

GEOCHEMICAL REPORT ON THE COP 15 - 24 CLAIMS

PART OF THE WEST GROUP

IZMAN CREEK PROPERTY

92I/5E

LOCATED: 14 miles north of Lytton, B.C.
(49° 27' N, 121° 37' W)

KAMLOOPS, M. D. Cop, CB,

BY: G. A. Noel, P. Eng., Geologist Nip

EL PASO MINING AND MILLING COMPANY
OCTOBER 13 - NOVEMBER 13, 1972

4451

4451

GEOCHEMICAL REPORT

ON THE

COP NOS. 15 - 24 CLAIMS

I Z M A N C R E E K P R O P E R T Y

LOCATED: 14 miles north of
Lytton, B.C.
(49°27'N, 121°37'W)

KAMLOOPS MINING DIVISION, B.C.

BY

G. A. Noel (P. Eng.), Geologist

EL PASO MINING AND MILLING COMPANY

October 13 - November 13, 1972

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. **4451** MAP.....

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SUMMARY

A geochemical soil survey was conducted on the Cop 15 - 24 claims of the West Group, Izman Creek property, by El Paso Mining and Milling Company between October 13th and November 13, 1972. The Cop 15 - 24 claims are about 14 miles north of Lytton, B.C.

This area is underlain by the Mt. Lytton granodiorite batholith with included remnants of Cache Creek Group rocks. Chalcopyrite is irregularly dispersed through narrow quartz stringers which cut both intrusive and metamorphic rocks. The best copper mineralization occurs in skarn - altered limestone. Coincident copper and molybdenum soil anomalies were outlined over the Cop 19 - 24 claims which are largely underlain by diorite with scattered skarn remnants.



EL PASO MINING AND MILLING COMPANY
 DEL NORTE MINING GROUP

FIGURE 1
 LOCATION MAP
 IZMAN CREEK PROPERTY
 LYTTON AREA, B.C.

DRAWN BY	R.L.S.	DATE	REV. DATE	SCALE
TRACED BY		DATE		1 inch = 4 Miles
REVISED	DATE	REVISED	DATE	DRAWING NO.

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ASSESSMENT REPORT

NO. 4451 MAP # 1

INTRODUCTION

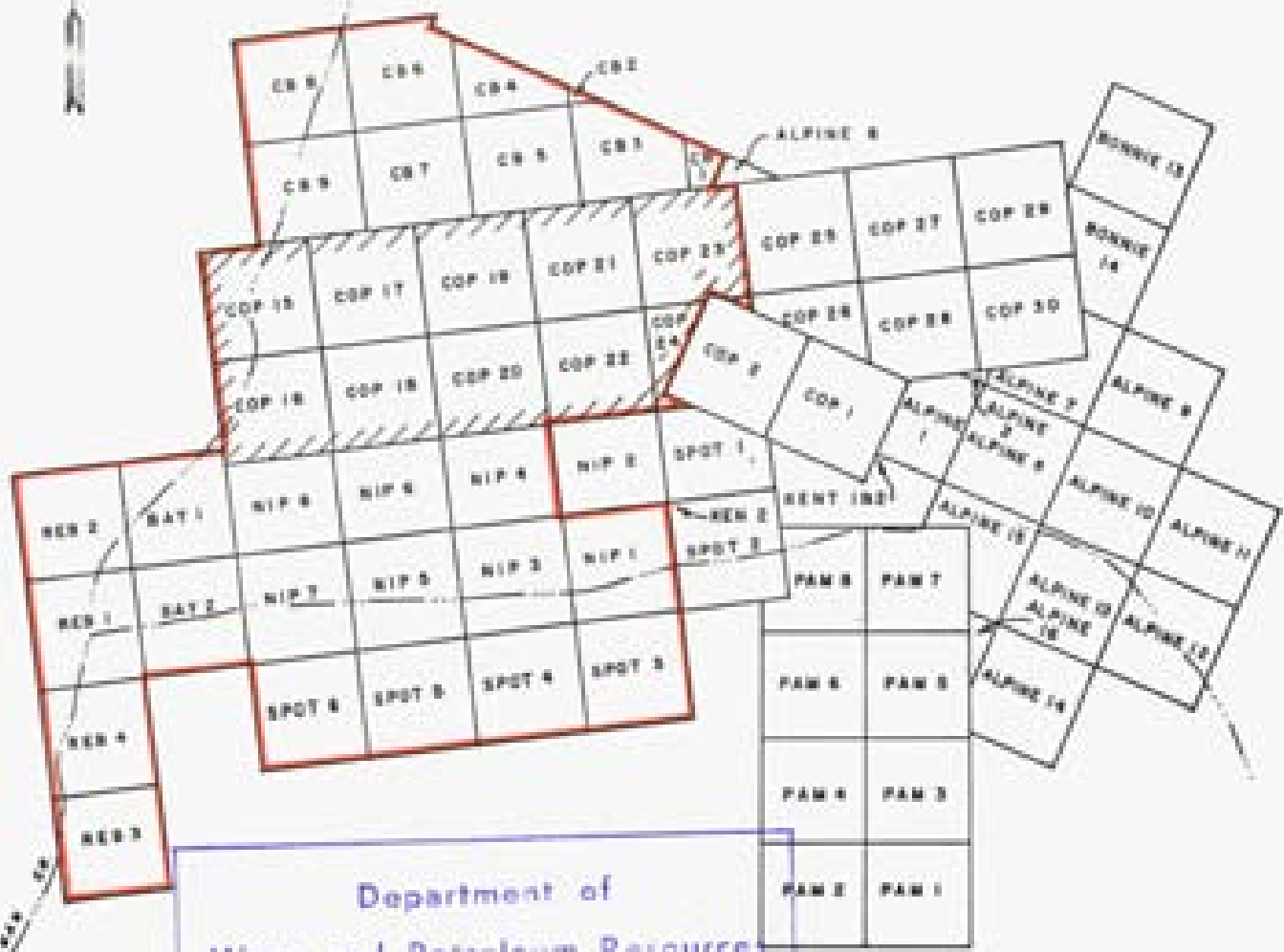
Between October 13 and November 13, 1972 a geochemical soil survey was completed on the Cop 15 - 24 claims of the Izman Creek copper property about 12 miles north of Lytton, B.C. This survey was done by a field crew of three men working for El Paso Mining and Milling Company, who held the ground under an option agreement dated August 1, 1972 with the owners, Santana International Resources Ltd., of Vancouver, B.C. The Cop 15 - 24 claims are part of the West Group which consists of 36 claims as follows: Reb 1 - 4; Bay 1 & 2; Nip 1 & 3 - 8; Cop 15 - 24; CB 1 - 9; and Spot 3 - 6 (SEE FIGURE 2).

The West Group covers the south and west slopes of a steep hillside with elevations ranging from 3000 to 5500 feet. Access to the property is via Highway 12 north of Lytton for 14 miles; then via the Izman Creek forest access road for three miles.

FIELDWORK

The geochemical soil survey on the Cop 15 - 24 claims was done by a three-man crew during the period October 13 to November 13, 1972. Several roads were surveyed by Brunton Compass and nylon rope chain to provide grid control. North-south grid lines were run at 400-foot spacings with sample stations marked at 200-foot intervals along the grid lines. The grid lines were of variable lengths due to the irregularity of the road locations. All grid lines were tied to the control survey along these roads.

The soil samples were taken by mattock from the "B" horizon wherever possible; however, samples could not be obtained at a number of stations due to deep talus

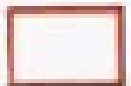


Department of
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ASSESSMENT REPORT
 NO. **4451** MAP **#2**

EL PASO MINING AND MILLING COMPANY
 DEL NORTE MINING GROUP

FIGURE 2
CLAIM MAP
IZMAN CREEK PROPERTY
LYTTON AREA, B.C.

LEGEND



WEST GROUP



COP Nos. 15-24 CLAIMS

DRAWN BY:	E.L.J.	DATE:	NOV. 1978	SCALE:	1" = 2040'
TRACED BY:		DATE:			
REVISED:		DATE:		REVISION:	
	E.L.J.	JAN. 1979			
	E.L.J.	JUNE 1979			

on the steep south and west slopes of the claims. Each sample was placed in a Kraft envelope which was marked with the sample number, sample location co-ordinates and sample description. A total of 86 samples were collected and analyzed for total copper, molybdenum and silver by Min-En Laboratories Ltd., 705 West 15th Ave., North Vancouver, B.C. These analyses, in parts per million, have been plotted at a scale of one inch to 200 feet and contoured to indicate areas of anomaly for each metal.

The analytical procedure followed by Min-En Laboratories was as follows:

1. The sample was dried and sieved.
2. A one-gram portion of the - 80 mesh fraction was allowed to react with 2ml. of concentrated nitric acid for one half hour.
3. 5 ml. of perchloric acid were added and the sample was digested for 5 hours at 250° F.
4. The sample was diluted to 25 ml. with distilled water and analysed by the atomic absorption method.

GEOLOGY

Diorite and granodiorite of the Mt. Lytton batholith of lower Cretaceous and Jurassic age intrude metasediments and metavolcanics of the Cache Creek Group of Permian or earlier age. In this area the Cache Creek Group includes limestone, andesite and chlorite and amphibolite schists. Bedding and schistosity in these rocks strike northwesterly and dip steeply. The Cache Creek rocks occur as shallow pendants in the largely granitic terrain, with the limestone altered to garnet - epidote skarn in places.

Quartz veins generally one-half inch to two inches wide, are abundant in all rocks but particularly in the skarn and most of these veins strike northwesterly. Chalcopyrite, with a little bornite, occurs as blebs in some of the quartz veins. Chalcopyrite is also weakly disseminated through the granodiorite in some places. In general, very little pyrite occurs with the copper sulphides. Magnetite, however, forms local concentrations particularly in skarn and amphibolite. It is not generally seen in the massive form.

GEOCHEMICAL RESULTS

The geochemical soil analyses from the Cop No. 15 - 24 claims have been combined with the soil analyses from the balance of the West Group and the East Group in determining arithmetic means and in plotting the frequency distribution curves. All of the analyses of the West Group have been plotted on the geochemical soil maps to obtain a more meaningful picture.

1. Copper

The arithmetic means of all the copper analyses is 161 ppm but from the frequency curve for copper (FIGURE 3) the background is about 50 ppm. The possibly anomalous range is taken as two to four times background or 100 to 200 ppm. "Probably anomalous" values range from four to eight times background or 200 to 400 ppm. "Definitely anomalous" values are those above 400 ppm. All of the copper analyses for the West Group are plotted on Map No:92-I-5 A16, which outlines a significant anomaly extending over the Cop 19 - 24 claims and open to the West; i.e. between 7,000E and 11,000E and between 12,000N and 13,500N.

2. Silver

The arithmetic mean of all silver values is 0.85 ppm and from the frequency curve for silver (FIGURE 4) the background value is about 0.80 ppm. The "possibly anomalous" range is taken as two to three times background or 1.6 to 2.4 ppm. "Probably anomalous" values range from three to four times background or 2.4 - 3.2 ppm silver and "definitely anomalous" values are taken as greater than 3.2 ppm.

All of the silver analyses for the West Group are plotted on Map No: 92-I5-A17 which shows a number of small weak anomalies underlying Cop Nos. 19, 20, 21, 22 and 24 claims. All of these anomalies are in the possibly anomalous range with values up to 2.3 ppm silver.

3. Molybdenum

The arithmetic mean of all molybdenum analyses is 4.5 ppm and the background value is 3.0 ppm from the frequency curve for molybdenum (FIGURE 5). The following anomalous ranges have been selected:

"Possibly anomalous" 6 - 9 ppm

"Probably anomalous" 9 - 12 ppm

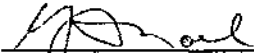
"Definitely anomalous" 7 - 12 ppm

All of the molybdenum analyses for the West Group are plotted on Map No: 92 I5-A18 which shows a large significantly anomalous area underlying Cop Nos. 19, 21, 22, 23 and 24 claims and open to the West. This molybdenum soil anomaly extends from 12,000N to 14,300N between 7,000E and 11,200E.

The copper and molybdenum soil anomalies on the Cop 15 - 24 claims are quite markedly coincident. This area is largely underlain by remnants of the Cache Creek rocks including extensive sections of skarn and diorite. Weak to fair copper mineralization occurs in the skarn in places.


CONCLUSIONS

The geochemical soil survey on the Cop 15 - 24 claims of the Izman Creek property outlined coincident copper and molybdenum anomalies over skarn-altered sections of the Cache Creek Group rocks. These anomalies are closely related to copper mineralization in the skarn and diorite in this area.


G. A. Noel

Vancouver, B.C.

June 28, 1973



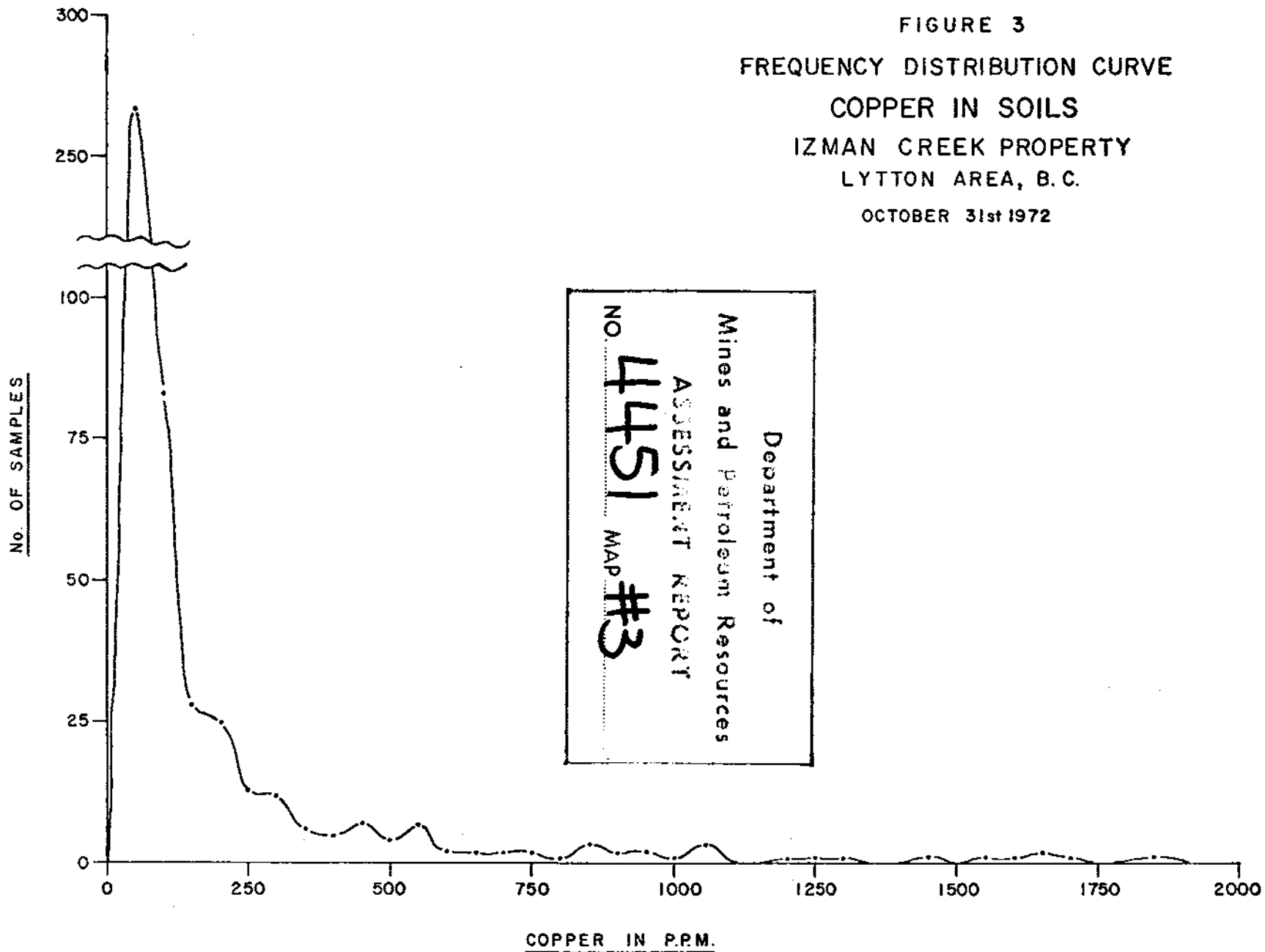


FIGURE 3
 FREQUENCY DISTRIBUTION CURVE
 COPPER IN SOILS
 IZMAN CREEK PROPERTY
 LYTTON AREA, B. C.
 OCTOBER 31st 1972

FIGURE 4
FREQUENCY DISTRIBUTION CURVE
SILVER IN SOILS
IZMAN CREEK PROPERTY
LYTTON AREA, B. C.

OCTOBER 31st 1972

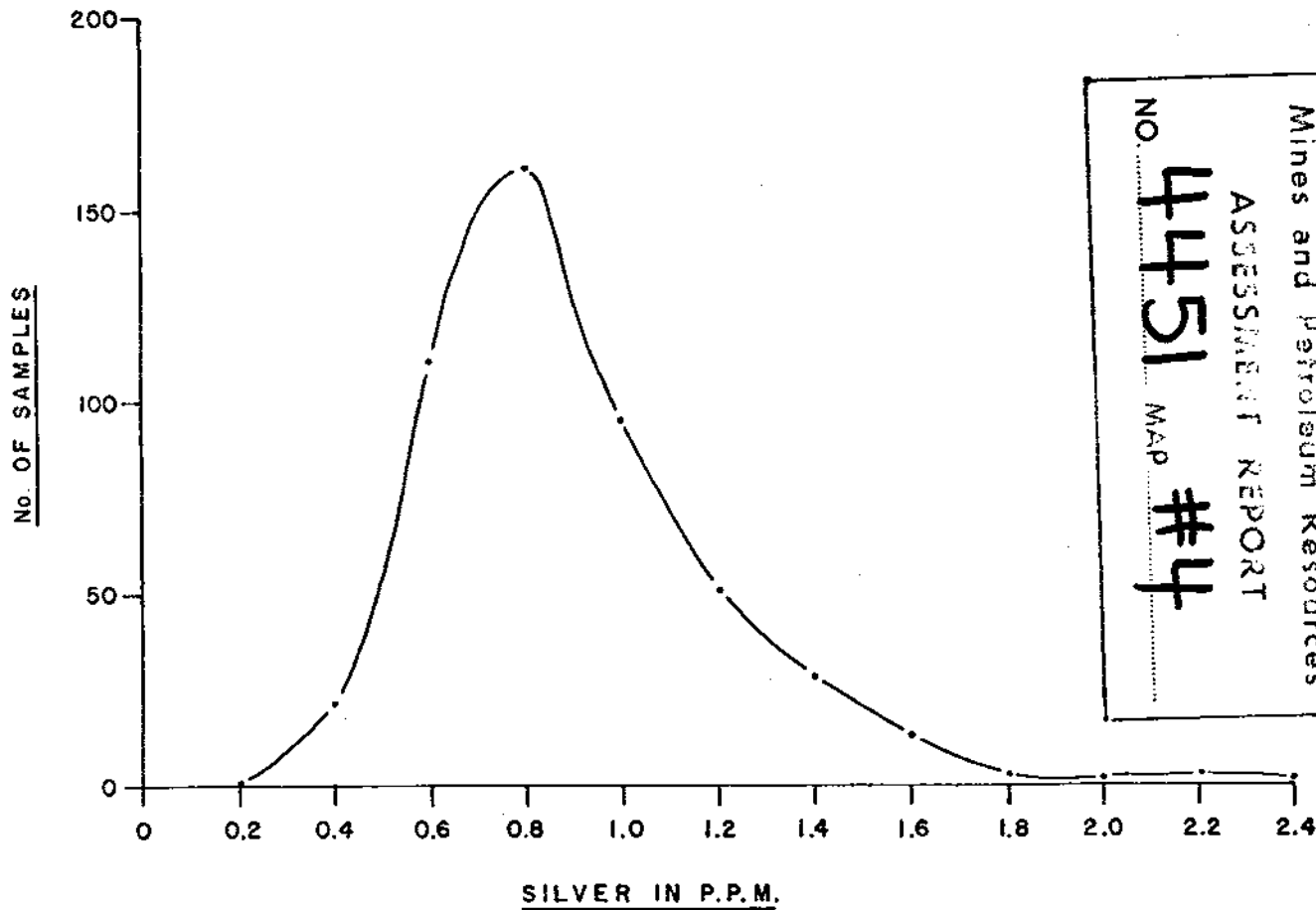
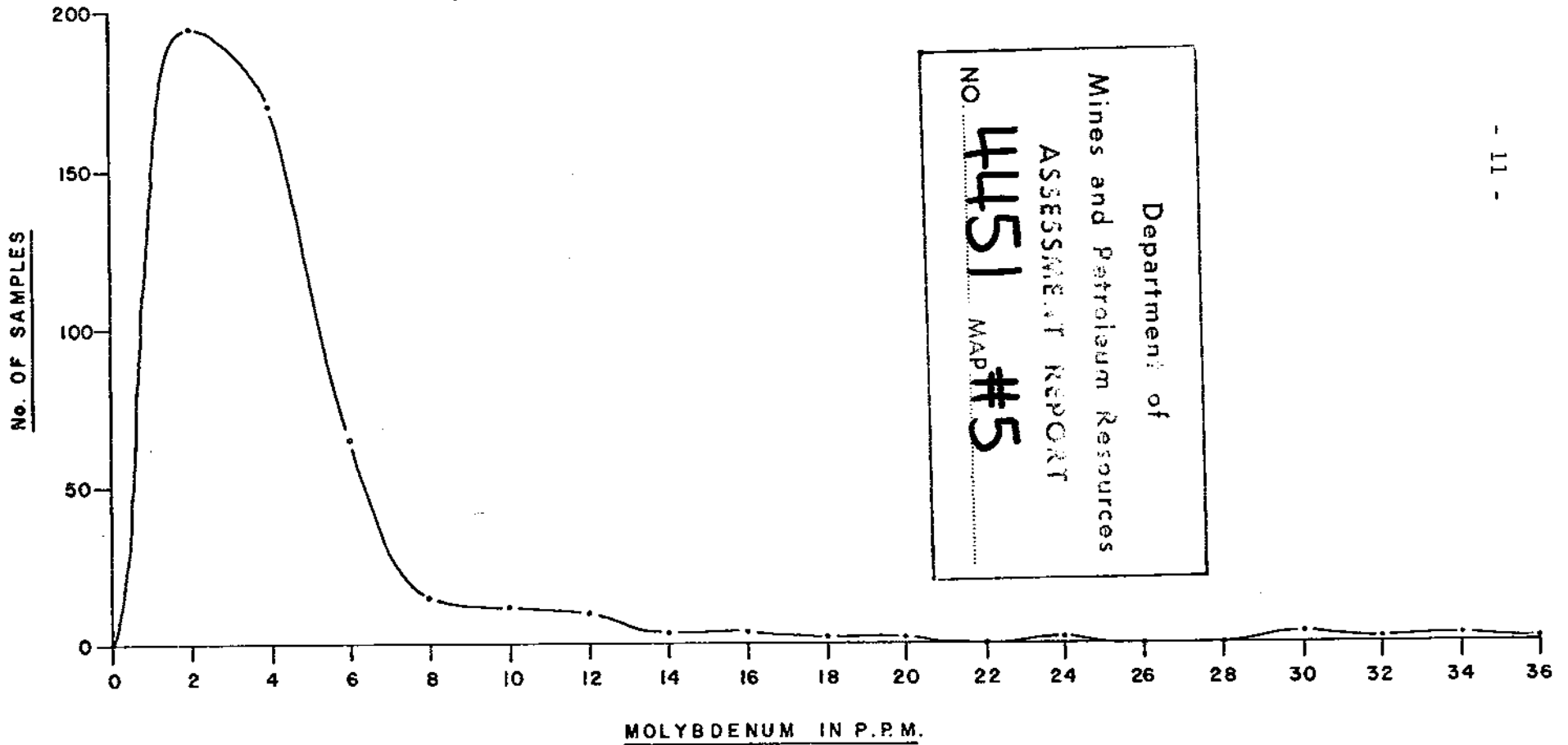


FIGURE 5
FREQUENCY DISTRIBUTION CURVE
MOLYBDENUM IN SOILS
IZMAN CREEK PROPERTY
LYTTON AREA, B. C.

OCTOBER 31st 1972



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NO. 4451 MAP #5

A P P E N D I X A

SOIL ASSAYS

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppm			
61	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155
230495	4	245					12								
96	7	440					20								
97	5	590					17								
98	16	480					22								
99	6	200					18								
500	4	90					15								
01	2	47					13								
02	6	290					17								
03	2	230					16								
04	2	80					14								
05	2	130					14								
06	3	48					11								
07	7	75					14								
08	5	120					12								
09	2	120					13								
10	7	65					16								
11	4	730					18								
12	3	150					14								
13	2	88					13								
14	13	1540					20								
15	24	1660					26								
16	9	700					16								
17	9	290					16								
18	5	130					17								
19	4	75					13								
20	4	90					13								
21	2	62					12								
22	8	65					13								
23	6	120					15								
230524	2	24					08								

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OCT 23 1972
El Paso Mining & Milling Co.

186 - Cu 26 Izman Creek Project

CERTIFIED BY *Lester O'Honnord*

COMPAN

El Paso

GEOCHEMICAL ANALYSIS DATA SHEET

FILE No.

137

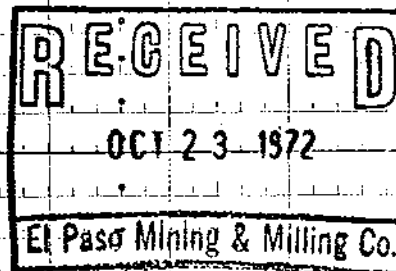
PROJECT No.:

186 Cu 26

MIN - EN Laboratories Ltd.

DATE: Oct 20,
1972

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppm			
6 81	10 86	15 90	20 95	25 100	30 105	35 110	40 115	45 120	50 125	55 130	60 135	65 140	70 145	75 150	80 155
230525	2	100					1.1					.			
26	3	4.65					1.9					.			
27	2	5.7					1.2					.			
28	2	5.5					1.3					.			
29	2	6.8					1.5					.			
30	4	12.4					1.5					.			
31	2	1.80					1.7					.			
32	3	9.3					1.5					.			
33	2	9.8					1.4					.			
34	2	5.7					1.1					.			
35	3	8.0					1.3					.			
36	5	15.0					1.4					.			
37	7	1.80					1.2					.			
38	4	1.80					1.6					.			
39	10	3.15					1.4					.			
40	9	1.90					2.0					.			
41	5	1.00					1.5					.			
42	6	1.10					1.4					.			
43	4	5.2					0.8					.			
44	26	3.25					1.6					.			
45	14	8.5					1.4					.			
46	9	1.85					1.5					.			
47	4	9.0					1.3					.			
48	2	6.8					1.6					.			
49	2	9.0					1.4					.			
50	2	9.5					1.4					.			
51	3	1.15					1.2					.			
52	9	1.30					1.5					.			
53	5	1.10					1.2					.			
230554	4	6.0					1.3					.			

CERTIFIED BY *John O'Honnors*

COMPAN

El Paso

GEOCHEMICAL ANALYSIS DATA SHEET

Spec No. 137

PROJECT No.: 186 Cu 26

MIN - EN Laboratories Ltd.

DATE: Oct 20, 1972.

6	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Sample.	Mo	Cu	Pb	Zn	Ni	Co	Ag	Fe	Hg	As	Mn	Au			
Number	pppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm			
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	160
230555	4	4.5					1.1								
56	2	1.50					1.2								
57	2	1.30					1.3								
230558	12	5.80					1.6								
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CERTIFIED BY *John C. Horn*

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El Paso

GEOCHEMICAL ANALYSIS DATA SHEET

FILE No.

147

PROJECT No.: 186 Cu 26

MIN - EN Laboratories Ltd.

DATE: Nov. 1, 1972.

Sample No.	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppm				
61	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
230559	4	30					15					.				
60	2	22					13					.				
61	4	24					13					.				
62	3	36					17					.				
63	2	21					14					.				
64	2	165		<i>NP. See field notes on page</i>				21				.				
65	3	60					21					.				
66	4	37					17					.				
67	4	114					22					.				
68	4	78					22					.				
69	3	110					24					.				
70	2	24					16					.				
71	3	51					22					.				
72	4	70					21					.				
73	4	39					22					.				
74	5	48					18					.				
75	3	38					17					.				
76	5	76					24					.				
77	4	54					16					.				
78	4	52					23					.				
79	3	40					19					.				
230580	3	41					20					.				
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186-Cu 26 Izmon Creek Project

CERTIFIED BY Gilbert V. Henderson

- 16 -

A P P E N D I X B

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

The fieldwork for this report was done under the supervision of G. A. Noel, whose qualifications are outlined below:

G. A. NOEL: P. Eng. (Geol. Eng.), Manager of Canadian Exploration for El Paso Mining and Milling Company, Vancouver, B.C.

Completed B.A. Sc. (Geology) at University of B.C. in 1950 and M.A. Sc. (Geology) at University of Toronto in 1951; employed by Kennco Explorations (Canada) Ltd. from May 1951 through March 1956 as a field geologist in B.C. and Yukon Territory under the supervision of J. S. Scott; employed by Utah Construction and Mining Co. from March 1956 through September 1969 in B. C. and Alaska mineral exploration as a project geologist, acting district geologist and senior project geologist under L. C. Clark, W. Bourret, H. G. Peacock and E. S. Rugg; employed by El Paso Mining and Milling Company in Vancouver, B.C. since October 1970.

A P P E N D I X C

S T A T E M E N T O F C O S T S

STATEMENT OF COSTS

1972 SOIL SURVEY

SALARIES

T. Samoil	7 days @ \$900/month	\$ 225.00
P. Brandley	7 days @ \$600/month	150.00
J. Ruza	7 days @ \$600/month	150.00

Analyses of soil samples for Cu, Mo, Ag -

86 samples @ \$2.00 = \$ 172.00

Room & Board - 21 man days @ \$15/man/day = 315.00

Vehicle Rental (1 week) = 82.00

Report Preparation 1000000

\$ 1,194.00

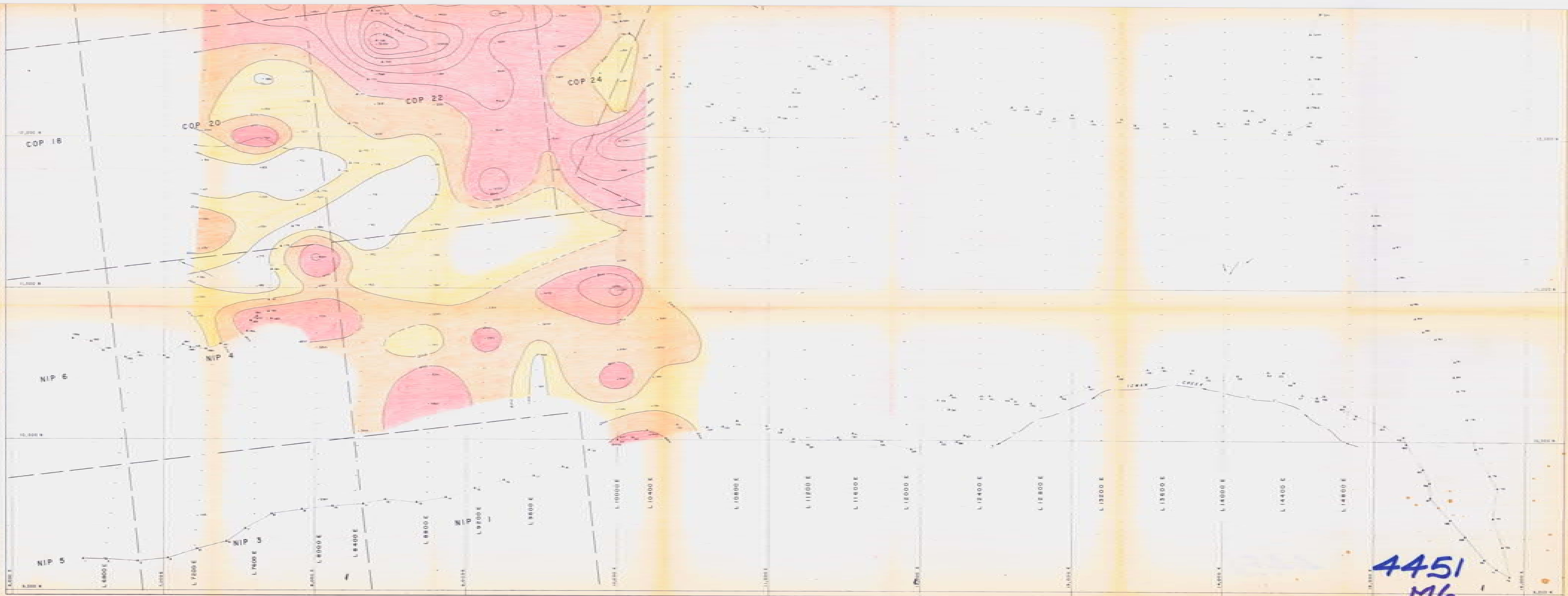
Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *6*
day of *July* 1973, A.D.

Gerald A. Noel

Jan Sines

A Commissioner for the Province of British Columbia or
A Notary Public in and for the Province of British Columbia,

Sub-mining Recorder



4451
M6

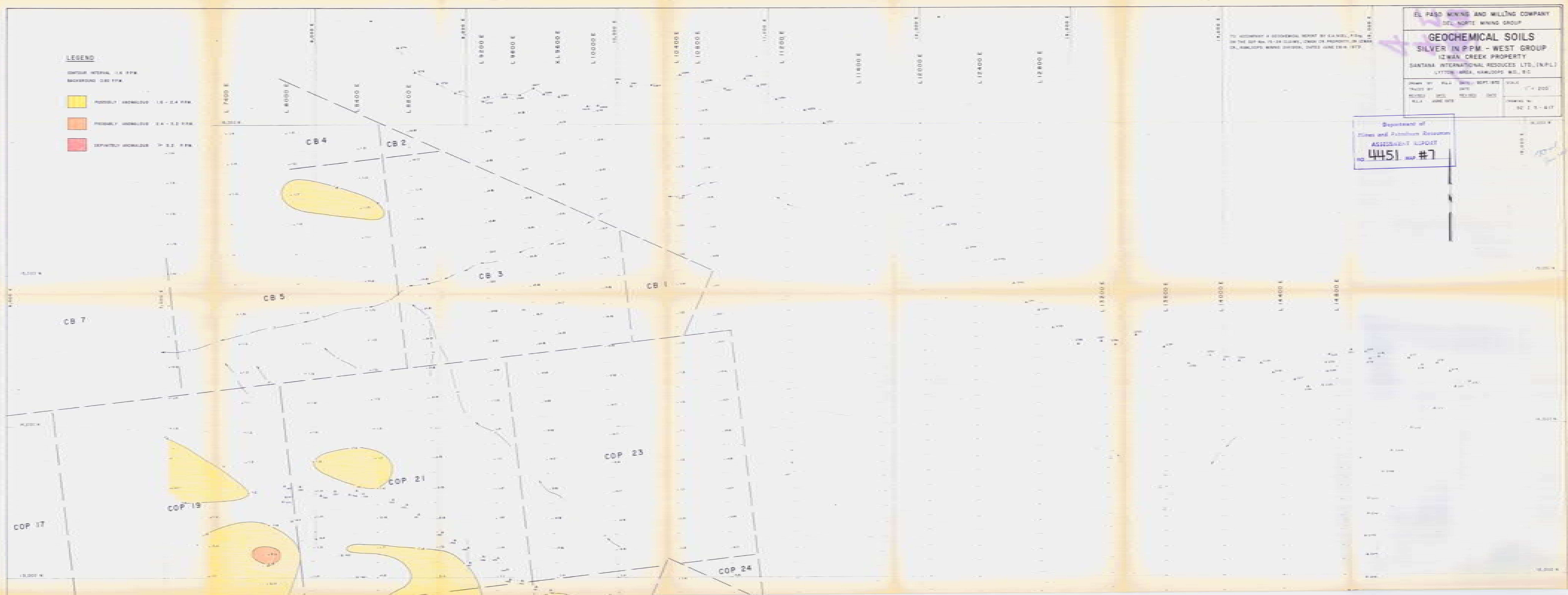


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LEGEND

CONTOUR INTERVAL 0.5 PPM
BACKGROUND 0.20 PPM

- POSSIBLY ANOMALOUS 1.0 - 2.4 PPM
- POSSIBLY ANOMALOUS 2.4 - 5.0 PPM
- DEFINITELY ANOMALOUS > 5.0 PPM



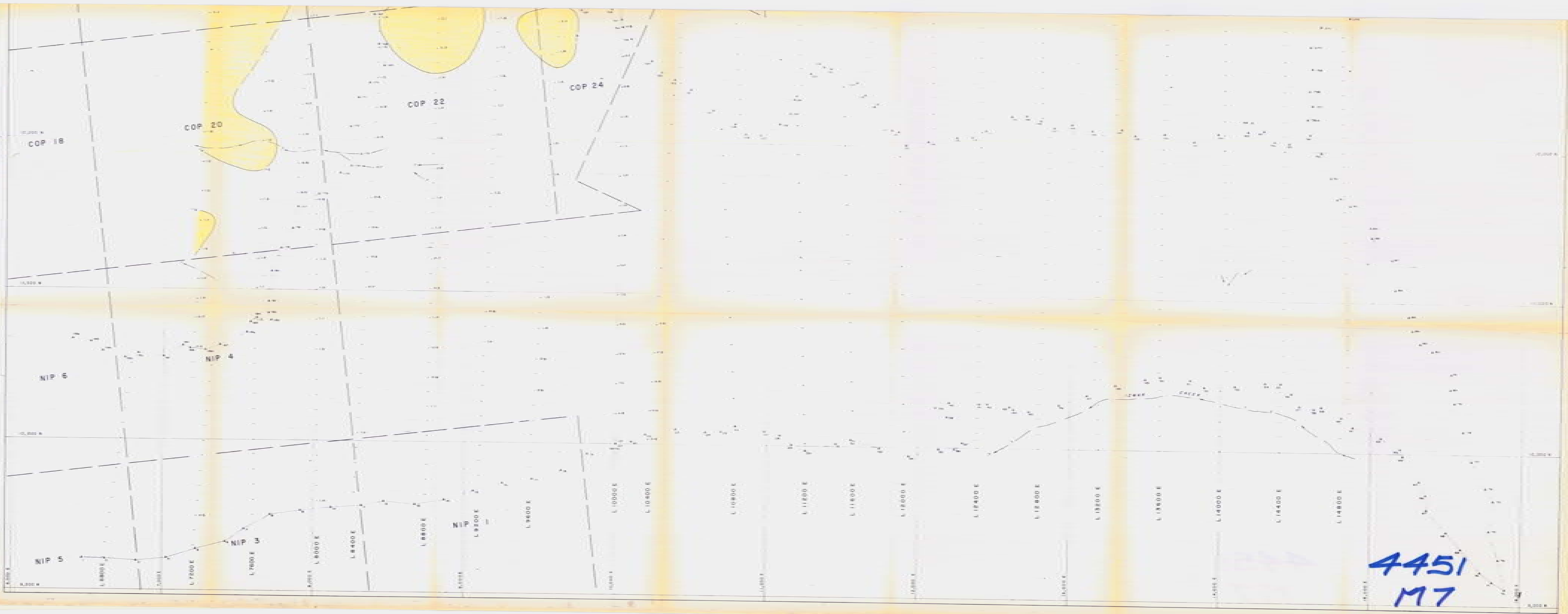
TO ACCOMPANY A GEOCHEMICAL REPORT BY G.A. HILL, F.S.M.
ON THE COP No. 19-24 CLAIM, UNDER OR PROPERTY OF LORAN
OR, HANCOCK MINING DIVISION, DATED JUNE 28TH, 1979.

EL PASO MINING AND MILLING COMPANY
DEL NORTE MINING GROUP

GEOCHEMICAL SOILS
SILVER IN P.P.M. - WEST GROUP
IZWAN CREEK PROPERTY
SANTANA INTERNATIONAL RESOURCES LTD. (IN.P.L.)
LYTTON AREA, HANCOCK M.D., B.C.

DRAWN BY: H.A. SMITH	DATE: SEPT. 1979	SCALE: 1" = 200'
TRACED BY: [blank]	DATE: [blank]	CHKD BY: [blank]
REVISED BY: [blank]	DATE: [blank]	CHKD BY: [blank]
H.A. SMITH	JUNE 1979	NO. 2-2-417

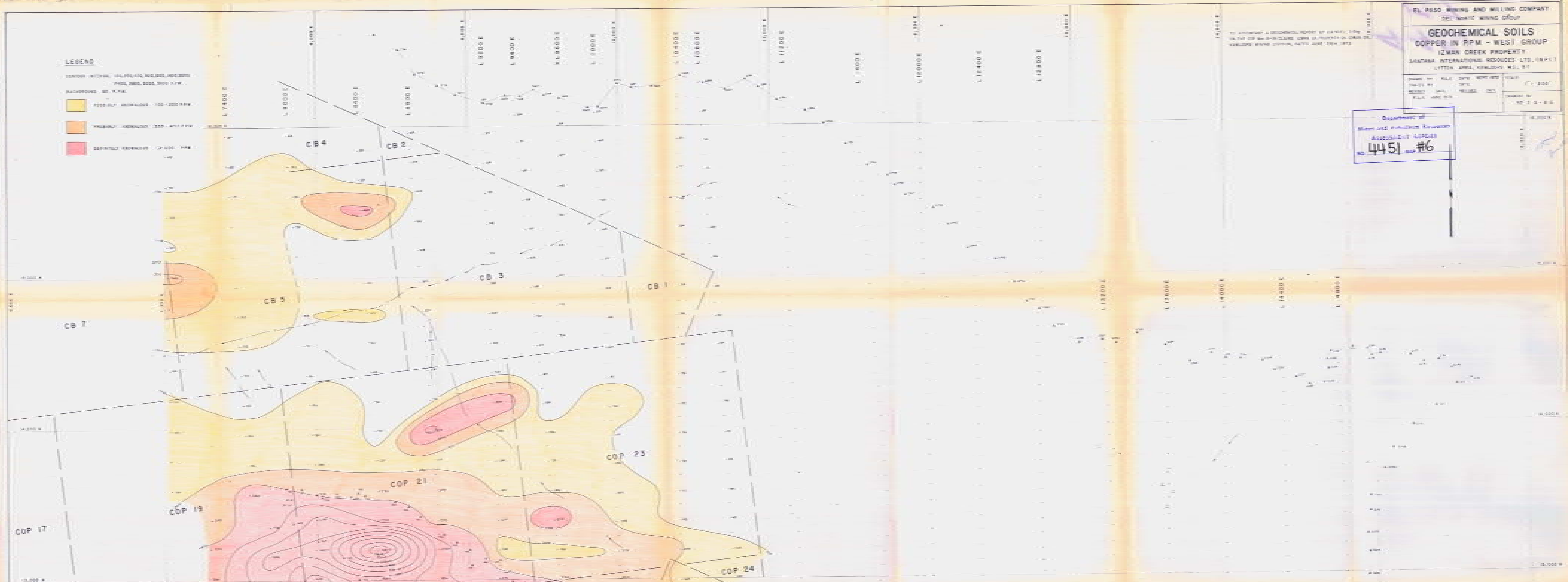
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4451 MAP #7



4451
M7

LEGEND

- CONTOUR INTERVAL 100, 200, 400, 800, 1600, 3200
BACKGROUND TO 1 PPM
- POSSIBLY ABNORMAL 100-200 PPM
 - PROBABLY ABNORMAL 200-400 PPM
 - DEFINITELY ABNORMAL >400 PPM



TO ACCOMPANY A GEOCHEMICAL REPORT BY DANIEL PINE
ON THE COP AND CH-CLAYE, IRON ORE PROPERTY OF CHAS. DE
HARRIS, WYOMING DIVISION, DATED JUNE 22ND 1973

EL PASO MINING AND MILLING COMPANY
DEL NORTE MINING GROUP

GEOCHEMICAL SOILS
COPPER IN RPM - WEST GROUP
IZMAN CREEK PROPERTY
SANTANA INTERNATIONAL RESOURCES LTD. (INCL.)
LITTON AREA, KANABOYS, W.D., S.C.

DRAWN BY	FILE	DATE	REPT. NO.	SCALE
MADE BY	FILE	DATE		1" = 200'
FILE	NO.	DATE		

NO. 2 3 - 4 6

Department of
Mining and Petroleum Resources
ASSESSMENT REPORT
NO. 4451 ser. #6

LEGEND

CONTOUR INTERVAL 5, 10, 15, 20 PPM
BACKGROUND 1 PPM

- POSSIBLY ANOMALOUS 5-9 PPM
- PROBABLY ANOMALOUS 10-12 PPM
- DEFINITELY ANOMALOUS > 12 PPM

EL PASO MINING AND MILLING COMPANY
DEL NORTE MINING GROUP

GEOCHEMICAL SOILS
MOLYBDENUM IN PPM - WEST GROUP

IZMAM CREEK PROPERTY
SANTANA INTERNATIONAL RESOURCES LTD. (IN.P.L.)
LYTTON AREA, KANABOPE M.D., B.C.

DRAWN BY: K.L.L.	DATE: SEPT. 1975	SCALE: 1" = 200'
TRACED BY: J.M.T.	DATE: SEPT. 1975	DRAWING NO. 4451-8
REVISED BY: J.M.T.	REVISED DATE: JUNE 1976	
K.L.L.	JUNE 1976	

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4451, SUP. #8

