COMINCO LTD.

EXPLORATION

NTS: 94F-2E

WESTERN DISTRICT

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL REPORT

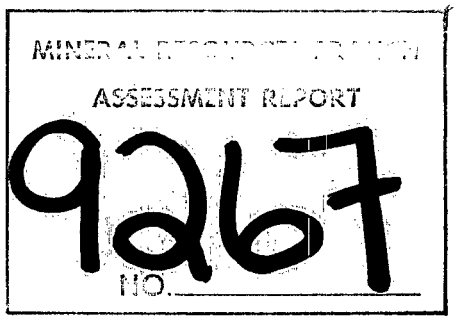
ON THE

ERN GROUP

PESIKA CREEK AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA



LATITUDE: 57°06'N

LONGITUDE: 124°33'W

PERIOD OF FIELD WORK

July 20, 1980 to August 23, 1980

14 MAY 1981

K.R. PRIDE

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COMINCO LTD.

EXPLORATION | WESTERN DISTRICT

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ASSESSMENT REPORT

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OMINECA MINING DIVISION

LIST OF CLAIMS

Claim No.	Record No.	No. of Units	Recording date
ERN 1	2917	15	July 15, 1980
ERN 2	2918	20	July 15, 1980
ERN 3	2919	9	July 15, 1980
ERN 4	2920	12	July 15, 1980

INTRODUCTION

The ERN Group, totalling 56 units was staked in July 1980 and covers two zones of stratiform barite-sphalerite-pyrite mineralization occurring in clastic rocks of the Road River Formation. The ERN Group is underlain by a structurally complex section of Road River Formation black graphitic graptolitic shale, Silurian siltstone, Middle Devonian limestone, and Devonian Gunsteel Formation shale.

Cominco Ltd. performed preliminary silt and soil sampling and geological mapping at a scale of 1:10,000 during the period of July 20, 1980 to August 23, 1980. Total expenditures on this claim group are estimated to be $7,745.68.

LOCATION AND ACCESS

The ERN Group is located in the headwaters of Pesika Creek, 30 kilometers southwest of Sikanni Chief Lake on the Fort Ware map sheet NTS: 94F. The center of the claim group is located at latitude 57°06'N and longitude 124°33'W.

Field work on the Ern Group was conducted using a Bell 206B Jet Range helicopter based at Sikanni Chief Lake. Logistical support was provided by float plane based at Mackenzie, 233 kilometers to the south.

REGIONAL GEOLOGY

A northwest trending belt of Paleozoic clastic stratigraphy has been outlined by regional mapping programs conducted by the G.S.C. This clastic belt is located within the Rocky Mountain thrust and fold belt of the Columbian Orogen and is centered approximately 40 kilometers east of the Rocky Mountain Trench. The Paleozoic clastics are continuous from the Ospika River northwesterly to Braid Creek, a distance of approximately 200 kilometers. This belt is part of the northwest trending Kechika Trough which may represent a southwesterly extension of the larger Selwyn Basin.

GEOLOGY

Preliminary geological mapping has outlined a belt of Road River Formation black graphitic, graptolitic shales containing stratiform barite-pyrite-sphalerite mineralization.

Kechika Group (Unit ϵO_K)

The Kechika Group ranges in age from latest Cambrian to early Ordovician and occurs along the western portion of the claim group. The unit consists of at least 200 meters of light grey weathering, wavy banded limestone and phyllitic-calcareous mudstone.

Road River Formation (Unit OS_{RR})

The Road River Formation, ranging in age from Middle Ordovician to Upper Silurian, occurs along the central portion of the claim and unconformably overlies the Kechika Group. The base of the Formation consists of cream to light grey weathering calcareous siltstone with limestone turbidite interbeds. These rocks are overlain by black graphitic and graptolitic mudstones containing Middle Ordovician to Upper Silurian graptolitic assemblages. Unit OS_{BA} consists of black siliceous mudstone horizons interbedded with black carbonaceous - pyritic - mudstones and quartz arenite-limestone turbidite breccias which locally contain barite laminations and bedded barite, pyrite and sphalerite. The quartz arenite-limestone turbidite breccias range from 1 meter to 8 meters in thickness and contain blocks and clasts of pyritic-mudstone, pyrite, barite and sphalerite-pyrite-barite which range from 2 cm to 25 cm in diameter. Portions of Unit OS_{BA} show characteristics of synsedimentary gravity slump deposits.

Silurian (Unit S_{SS})

Road River Formation shales are unconformably overlain by up to 150 meters of orange-brown weathering dolomitic siltstones of Upper Silurian age. The prominent lithologies are interbedded platy, thin laminar-bedded dolomitic-siltstone with minor orange weathering limestone interbeds.

TABLE 1

TABLE OF GEOLOGICAL FORMATIONS

AGE		DESCRIPTION
Upper Devonian		Gunsteel Formation
	UD GS	Silvery-grey weathering, black siliceous shale, chert, argillite, and minor blebby barite
		Besa River Formation
	UD BR	Tan brown weathering, brownish-black silty shale with interbeds of siltstone, argillite and chert.
	unconformity	
Silurian		
	S SS	Light orange to buff weathering, massive dark grey dolomitic siltstone.
	unconformity	
Ordovician-Silurian		Road River Formation
	OS RR	Black to grey weathering, black graphitic graptolitic shale, argillite, and chert.
	OS BA	Black weathering, black siliceous, carbonaceous and pyritic mudstone with barite laminations and bedded barite, locally contains pyrite and sphalerite.
Cambro-Ordovician		Kechika Group
	€O K	Buff to cream weathering, argillaceous wavy banded, silty and nodular limestone to calcareous grey shale.

Besa River Formation (Unit UD_{BR})

The Besa River Formation unconformably overlies the orange weathering Silurian siltstone unit and forms the base of the "Black Clastics" succession. The unit consists of a very thin accumulation of recessive, brownish-black weathering silty shale with thin beds of tan siltstone, siliceous argillite and calcareous shale.

Gunsteel Formation (Unit UD_{GS})

The Gunsteel Formation unconformably overlies the Besa River Formation and is host for the barite-lead-zinc deposits at Driftpile, Mount Alcock, Cirque and Elf. The unit is light grey to silver grey weathering, siliceous black laminated silty shale. Siliceous argillite and chert and rusty weathering pyritic black carbonaceous shale containing nodular and blebby barite interbeds.

GEOCHEMISTRY

During the period of July 20, 1980 to August 23, 1980, approximately 50 soil, 26 silt and 4 heavy mineral samples were collected as a preliminary survey for potential stratiform barite-lead-zinc mineralization.

Soil samples were collected from the "B" horizon, packaged in Kraft sample bags and sent to the Cominco Laboratory at 1416 E. Pender Street, Vancouver. Soil samples were dried, sieved to -80 mesh, digested in perchloric acid and analysed by atomic absorption for lead and zinc. Samples analyses for barium were quantitatively determined by X-ray fluorescence. All sample pulps from the Ern Group are stored at Cominco Laboratory in Vancouver.

Thresholds for lead, zinc and barium were calculated by cumulative frequency plots to distinguish the response of mineralization from the response of background and can be seen on Table 2. The resulting calculated thresholds outline the anomalous levels for the Road River Formation. The barium response appears to be the best indicator of the barite-rich Road River Formation.

Results of the sampling may be noted on the accompanying 1:10,000 scale maps, Plate 3, 4, 5 for lead, zinc and barium. As the sample density is low, element value results were not contoured.

Table 2

Table of Calculated Thresholds (ppm)

Sample Type	Possibly Anomalous			Anomalous		
	Pb	Zn	Ba	Pb	Zn	Ba
Soil	40	1000	3000	50	1500	4000
Silt	40	1000	3000	50	1500	4000
Heavy	400	3000	3000	500	5000	4000

Several coincident lead-barium, zinc-barium and lead-zinc-barium anomalies occur over the Road River Formation and reflect the mineralization from the east and west zones. Barium anomalies show linear trends which reflect the barium-rich shale stratigraphy of the Road River Formation.

CONCLUSION

Preliminary mapping on the Ern Group has outlined the Road River Formation which hosts the stratiform barite-zinc mineralization.

Detailed geological mapping, close-spaced grid soil geochemistry trenching and detailed prospecting will be required to determine the source and significance of the geochemical anomalies, and to determine the economic potential of the barite-sphalerite-pyrite mineralization.

Report by: K.R. Pride
Geologist

Endorsed by: A.B. Mawer,
Senior Geologist

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

KRP:vmk

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APPENDIX "A"
STATEMENT OF EXPENDITURES
ERN GROUP
July 20, 1980 to August 23, 1980

SALARIES AND WAGES

A.B. Mawer	1 man day @	$200.00/man day =	$ 200.00
K.R. Pride	4 man days@	$173.36/man day =	693.44
A.L. MacGregor	3 man days@	$130.24/man day =	390.72
D. Kuran	2 man days@	$117.92/man day =	235.84
A. Weiszman	2 man days@	$ 87.12/man day =	174.24
I. Kokan	1 man day @	$ 74.80/man day =	74.80
F. Jay	1 man day @	$ 80.96/man day =	80.96
D. Faubert	1 man day @	$ 68.64/man day =	68.64
S. Melville	1 man day @	$ 74.80/man day =	74.80
			$1,993.44

ASSAYS AND GEOCHEMICAL ANALYSES

Soil, silt	76 samples @	$6.10/sample =	$ 463.60
Heavy mineral	4 samples @	$16.00/sample =	64.00
			$ 527.60

FIELD EQUIPMENT AND SUPPLIES — $1,000.00

CAMP MAINTENANCE

16 man days @ $25/man day — $ 400.00

TRANSPORTATION

Fuel (helicopter Jet Fuel) 110 gal @ $2.50/gal.	$ 295.00
Helicopter charter 5 hrs @ $305/hr.	1,525.00
Fixed Wing 260 miles @ $1.95/mile	500.00
Miscellaneous	500.00
	$2,800.00

Total direct field costs: $6,721.04

Report Writing, Research, Drafting

K.R. Pride	4 man days @	$173.36/man day =	$ 693.44
V. Kuran	2 man days @	$105.60/man day =	211.20
P. McFeely	1 man day @	$120.00/man day =	120.00
			$1,024.64

TOTAL COST: $7,745.68

APPENDIX "B"

IN THE MATTER OF A GEOLOCIAL AND GEOCHEMICAL

PROGRAM PERFORMED ON THE ERN CLAIM GROUP

PESIKA CREEK AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA

A F F A D A V I T

I. K.R. PRIDE OF THE MUNICIPALITY OF BURNABY, IN THE PROVINCE OF BRITISH COLUMBIA, HEREBY DECLARE:-

(1) THAT I am employed as a geologist by Cominco Ltd., and, as such, have a personal knowledge of the facts to which I hereinafter depose;

(2) THAT annexed hereto and marked as APPENDIX "A" to this report is a true copy of expenditures incurred in connection with a geological and geochemical program on the Ern Claim Group;

(3) THAT the said expenditures were incurred between the 20th day of July and the 23rd day of August, 1980 for the purpose of performing geological and geochemical exploration on the Ern Claim Group.

Signed: K.R. Pride

K.R. Pride
Geologist

APPENDIX "C"

STATEMENT OF QUALIFICATIONS

I, K.R. PRIDE, GEOLOGIST, WITH BUSINESS ADDRESS AT 700-409 GRANVILLE STREET VANCOUVER, BRITISH COLUMBIA AND RESIDENTIAL ADDRESS AT 3770 FIR STREET, BURNABY, BRITISH COLUMBIA, HEREBY CERTIFY THAT:-

(1) THAT I am a graduate in Geological Sciences with a B.Sc. (Hons.) in 1973 from the University of British Columbia.

(2) THAT from 1973 to the present I have been employed by Cominco Ltd. as a geologist and have been actively engaged in mineral exploration in British Columbia, Yukon, Northwest Territories, Mexico and Saudi Arabia.

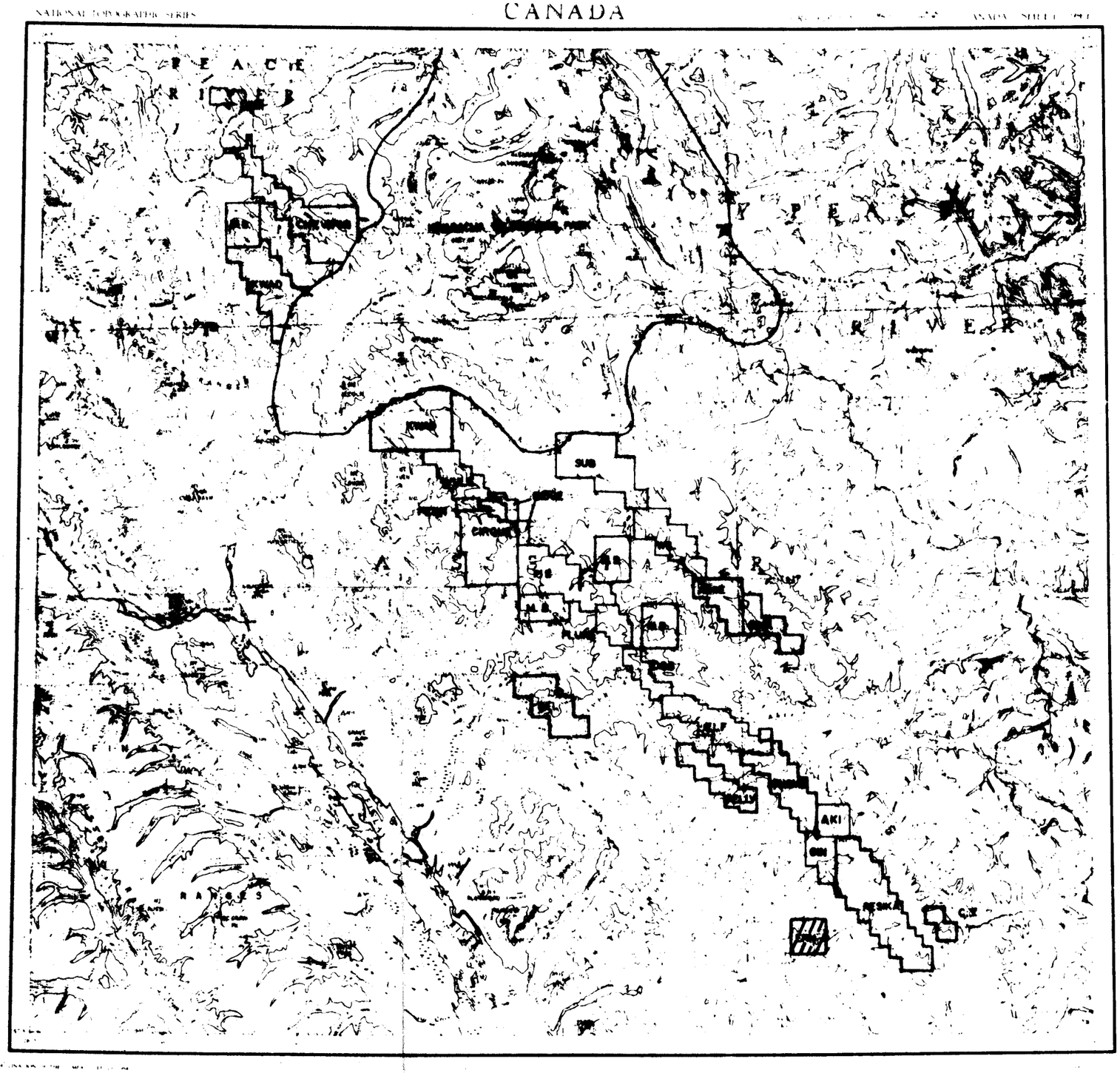
(3) THAT I personally participated in the field work on the Ern Claim Group and have interpreted all the data resulting from this work.

Signed: K.R. Pride

K.R. Pride
Geologist

NATIONAL TOPOGRAPHIC SERIES

CANADA



WARP

SCALE

5 0 5 10 km

MINERAL
ASSESSMENT
9267
NO.

KRP

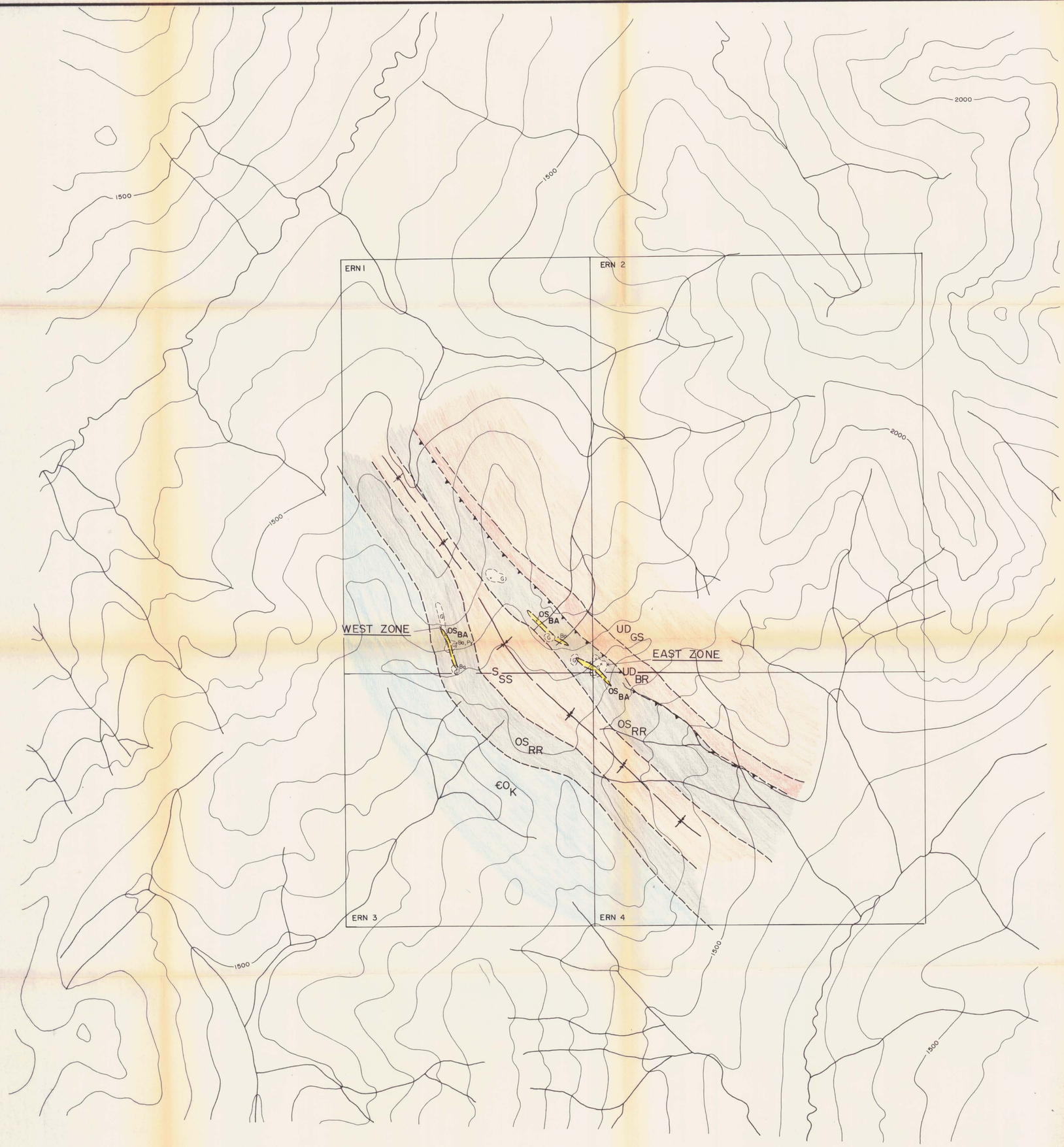
ERN PROPERTY

94 F

Drawn by KRP	Traced by
Revised by Date	Revised by Date

CLAIM LOCATION MAP

Scale 1:500,000 Date ' 18 Dwg.



N

LEGEND

MIDDLE DEVONIAN - UPPER DEVONIAN

UD_{GS} GUNSTEEL FORMATION- silvery-grey weathering, black siliceous shale, chert and argillites.

UD_{BR} BESA RIVER FORMATION- tan brown weathering, brownish black silty shale with interbeds of siltstone and calcareous shale.

SILURIAN

S_{SS} Light orange to buff weathering, massive dark grey dolomitic siltstone.

ORDOVICIAN-SILURIAN

OS_{RR} ROAD RIVER FORMATION- black to grey weathering, black graphitic, graptolitic, variably calcareous shale and black quartzite.

OS_{BA} Brown to grey weathering, greenish-grey massive barite containing minor pyrite.

CAMBRO-ORDOVICIAN

$€O_K$ KECHIKA GROUP- buff to cream weathering, argillaceous wavy banded, silty and nodular limestone to calcareous grey shale.

SYMBOL LIST

- CONTACT (approximate, assumed)
- SYNCLINE
- G GOSSAN
- TALUS (Ba- barite, Py- pyrite)
- LEGAL CLAIM POST
- THRUST FAULT

SCALE

0 100 200 300 ft

0 500 1000 m

CONTOUR INTERVAL - 100 meters

KAP

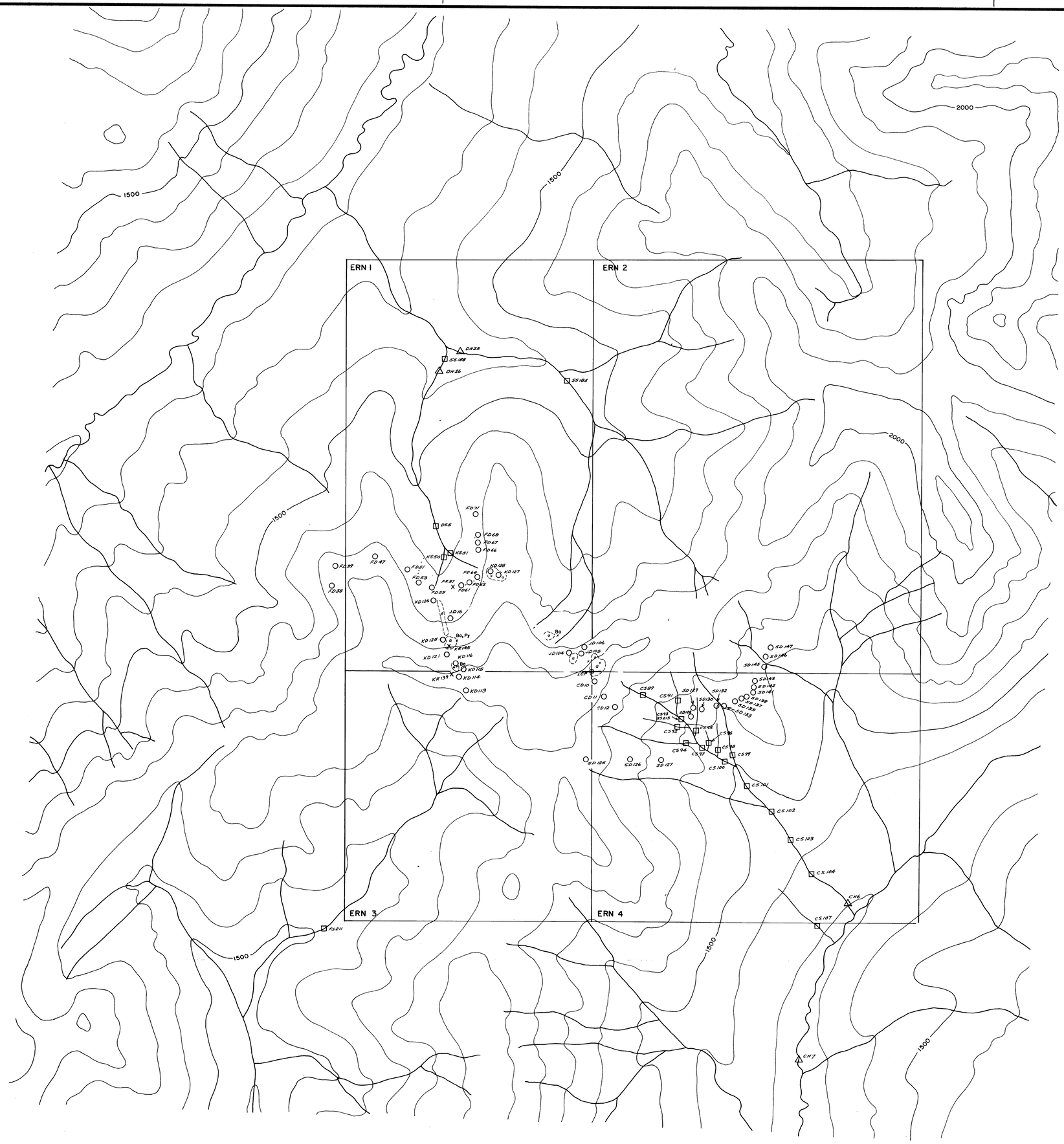
ERN PROPERTY

94 F/2

GEOLOGY

Drawn by:	Traced by: UK	Scale: 1:10,000	Date: MAY 1981	Plate: 2

FORM 210 - 0680



LEGEND

- □ SILT SAMPLE
- ○ SOIL SAMPLE
- X ROCK SAMPLE
- △ HEAVY MINERAL SAMPLE
- N/R NO RESULT
- (G) Gossan
- × Talus
- ⊕ Legal claim post

SCALE

0 100 200 300 ft

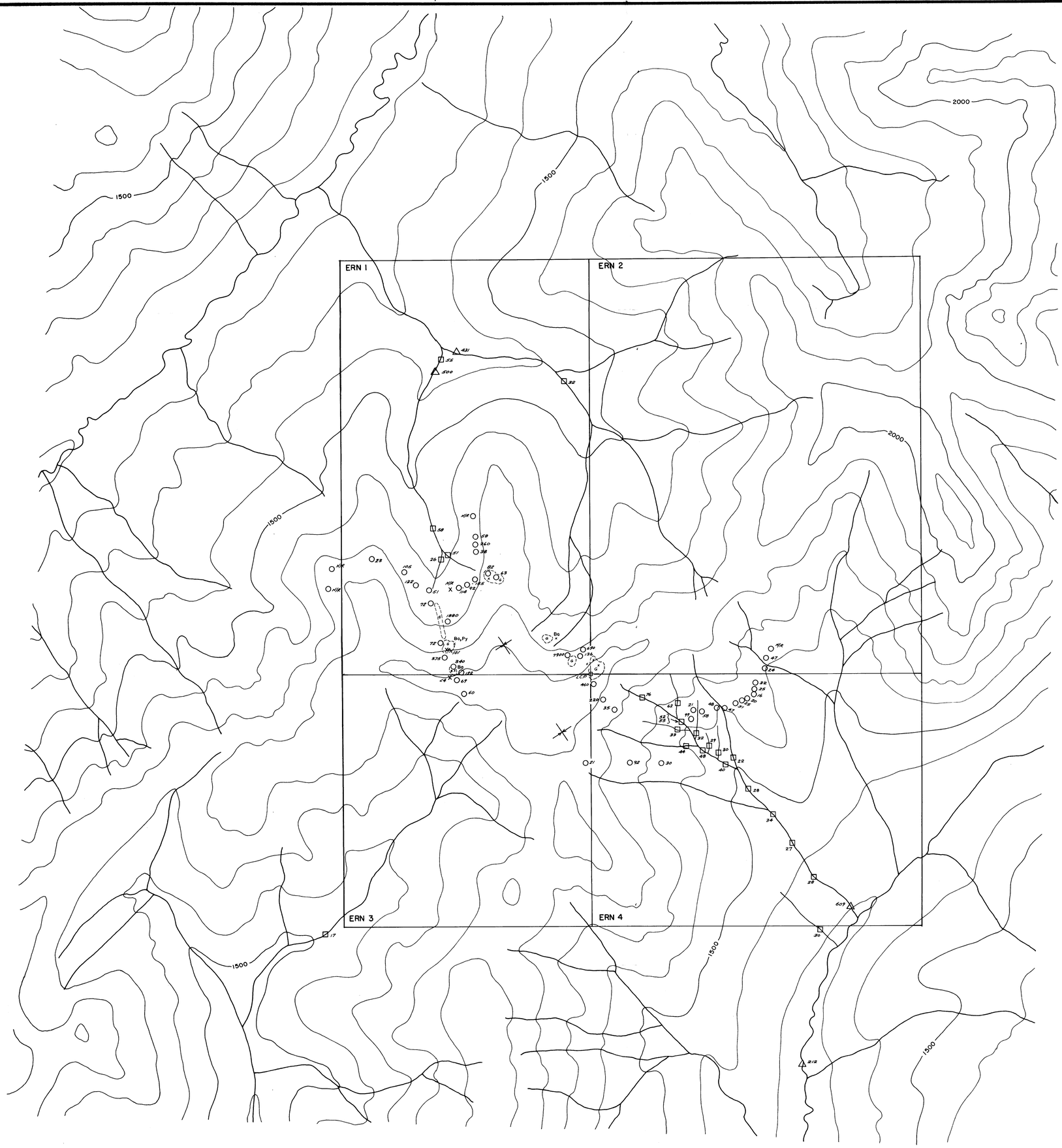
0 500 1000 m

CONTOUR INTERVAL - 100 meters

KAP

ERN PROPERTY		94 F/2
Drawn by:	Traced by:	GEOCHEMISTRY SAMPLE LOCATIONS
Revised by / Date	Revised by / Date	
Scale: 1:10,000	Date: NOVEMBER, 1980	Plate: 3

FORM 210 - 0680



LEGEND

- □ SILT SAMPLE
- ○ SOIL SAMPLE
- × ROCK SAMPLE
- △ HEAVY MINERAL SAMPLE
- N/R NO RESULT
- (G) Gossan
- × Talus
- Legal claim post

SCALE

0 100 200 300 ft

0 500 1000 m

CONTOUR INTERVAL – 100 meters

KRP

ERN PROPERTY

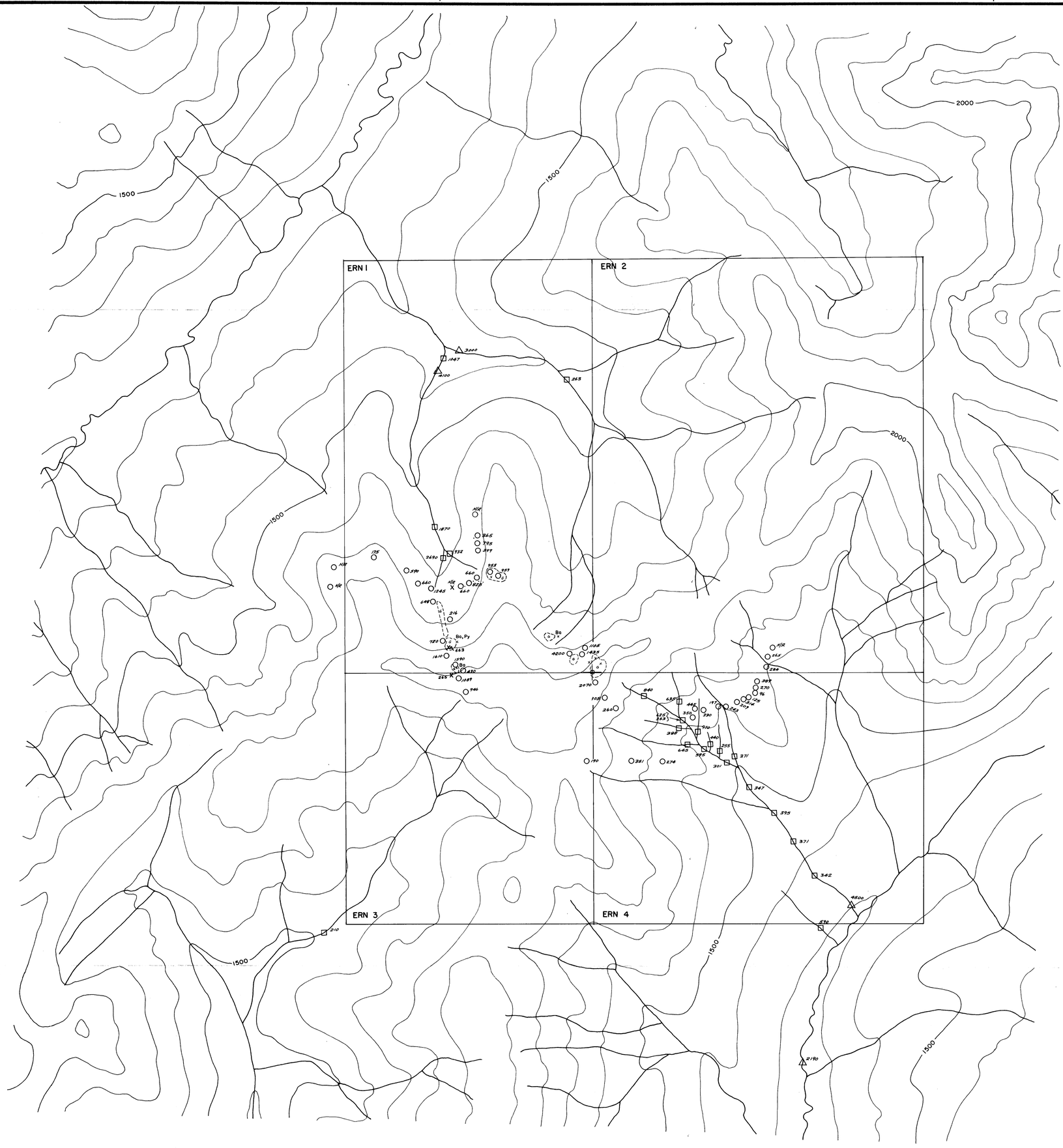
94 F/2

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

GEOCHEMISTRY
Pb (ppm)

Scale: 1:10,000 | Date: NOVEMBER, 1980 | Plate: 4

FORM 210 - 0880



LEGEND

- □ SILT SAMPLE
- ○ SOIL SAMPLE
- X ROCK SAMPLE
- △ HEAVY MINERAL SAMPLE
- n/s NO RESULT
- Gossan
- Talus
- Legal claim post

SCALE

0 100 200 300 ft

0 500 1000 m

CONTOUR INTERVAL – 100 meters

ERN PROPERTY

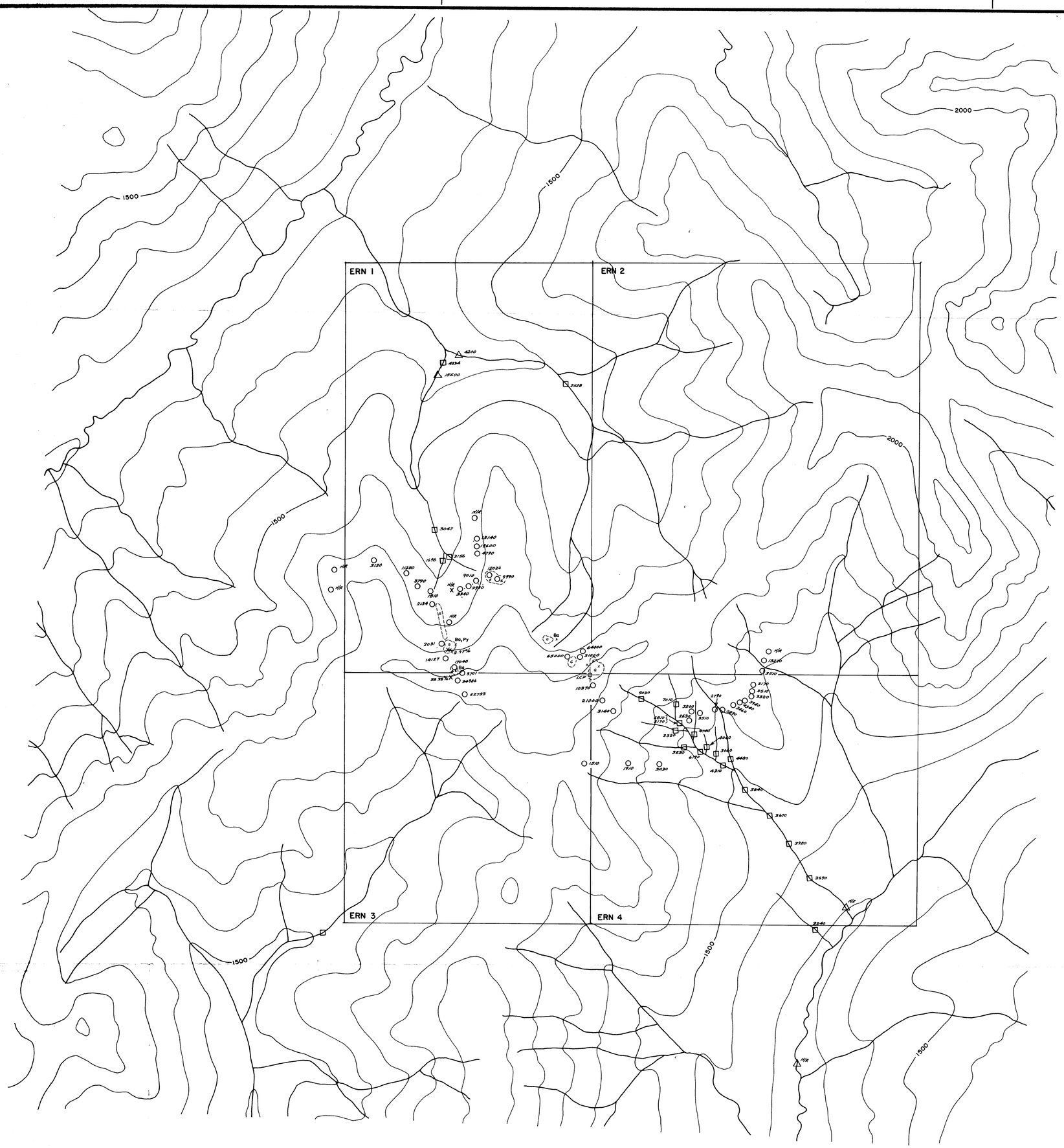
94 F/2

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

GEOCHEMISTRY
Zn (ppm)

Scale: 1:10,000 | Date: NOVEMBER, 1980 | Plate: 5

FORM 210 - 0680



N

LEGEND

- □ SILT SAMPLE
- ○ SOIL SAMPLE
- × ROCK SAMPLE
- △ HEAVY MINERAL SAMPLE
- n/a NO RESULT
- (G) Gossan
- × Talus
- ⊕ Legal claim post

SCALE

0 100 200 300 ft

0 500 1000 m

CONTOUR INTERVAL - 100 meters

Mi... ...ICH
A... ...F
9267

KRP

ERN PROPERTY

94 F/2

Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

GEOCHEMISTRY
Ba (ppm)

Scale: 1:10,000 | Date: NOVEMBER, 1980 | Plate: 6

FORM 210 - 0080