COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 94E/2E

ASSESSMENT REPORT

1981 GEOCHEMICAL REPORT

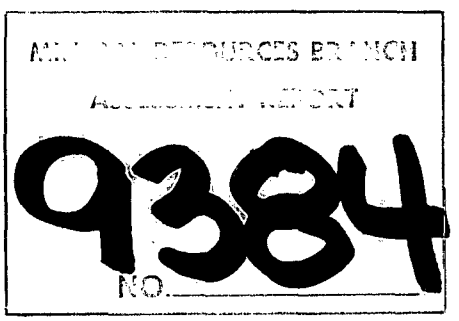
ON THE

MEX MINERAL CLAIM

IN THE FINLAY RIVER AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA



LATITUDE: 57°12'N

LONGITUDE: 126°39'W

OWNER AND OPERATOR: COMINCO LTD.

PERIOD OF WORK: JULY 15-18, 1981

2 SEPTEMBER 1981

R.J. SHARP

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ATTACHMENTS

COMINCO LTD.

EXPLORATION
NTS: 94E/2E

WESTERN DISTRICT
2 September 1981

ASSESSMENT REPORT

1981 GEOCHEMICAL REPORT

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SUMMARY

1. Re-analysis in 1981 of previously collected soil samples indicated significant gold anomalies occur coincident with copper anomalies on the Mex mineral claim, Toodoggone River Map Area, British Columbia.

2. Field work in 1981 confirmed the existence of a weak but persistent gold-copper enrichment (<10-3260 ppb Au and 195-1486 ppm Cu) in rocks and soils taken from a zone of hydrothermally altered granitoid rocks.

3. Further work is recommended on the property, especially diamond drilling in the high gold-copper bearing zone.

INTRODUCTION

This report describes the soil and rock geochemistry at Cominco's Mex Claims, 280 km northeast of Smithers, British Columbia (see figures 1 and 2). The report is based upon field investigations by R.J. Sharp and assistant A.D. Croft during the period July 15 to July 18, 1981. The work was supervised by Dr. R.Y. Watanabe.

The program this year consisted of soil and rock geochemistry. Samples previously collected were analyzed for gold and silver, then additional soil (or talus fine sample material) and rock samples were collected in 1981. Data are presented at a scale of 1:2,500 in figures 2 and 3.

PROPERTY AND OWNERSHIP

The Mex Claim is composed of 12 units, all owned 100% by Cominco Ltd. (see figure 2). This report files credit for three years on the Mex Claim as listed below:

Claim Name	Record Number	Due Date
Mex	692(7)	July 25, 1984

. . ./2

The legal corner post was located by chain and compass survey and is shown in figure 2.

LOCATION AND ACCESS

The property is situated in the Omineca Mining Division at 57°12'N and 126°39'W, NTS: 94E/2E, about 280 km northeast of the town of Smithers. Access is by helicopter from either Dease Lake, or Eddontenajon.

The claims are situated in rugged terrain (1500m to 1850m above sea level) in the Swannel Mountain Range. Most of the claim lies above treeline and is covered with grass. North-facing slopes are steep cliffs while south facing slopes are moderately to steeply inclined and covered with talus or glacial till.

SUMMARY OF WORK

Work in 1981 was aimed at assessing the potential of the Mex Claim for hosting gold mineralization. Pre-existing sample material was analyzed for gold-silver and a short field program was mobilized to test for reproducability and extent of gold anomalies. Total area surveyed to date is approximately 100 hectares. A total of 27 soil samples and 10 rock chip samples were collected for analysis in addition to the 80 soil samples re-analyzed for gold and silver. Sample results are plotted in figures 2 and 3 and listed in Tables 1 and 2.

DETAILED TECHNICAL DATA AND INTERPRETATION

Geology

The claim group covers a sequence of granitoid intrusive rocks that have been hydrothermally altered and locally pyritized. Two gold-bearing units have been recognized. One unit is a pyritic (up to 7% pyrite) and silicified quartz monzonite; the second unit is a propylitized monzonite containing ½ to 10% magnetite. The geology has been discussed by Caelles, (1978) and little new mapping was done in 1981.

Mineralization

Mineralization on the Mex Claims consists of spotty patches of disseminated, or fracture controlled, chalcocite and occasional grains of chalcopyrite. Both minerals are very fine grained and rarely comprise more than ¼% of the hand specimen or outcrop. Pyrite or magnetite are common - pyrite in the more highly altered siliceous quartz monzonite core - magnetite in the propylitized monzonite surrounding the altered core. Pyrite or magnetite contents range from ¼% to 10% but average 1% in most rocks.

GEOCHEMISTRY

1. Introduction

In addition to the 80 soil samples collected in 1977, that were analyzed

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for gold and silver in 1981, there were 27 new soil samples collected. The new soil sampling concentrated on the anomalous gold zones and was designed to test the reproduceability of the anomalies plus test their distribution and continuity.

2. Field Data and Techniques

Most of the soil samples are more properly classed as "talus fines" because they were taken from sites of active downslope erosion with little or no vegetation cover. A 1m deep test pit was dug in an area of anomalous gold concentration in the soil. The pit penetrated 20 cm into the C horizon which consists of angular pyritic quartz-monzonite cobbles. The overlying material is a light brown, stratified fine and coarse sand sequence with occasional 1 cm thick pebble layers. In the test pit locality, and on most parts of the ridge, the soil has been transported downslope therefore the source of any anomalous soil lies upslope from the sample site. The samples were stored in large kraft sample envelopes and shipped to the laboratory for analysis.

Ten rock samples were collected from various rock units on the property. Rock chip samples weighing 3 kg were collected over the outcrop area (2-3m in diameter) sampled, and were stored in labelled plastic bags. A representative hand specimen of each sample was taken for future reference.

3. Analytical Techniques

All samples were analyzed at the Cominco Exploration Research Laboratory, 1486 East Pender Street, Vancouver, B.C. The rock samples were crushed to -80 mesh and analyzed for Au and F. Additional analyses of Cu, Pb, Zn, Ag, As, W, Mo, Sn, Hg and Sb were requested but completed on only 4 of the 10 samples at time of reporting. The soil samples were dried and sieved to -80 mesh then analyzed for Au. In addition to Au, 80 samples were analyzed for Ag and 27 were analyzed for As.

Copper, lead, zinc, silver and antimony were analyzed by atomic absorption spectophotometry of solutions obtained by 20% nitric acid digestion of sieved material. Arsenic was released from the samples by pyrosulfate fusion and its concentration was estimated colorimetrically. Gold values were obtained by aqua regia digestion of sample material, followed by solvent extraction and atomic absorption spectrophotometry. Molybdenum and tungsten were released from samples by nitric-perchloric acid digestion and pyrosulphate fusion, respectively. The contents of both elements were estimated colorimetrically with dithiol. Mercury was analysed using a hot leach in a mixture of nitric and perchloric acid. The mercuric ions in the sample solutions were reduced and the resulting elemental mercury flushed out by air and passed through an atomic absorption mercury meter. Fluorine analyses were obtained using the specific ion technique. Tin values were determined by X-ray fluorescence.

Analyses for gold were made in duplicate on all new soil samples sent to the lab. Table 2 shows the 2 analytical values plus their average. The average values are plotted in figure 2.

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4. Results

Analytical results are shown in figures 2 and 3 or are listed in Tables 1 and 2 at the end of the report. Figure 2 shows the results of the 1981 field sampling and figure 3 shows the results of re-analysis of pre-existing sample material. Table 1 gives the results of multi-element analyses on four rock samples that were finished by the laboratory at the time this report was written. Table 2 gives the results for Au obtained from duplicate analyses of 5 gm sample portions. The average of the duplicate results is also listed and has been plotted in figure 2.

Duplicate gold analyses were made in order to arrive at a more reliable gold value for each sample. Large variations in gold values often occur when analyzing sample material containing particulate gold. Duplicate analyses smooth out these variations and give a more reliable value of gold content in each sample.

a. Soil Geochemistry:

A series of soil samples were taken from the property in 1977 but were only analyzed for Cu and Mo. Additional analyses for Au and Ag were made on these soils in 1981; the results are plotted in figure 3. Soil samples collected in 1981 were collected in the areas of previously known anomalous rock geochemistry; the results are plotted in figure 2.

Because the soil samples were collected at different dates from different slope and soil types, a statistical analysis of gold data has not been made. From figure 2 it is apparent the gold anomalies in the talus fine - soil are related to a bedrock source. Rock chips taken in 1981 did not yield gold results as high as those taken in 1977 but did confirm weak gold anomalies in areas of high gold in soils. This bedrock source also is evident in the results shown in figure 3.

In figure 3 the outcrop in the east denotes a ridge that slopes steeply westward into a creek. The gold anomalies die out downslope fairly quickly because mixing with glacial till dilutes the gold concentration.

Silver results are plotted for the 4 rock samples in figure 2 and the 80 soil samples in figure 3. Silver values range from <0.4 to 2.6 ppm in rocks and from <0.4 to 3.1 ppm in soils. Silver shows a weak correlation with gold and undoubtedly is derived from the same source material.

b. Rock Geochemistry:

Caelles (1978) obtained significant gold values from rock chips taken from an altered zone of quartz-monzonite and monzonite. Values ranged from <10 to 780 ppb Au. In 1981, 10 rock chips were taken from the property, mainly from the alteration zone; all but 2 of these samples show gold enrichments ranging from very weak(10 ppb Au) to moderate (168 ppb Au). Fluorine analyses were also completed for the 10 rock samples. Fluorine levels are considered background for granitic rocks

with only one value (600 ppm) that could be considered weakly anomalous; this element is not a good pathfinder for mineralization at the Mex Claim.

Only 4 samples have complete multi-element geochemistry finished at the time this report was written. These elements are listed in Table 1. The copper values are all moderately to highly anomalous (195-456 ppm). Only 1 zinc value is anomalous (1859 ppm); two lead values are anomalous (62 and 99 ppm); three silver values are weakly anomalous (1.2, 1.8, and 2.6 ppm); arsenic is background; tungsten is background; molybdenum is weakly anomalous (10-47 ppm); tin, antimony, and mercury are all background.

Gold anomalies occur in rock and soil in an area 600m in diameter. Gold values range from <10 ppb to 3260 ppb in soils and <10 ppb to 780 ppb in rocks. A weak but persistent gold enrichment in the hydrothermally altered rocks on the Mex Claim does exist.

The current data, coupled with Caelles (1978) data indicate an area of coincident rock and soil anomalies in copper, gold and molybdenum over an area 1,000m by 500m. Gold anomalies show little dispersion away from their bedrock source while molybdenum and copper have much wider dispersions in the soil.

RECOMMENDATIONS

Additional work to test the copper-gold mineralization on the Mex Claim is recommended. Detailed mapping and close-spaced rock and soil geochemical sampling should be done. A magnetometer and induced polarization survey should be carried out over the alteration zone. Diamond drilling based on coincident geochemical-geophysical anomalies and geologic mapping should then be undertaken.

REFERENCES

Caelles, J.C., 1978. Assessment Report, Geological Mapping and Rock and Soil Geochemical Work on the Mex Property, Toodoggone River Area, Omineca M.D., Assessment Report number 6763.

Report by: R.J. Sharp, Geologist

Endorsed by: W. J. McOlfe for R.Y. Watanabe, Senior Geologist

Approved for Release by: W. J. McOlfe for G. Harden, Manager Exploration, Western District

RJS/skg

Distribution

Mining Recorder (2)
Western District (1)
RJS/RYW (2)

TABLE I

ROCK GEOCHEMICAL DATA

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	W ppm	Mo ppm	Sn ppm	Sb ppm	Hg ppb
81MRT-1	807	62	1859	<0.4	3	2	25	<20	<4	23
81MRT-2	195	15	166	1.2	3	<2	18	<20	<4	12
81MRT-3	378	15	85	1.8	15	2	47	<20	<4	15
81MRT-4	1456	99	199	2.6	14	<2	10	<20	<4	35

TABLE 2

GOLD RESULTS FOR 1981 SOIL SAMPLING

SAMPLE NO.	(Au Run 1) (ppb)	(Au Run 2) (ppb)	Average Au (ppb)
81MRF 7A	304	240	272
81MRF 7B	412	326	369
81MRF 7C	580	376	478
81MRF 7D	208	320	264
81MCF 1	400	1020	710
81MCF 2	320	240	280
81MCF 3	284	212	248
81MCF 4	1140	5380	3260
81MCF 5	550	548	549
81MCF 6	260	1000	630
81MCF 7	300	330	315
81MCF 8	68	60	64
81MCF 9	62	66	64
81MCF 10	80	106	93
81MCF 11	400	474	437
81MCF 12	2880	2930	2905
81MCF 13	184	236	210
81MCF 14	132	302	217
81MCF 15	196	176	186
81MCF 16	80	84	82
81MCF 17	600	500	550
81MCF 18	298	254	276
81MCF 19	140	140	140
81MCF 20	100	122	111
81MCF 21	396	382	389
81MCF 22	280	260	270
81MCF 23	150	124	137

APPENDIX "A"

EXHIBIT "A"

STATEMENT OF EXPENDITURES

ON THE MEX MINERAL CLAIM

FOR 1981

SALARIES				
R.J. Sharp -	July 15-18, 1981(3 days @ $191.83 day)		=	$ 575.52
	Report writing and preparation (1.5 days @ $141.53)		=	212.29
A.D. Croft -	July 15-18, 1981(3 days @ $87.12 day)		=	261.36
GEOCHEMISTRY				
Soils/Talus Fines:	27 samples @ $ 9.75		=	263.25
	80 samples @ $ 5.65		=	452.00
Rocks	10 samples @ $ 9.75		=	97.50
	4 samples @ $16.10		=	64.40
EXPENSE ACCOUNTS				
Accommodation and food for crew in Smithers			=	124.97
DOMICILE AND CAMP SERVICES				
Food, Radio, Camp Gear			=	245.00
EXPEDITING			=	30.00
TRANSPORTATION - Helicopter				
Mobilization	- 2.8 hrs. x $495/hr. + $280 Fuel		=	1,666.00
Demobilization	- 3.2 hrs. x $400/hr. + $165 Fuel		=	1,445.00
SUPPLIES				
camp fuel, sample bags, maps, flagging, notebooks, etc.			=	62.71
		TOTAL EXPENDITURE	=	$5,500.00

APPENDIX "B"

STATEMENT OF QUALIFICATIONS

I, ROBERT J. SHARP, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA, HEREBY CERTIFY:

1. THAT I am a geologist residing at 2764 West Second Avenue, Vancouver, British Columbia with a Business Address at 700-409 Granville Street, Vancouver, British Columbia.

2. THAT I graduated with a B.Sc. degree in Mineral Engineering from the University of Alberta in 1975.

3. THAT I graduated with an M.Sc., degree in Geology from the University of Alberta in 1980.

4. THAT I have practised geology with the Union Oil Company of Canada Ltd., Minerals Division, in Calgary Alberta from 1978 until 1980.

5. THAT I have practised Geology with Cominco Ltd. from 1980 to 1981.

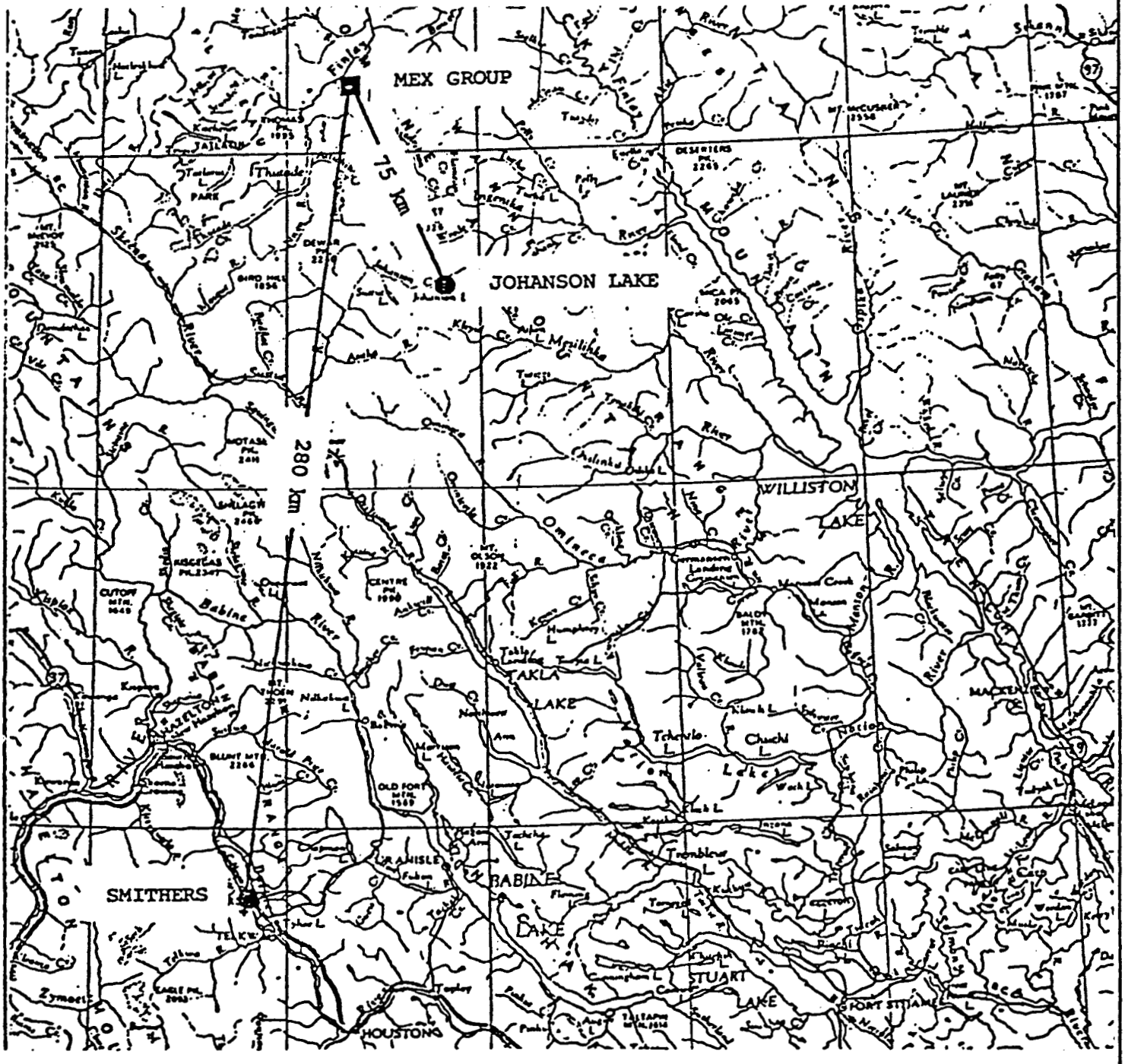
6. THAT I am registered as an Engineer-in-Training with the Association of Professional Engineers, Geologists and geophysicists of the Province of Alberta: Member Number 18311.

Dated this 4TH day of SEPTEMBER, 1981, at Vancouver, British Columbia.

Signed: R.J. Sharp

R.J. Sharp, M.Sc.

2 September 1981

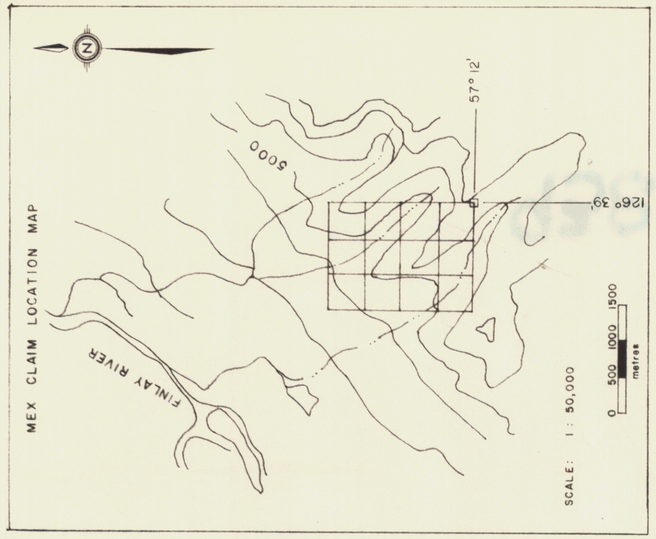


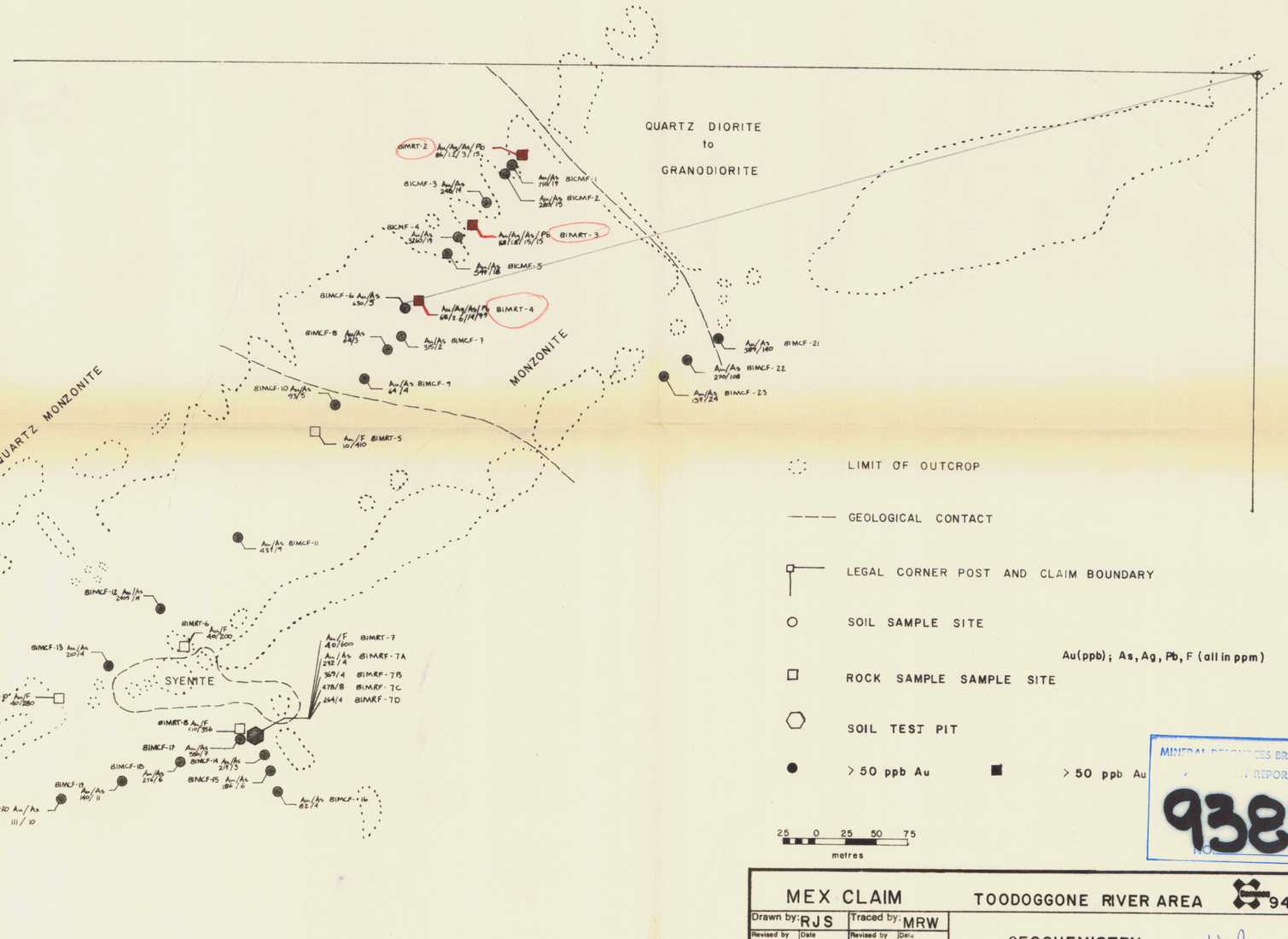
Drawn by:		Traced by:		MEX CLAIM LOCATION MAP		
Revised by	Date	Revised by	Date			
				Scale: 1:2,000,000	Date: September 1981	Plate: 1

NCI - 112A - CL

210-0610

MEX CLAIM LOCATION MAP





LIMIT OF OUTCROP

GEOLOGICAL CONTACT

LEGAL CORNER POST AND CLAIM BOUNDARY

SOIL SAMPLE SITE

Au(ppb); As, Ag, Pb, F (all in ppm)

ROCK SAMPLE SAMPLE SITE

SOIL TEST PIT

● > 50 ppb Au ■ > 50 ppb Au

25 0 25 50 75
metres

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9384

MEX CLAIM — TOODOGGONE RIVER AREA — 94E /2E

Drawn by: RJS		Traced by: MRW	
Revised by	Date	Revised by	Date

GEOCHEMISTRY
SOIL AND ROCK

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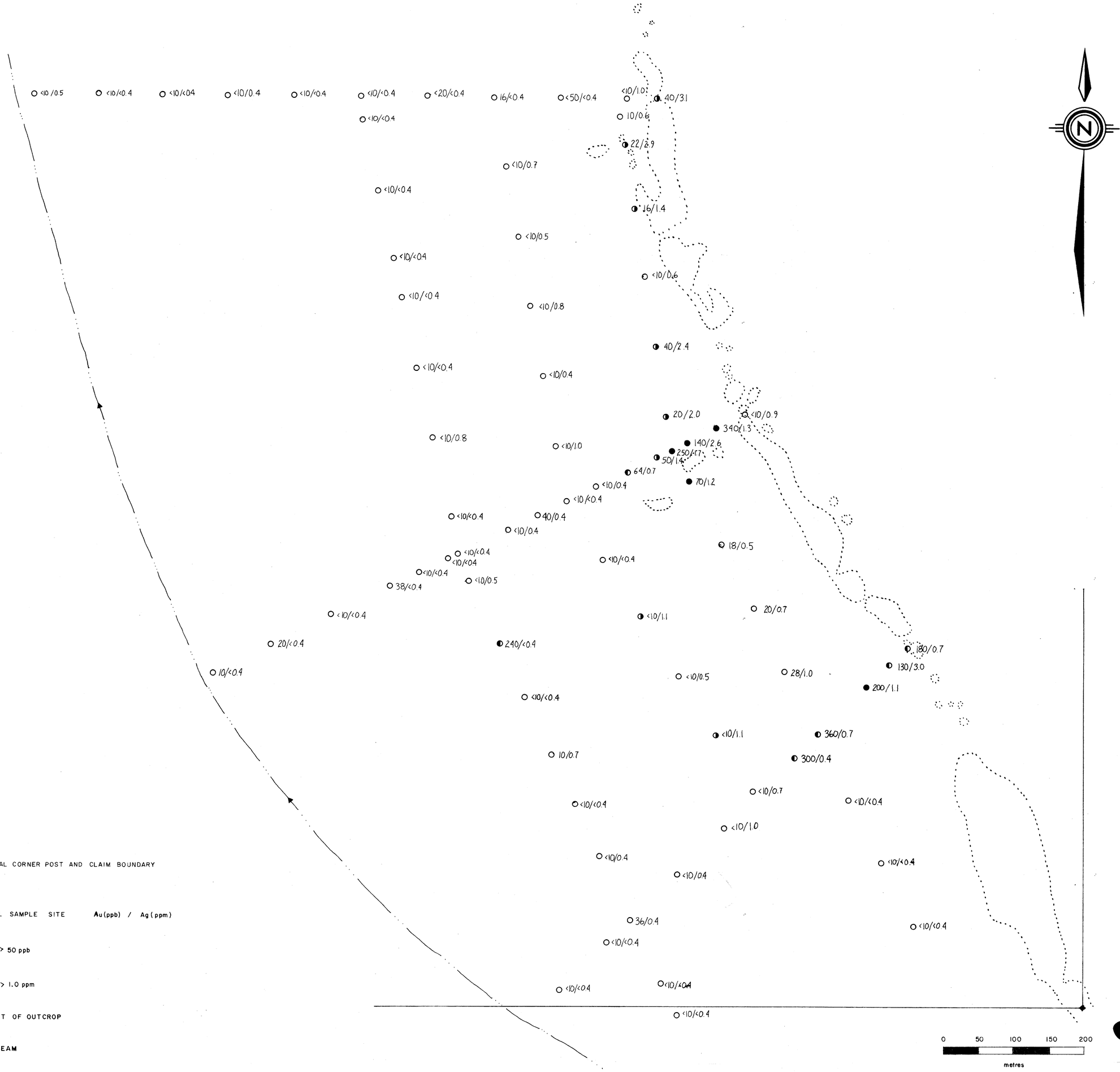

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MEX CLAIM TOODOGGONE RIVER AREA 94E/2E

Drawn by: RJS	Traced by: MRW
Revised by / Date	Revised by / Date

GEOCHEMISTRY

Scale: 1:2500 | Date: SEPT. 1981 | Plate: 3

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FORM 210 - 0660