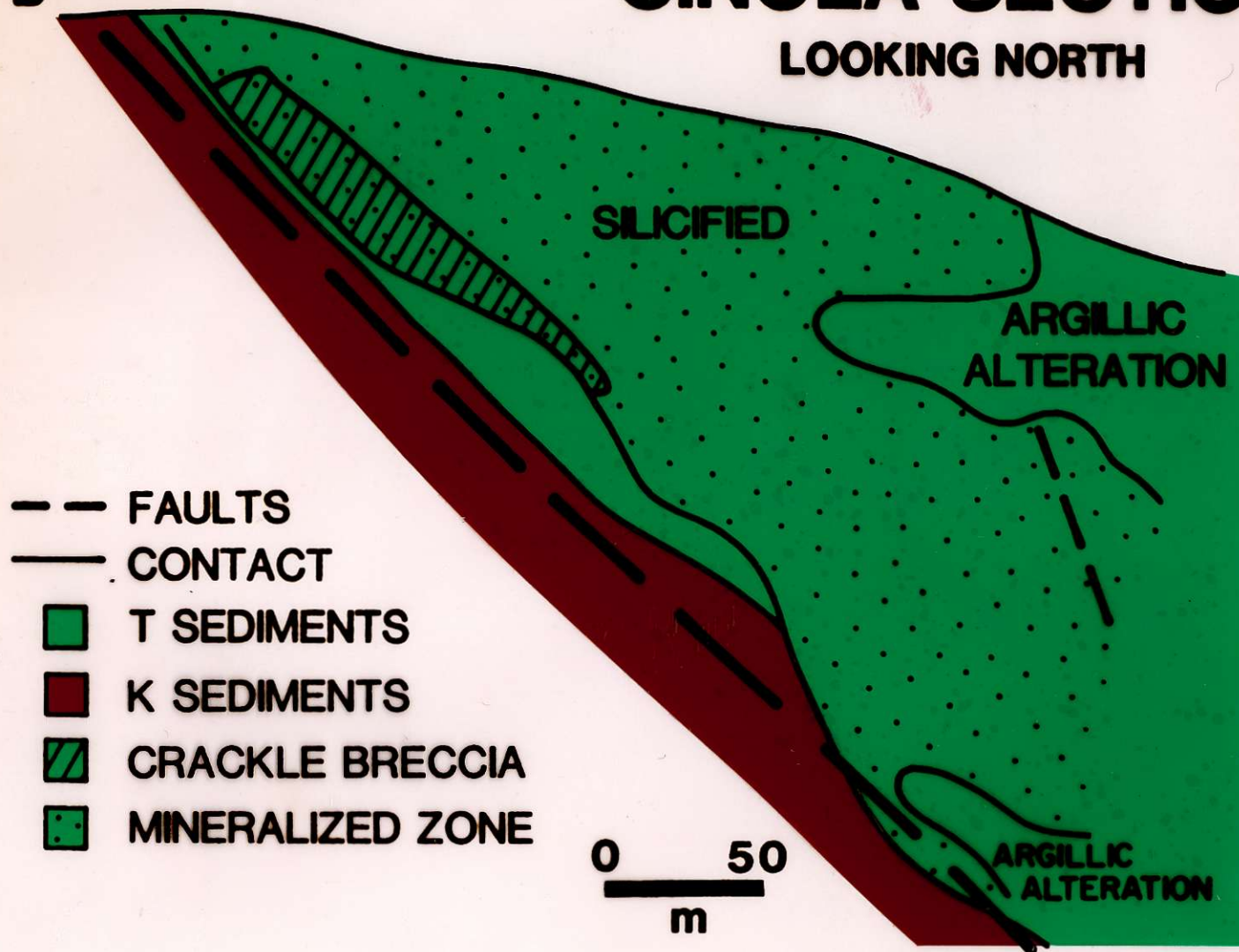


CINOLA SECTION

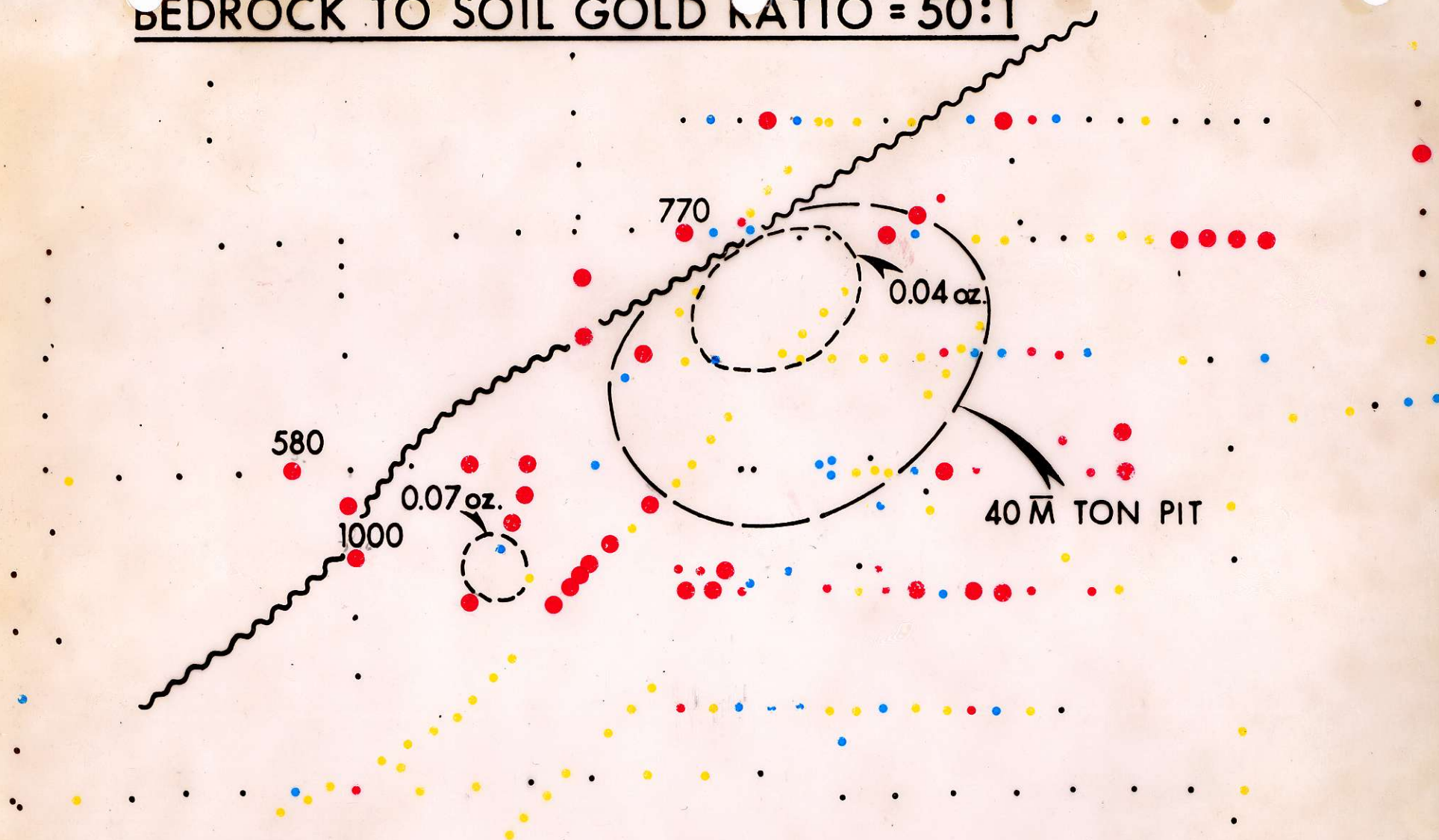
LOOKING NORTH

B

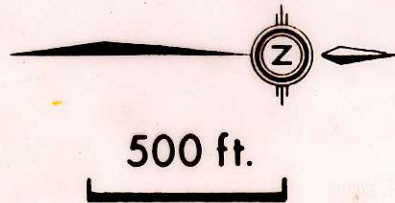
B'



BEDROCK TO SOIL GOLD RATIO = 50:1

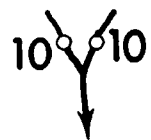
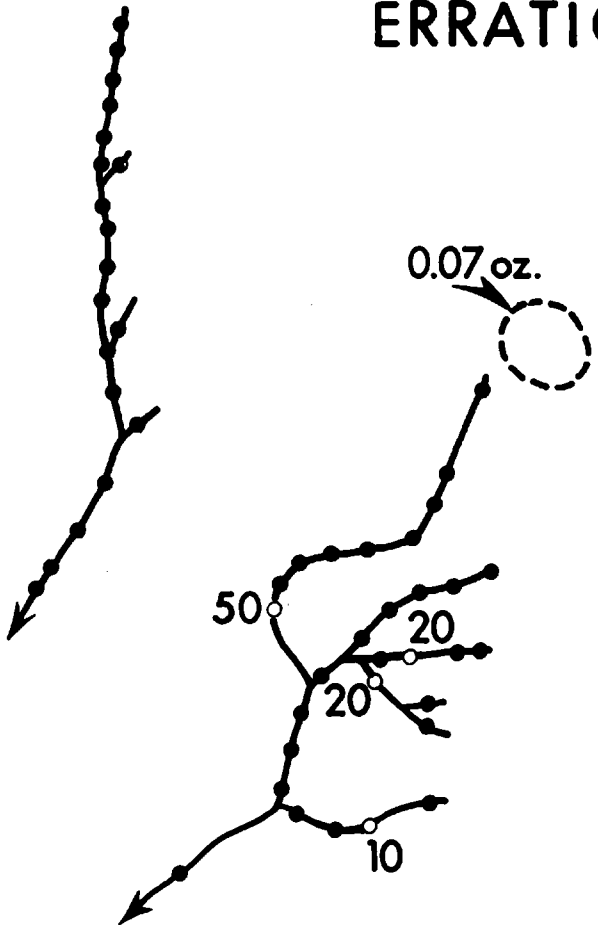
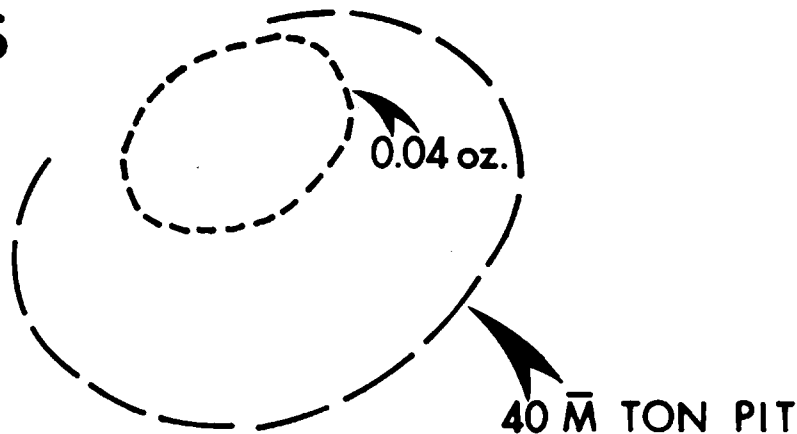


..	< 15 ppb
..	15 to 35 ppb
..	35 to 60 ppb
..	60 to 100 ppb
..	> 100 ppb



CINOLA
Au - soils

SILT GOLD VALUES
ARE LOW AND
ERRATIC



500 ft.

● ○	Silt sample
40	ppb Au
0.07 oz.	Bedrock Au near surface



CINOLA
Au - silts