

85-571-13891

ASSESSMENT REPORT OF THE  
1985 GEOLOGICAL AND GEOCHEMICAL EXPLORATION ACTIVITIES  
ON THE  
MOUNT MILLIGAN CLAIM GROUP  
(PHIL 15, 16, 17, 18, 27 CLAIMS)

Owned and Operated by BP RESOURCES CANADA LIMITED  
OMINECA MINING DIVISION  
NTS 93N/1

Located approximately 94 km north of  
Fort St. James, B.C.

Longitude: 124°04' West; Latitude: 55°09' North

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**13,891**

BPVR 85-7

R.E. Meyers  
C.M. Rebagliati  
S.J. Hoffman

August 1985

TABLE OF CONTENTS

	<u>Page No.</u>
SUMMARY	1
RECOMMENDATIONS	1
INTRODUCTION	
Location, Access and Terrain	2
Claim Status	2
History and Current Activities	3
Geology	3
GEOCHEMISTRY	
Collection and Analysis	6
Method of Data Evaluation	6
DESCRIPTION OF RESULTS	
1. East Grid Survey	8
a) Molybdenum	8
b) Copper	8
c) Lead	9
d) Zinc	9
e) Nickel	9
f) Manganese	9
g) Iron	9
h) Silver	10
i) Cobalt	10
j) Gold	10
k) Arsenic	10
l) Bismuth	10
m) Vanadium	10
n) Barium	10
o) Strontium	11
p) Aluminum	11
q) Calcium	11
r) Magnesium	11
s) Potassium	11
t) Titanium	12
u) Phosphorus	12
DISCUSSION OF RESULTS	12
CONCLUSIONS	12
RECOMMENDATIONS	12

DESCRIPTION OF RESULTS	
2. South Grid Survey	13
a) Molybdenum	13
b) Copper	13
c) Lead	13
d) Zinc	13
e) Nickel	13
f) Manganese	14
g) Iron	14
h) Silver	14
i) Cobalt	14
j) Gold	14
k) Arsenic	14
l) Antimony	15
m) Bismuth	15
n) Vanadium	15
o) Barium	15
p) Strontium	15
q) Aluminum	15
r) Calcium	16
s) Magnesium	16
t) Potassium	16
u) Titanium	16
v) Phosphorus	16
DISCUSSION OF RESULTS	17
CONCLUSIONS	18
RECOMMENDATIONS	18
DESCRIPTION OF RESULTS	
3. West Grid Survey	18
a) Molybdenum	18
b) Copper	18
c) Lead	19
d) Zinc	19
e) Nickel	19
f) Manganese	19
g) Iron	19
h) Silver	19
i) Cobalt	19
j) Gold	20
k) Arsenic	20
l) Vanadium	20
m) Barium	20

III

n) Strontium	20
o) Aluminum	20
p) Calcium	20
q) Magnesium	21
r) Potassium	21
s) Titanium	21
t) Phosphorus	21
u) Lanthanum	21
v) Chromium	21
DISCUSSION OF RESULTS	21
CONCLUSIONS	22
RECOMMENDATIONS	22

LIST OF APPENDICES

APPENDIX 1	Geochemical Preparation and Analytical Data	23
APPENDIX 2	List of Analytical Data	26
APPENDIX 3	Method of Histogram Interpretation	45
APPENDIX 4	Statement of Costs	48
APPENDIX 5	List of Qualifications	51

LIST OF FIGURES

		<u>Page No.</u>
FIGURE 1	Location of the Mount Milligan claim block.	Following Page 2
FIGURE 2	Grid location map showing sampling	2
FIGURE 3	Geology - Mount Milligan	3
FIGURE 4A	Histograms East Grid	6
FIGURE 4B	Histograms South Grid	6
FIGURE 4C	Histograms West Grid	6
FIGURE 5A	Sample location - East grid	In Pocket
FIGURE 5B	Sample location - South grid	"
FIGURE 5C	Sample location - West grid	"
FIGURE 6A	Soil Survey - East grid Molybdenum	Following Page 8
FIGURE 6B	Soil Survey - East grid Copper	8
FIGURE 6C	Soil Survey - East grid Lead	9
FIGURE 6D	Soil Survey - East grid Zinc	9
FIGURE 6E	Soil Survey - East grid Nickel	9
FIGURE 6F	Soil Survey - East grid Manganese	9
FIGURE 6G	Soil Survey - East grid Iron	9
FIGURE 6H	Soil Survey - East grid Silver	10
FIGURE 6I	Soil Survey - East grid Cobalt	10

FIGURE 6J	Soil Survey - East grid Gold	10
FIGURE 6K	Soil Survey - East grid Arsenic	10
FIGURE 6L	Soil Survey - East grid Bismuth	10
FIGURE 6M	Soil Survey - East grid Vanadium	10
FIGURE 6N	Soil Survey - East grid Barium	10
FIGURE 6O	Soil Survey - East grid Strontium	11
FIGURE 6P	Soil Survey - East grid Aluminum	11
FIGURE 6Q	Soil Survey - East grid Calcium	11
FIGURE 6R	Soil Survey - East grid Magnesium	11
FIGURE 6S	Soil Survey - East grid Potassium	11
FIGURE 6T	Soil Survey - East grid Titanium	12
FIGURE 6U	Soil Survey - East grid Phosphorus	12
FIGURE 7A	Soil Survey - South grid Molybdenum	13
FIGURE 7B	Soil Survey - South grid Copper	13
FIGURE 7C	Soil Survey - South grid Lead	13
FIGURE 7D	Soil Survey - South grid Zinc	13

FIGURE 7E	Soil Survey - South grid Nickel	13
FIGURE 7F	Soil Survey - South grid Manganese	14
FIGURE 7G	Soil Survey - South grid Iron	14
FIGURE 7H	Soil Survey - South grid Silver	14
FIGURE 7I	Soil Survey - South grid Cobalt	14
FIGURE 7J	Soil Survey - South grid Gold	14
FIGURE 7K	Soil Survey - South grid Arsenic	14
FIGURE 7L	Soil Survey - South grid Antimony	15
FIGURE 7M	Soil Survey - South grid Bismuth	15
FIGURE 7N	Soil Survey - South grid Vanadium	15
FIGURE 7O	Soil Survey - South grid Barium	15
FIGURE 7P	Soil Survey - South grid Strontium	15
FIGURE 7Q	Soil Survey - South grid Aluminum	15
FIGURE 7R	Soil Survey - South grid Calcium	16
FIGURE 7S	Soil Survey - South grid Magnesium	16
FIGURE 7T	Soil Survey - South grid Potassium	16

FIGURE 7U	Soil Survey - South grid Titanium	16
FIGURE 7V	Soil Survey - South grid Phosphorus	16
FIGURE 8A	Soil Survey - West grid Molybdenum	18
FIGURE 8B	Soil Survey - West grid Copper	18
FIGURE 8C	Soil Survey - West grid Lead	19
FIGURE 8D	Soil Survey - West grid Zinc	19
FIGURE 8E	Soil Survey - West grid Nickel	19
FIGURE 8F	Soil Survey - West grid Manganese	19
FIGURE 8G	Soil Survey - West grid Iron	19
FIGURE 8H	Soil Survey - West grid Silver	19
FIGURE 8I	Soil Survey - West grid Cobalt	19
FIGURE 8J	Soil Survey - West grid Gold	20
FIGURE 8K	Soil Survey - West grid Arsenic	20
FIGURE 8L	Soil Survey - West grid Vanadium	20
FIGURE 8M	Soil Survey - West grid Barium	20
FIGURE 8N	Soil Survey - West grid Strontium	20



FIGURE 8O	Soil Survey - West grid Aluminum	20
FIGURE 8P	Soil Survey - West grid Calcium	21
FIGURE 8Q	Soil Survey - West grid Magnesium	21
FIGURE 8R	Soil Survey - West grid Potassium	21
FIGURE 8S	Soil Survey - West grid Titanium	21
FIGURE 8T	Soil Survey - West grid Phosphorus	21
FIGURE 8U	Soil Survey - West grid Lanthanum	21
FIGURE 8V	Soil Survey - West grid Chromium	21

Summary

Three geochemical soil grids, labelled the West (29 samples), South (92 samples) and East (100 samples) grids, have been evaluated at a 100 X 200 m density for their precious metal potential. With the exception of spotty gold anomalies unsupported by base metal or pathfinder element features, the ground is geochemically uninteresting. Confirmation of anomalous gold data are needed before further groundwork is suggested.

Recommendations

- (1) Check anomalous gold values for validity by reanalysis.
  
- (2) Field check gold anomalies proving valid in (1) above. Resampling of anomalous sites and detailed mapping of geology is in order. Detailed soil sampling at a 50 m X 100 m density would compliment the geological follow up.

## Introduction

### Location, Access and Terrain

The Mount Milligan Claim Group is located on NTS map 93N/1 at 55°09'N latitude and 124°04'W longitude approximately 94 km south of Fort St. James, in the Omineca Mining Division (Figure 1).

Access to the claims is by helicopter from a 4 wheel drive access road which extends west from Rainbow Creek on the Philips North Line logging road. The Omineca Highway lies approximately 10 km west of the property.

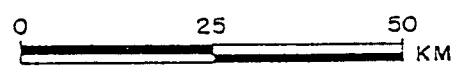
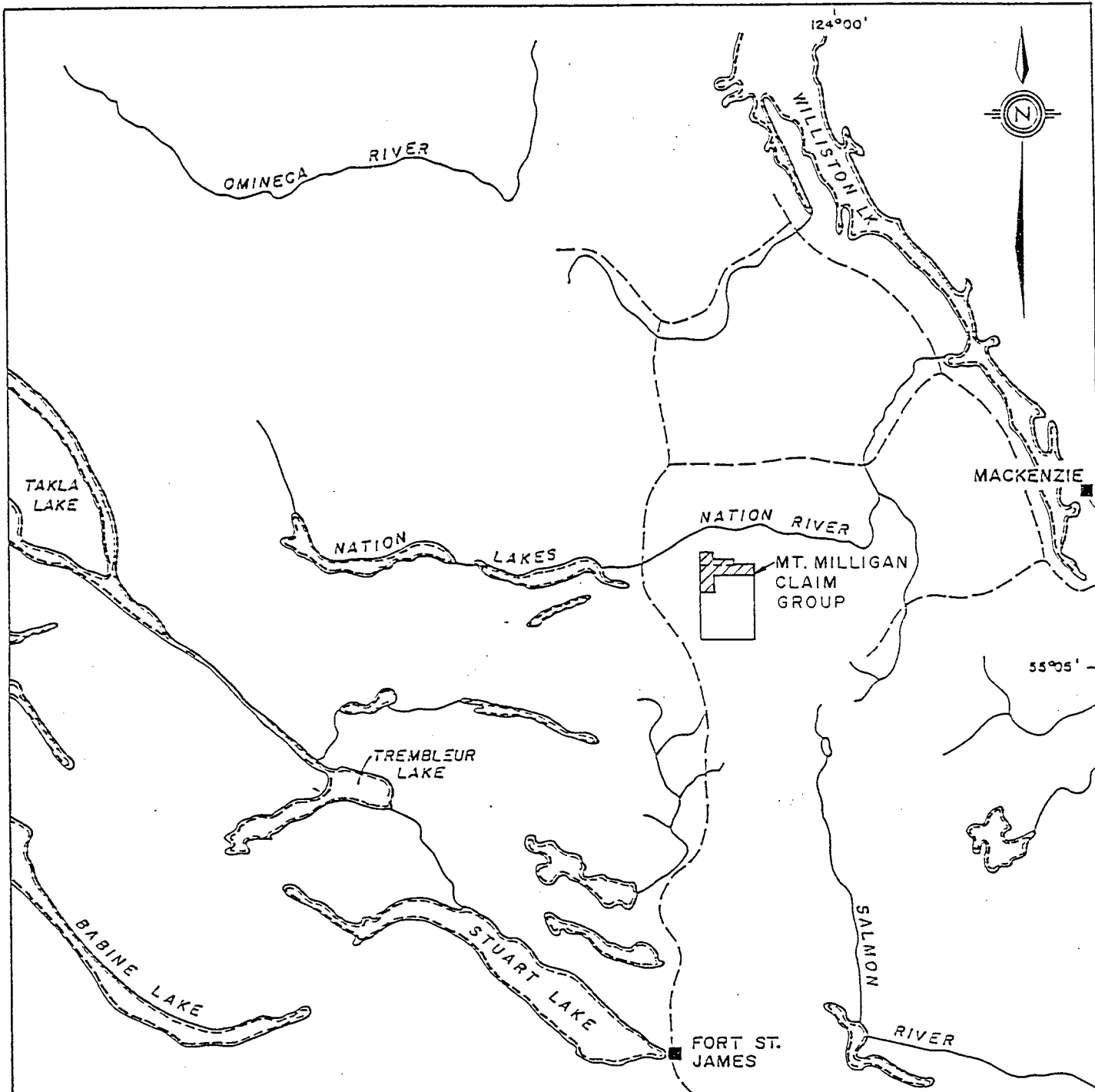
The claims enclose Mount Milligan and its northern and southern and eastern flanks which are densely forested with spruce, fir, alder and pine.


With the exception of hilltops and steep slopes, much of the area is blanketed by thick glacial outwash and northeasterly trending eskers.

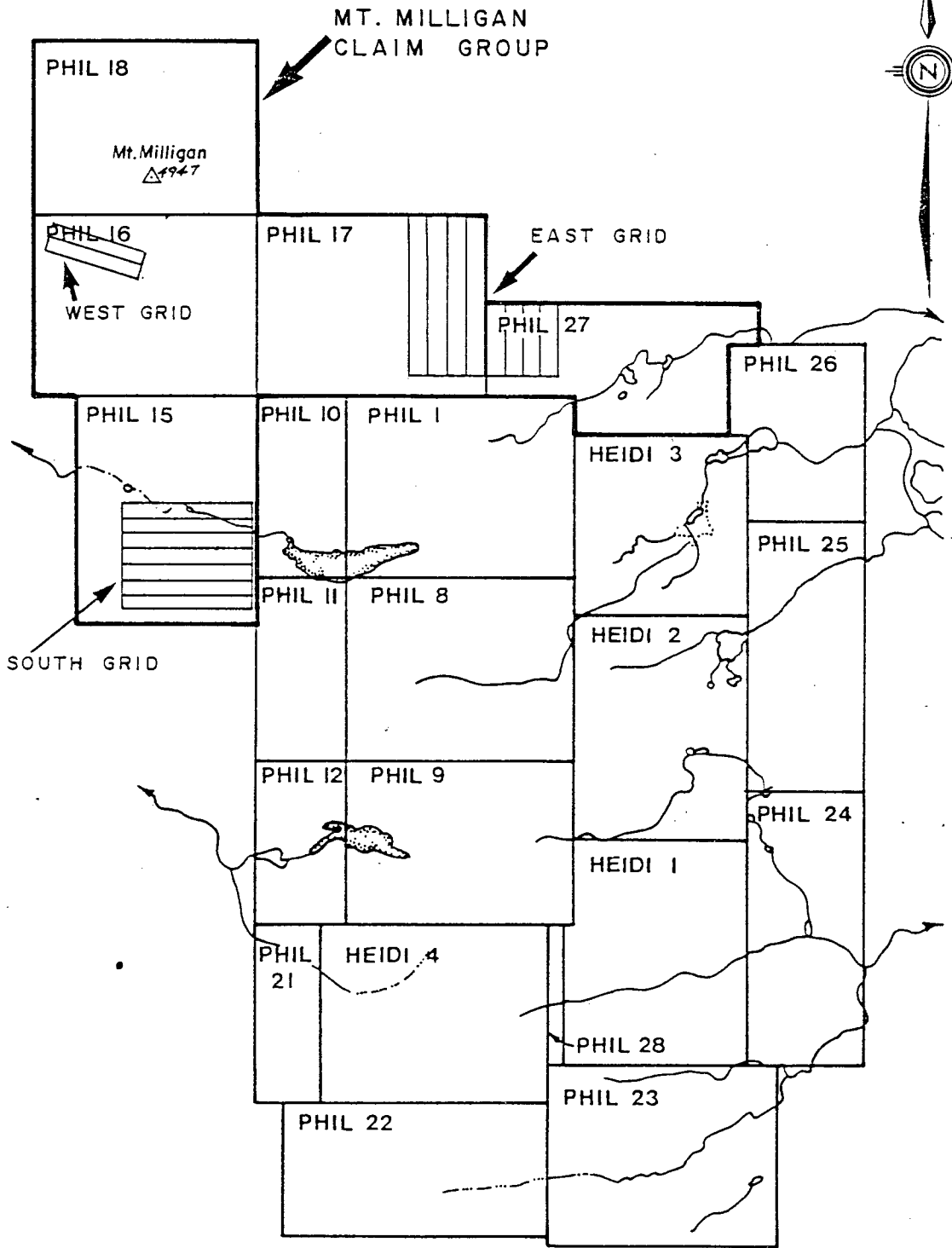
### Claim Status

The Mount Milligan claim group consists of PHIL 15, PHIL 16, PHIL 17, PHIL 18, and PHIL 27 claims totalling 98 units (Figure 2).

All are 100% owned by BP Resources Canada Limited.



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
PHIL 1 - HASLINGER OPTION LOCATION OF THE MT. MILLIGAN CLAIM GROUP		
SCALE 1,000,000	DRAWN BY: R. E. M.	FIG. 1
DATE AUG '85	DRAFTED BY: E. B. W.	
N.T.S. 93N/1,0/4   PROJ. 10131   REPORT BPVR 95-7		



MT. MILLIGAN CLAIM GROUP

PHIL 18

Mt. Milligan  
△ 1947

PHIL 16

WEST GRID

PHIL 17

EAST GRID

PHIL 27

PHIL 26

PHIL 15

PHIL 10

PHIL 1

HEIDI 3

PHIL 25

PHIL 11

PHIL 8

HEIDI 2

SOUTH GRID

PHIL 12

PHIL 9

PHIL 24

HEIDI 1

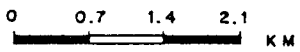
PHIL 21

HEIDI 4

PHIL 28

PHIL 23

PHIL 22



SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN CLAIM GROUP  
GRID LOCATION MAP  
1985 SOIL SAMPLING

SCALE 1 : 70,000	DRAWN BY: R. E. M.	FIG. 2
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 94 N / 1	PROJ. 10131	REPORT BPVR 85 - 7

<u>Claim</u>	<u>Record No.</u>	<u>No. of Units</u>	<u>Recording Date</u>
PHIL 15	6472	20	20/07/84
PHIL 16	6473	20	20/07/84
PHIL 17	6474	20	20/07/84
PHIL 18	6475	20	20/07/84
PHIL 27	6650	18	10/09/84
		---	
TOTAL		98 Units	

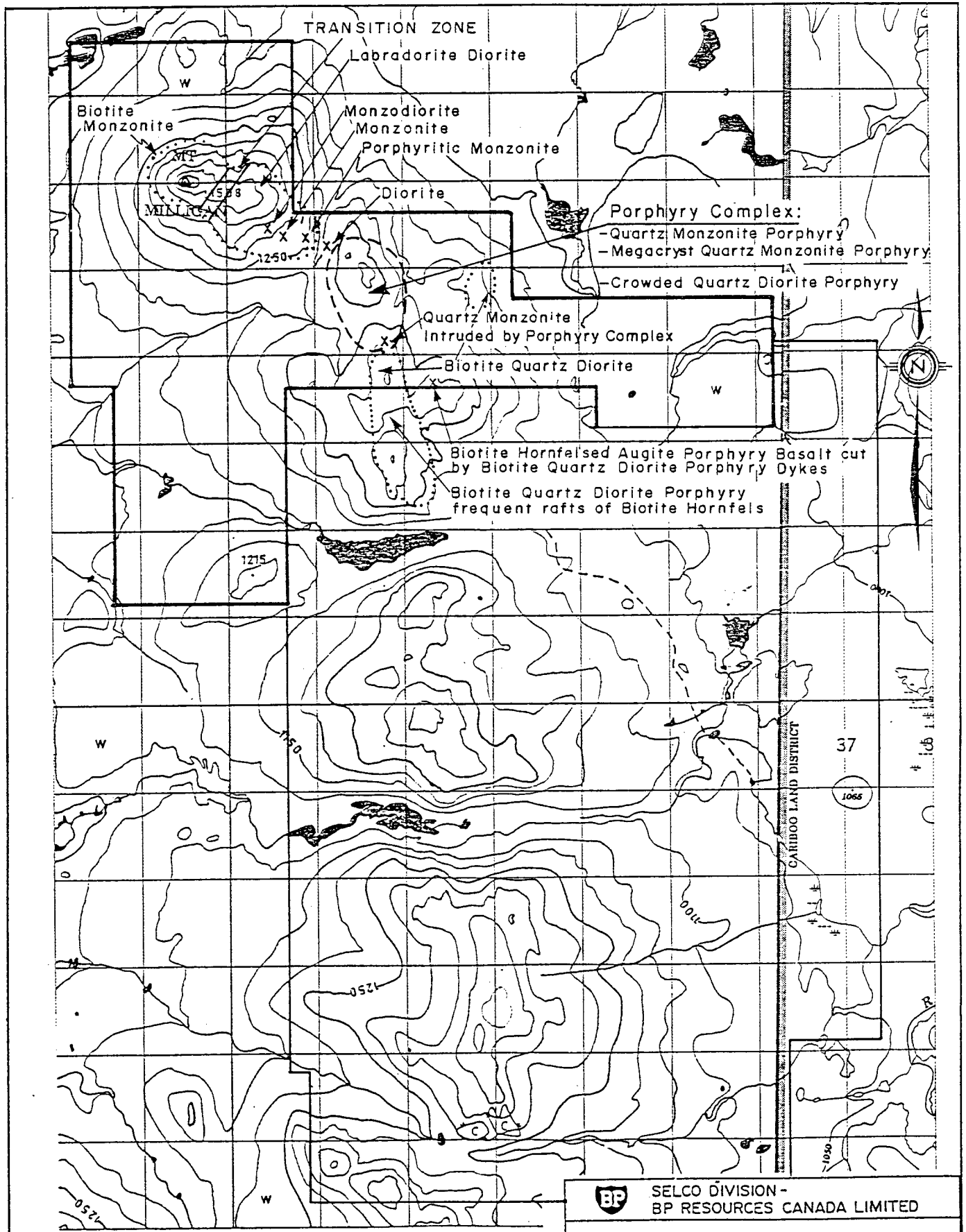
The claim group is contiguous with the PHIL 1 and A claim groups which lie to the south.

#### History and Current Activities

The claims were staked during BP's 1984 exploration program on the PHIL 1, A and B claim groups. The 1985 program on the Mount Milligan claims consisted of a limited geological and geochemical appraisal. Work included reconnaissance geological mapping over the northern end central areas and soil sampling in the east-central and southern areas.

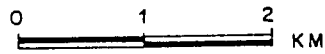
#### Geology (Figure 3)

A sequence of Upper Triassic Takla Group augite porphyry flows



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**GEOLOGY MT. MILLIGAN  
PHIL 15-18 & 27 CLAIMS**



SCALE 1: 60,000	DRAWN BY:	FIG. 3
DATE JULY 1985	DRAFTED BY: E. B. W.	
N.T.S. 93N/1E	PROJ. 10131	

and breccias are intruded by a north-northwest trending multiphased pluton. The 5 km long intrusive body can be divided into three main segments according to texture and composition.

A porphyry complex forms the central segment which is subdivided into three porphyritic phases displaying complex boundary relationships. The coarsest-grained and possibly the youngest phase is an orthoclase megacrystic quartz monzonite porphyry. Orthoclase phenocrysts ranging from 2 cm to 10 cm in length are accompanied by 2-5 mm plagioclase phenocrysts in an orthoclase and quartz groundmass. The megacrysts occur in highly variable concentrations ranging from 1% to 70% by volume. A quartz monzonite porphyry, comprised of 40%, 5 to 10 mm, blocky orthoclase phenocrysts with white cores, may be a finer-grained phase of the foregoing porphyry. It differs by not having plagioclase phenocrysts in the plagioclase-orthoclase-quartz groundmass. The third porphyritic phase is a crowded quartz diorite porphyry containing 75%, 4 to 8 mm, long plagioclase phenocrysts with minor quartz and orthoclase in a mafic groundmass. The southern margin of the central porphyry complex is formed by dykes of the two quartz monzonite porphyries.

To the south of the porphyry complex a south-trending ridge is comprised of quartz diorite and quartz diorite porphyry both of



which are melanocratic and biotite-rich. The biotitic quartz diorite porphyry contains a number of xenoliths and large rafts of biotite hornfels. To the east of this unit, at Identification Post 3 east, on the PHIL 17 claim, an intensely biotite hornfelsed augite porphyry flow is intruded by dykes of quartz diorite porphyry.

North of the porphyry complex are alternating bodies of diorite and monzonite. At the summit of Mount Milligan the biotite monzonite has a planer alignment of orthoclase grains. At the radio repeater tower, southeast of the summit, there is a 200 metre wide sheeted transition zone separating the Mount Milligan biotite monzonite from a labradorite diorite to the south. This zone is comprised of 2 cm to 30 cm alternating layers of Mount Milligan biotite monzonite and diorite. The layers strike  $038^{\circ}$ , dip  $62^{\circ}$  NW and individual layers have continuity for lengths of up to 40 metres.

In general, excluding the porphyry complex, the intrusive rocks become progressively more melanocratic from north to south. Pegmatite dykes up to 50 cm thick are common in the monzonite and diorite on Mount Milligan and in the central porphyry complex, but were not observed elsewhere. Only rare traces of pyrite are present.

## Geochemistry

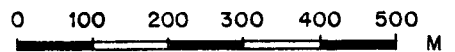
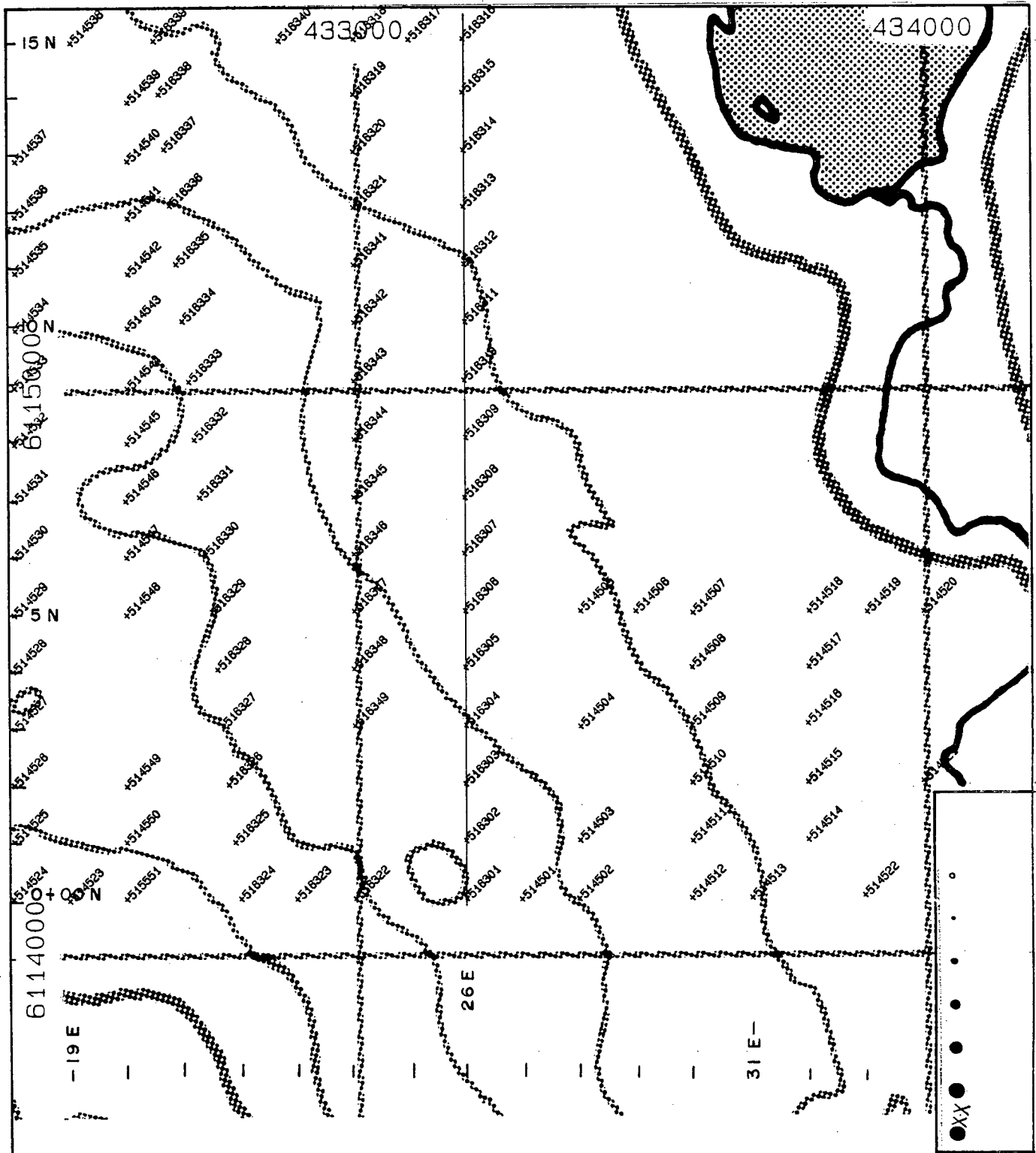
### Collection and Analysis


A total of 192 soil samples were collected from 2 separate areas in the east-central (East grid) and southwestern (South grid) parts of the claim group. A third grid (West grid) comprising some 29 soil samples was sampled in 1984. Survey results are included for completeness in reporting, but this work is not claimed for assessment purposes. All samples were shipped by bus to Acme Analytical Labs in Vancouver for gold geochemical analysis and for multielement ICP analysis (Appendix 1).

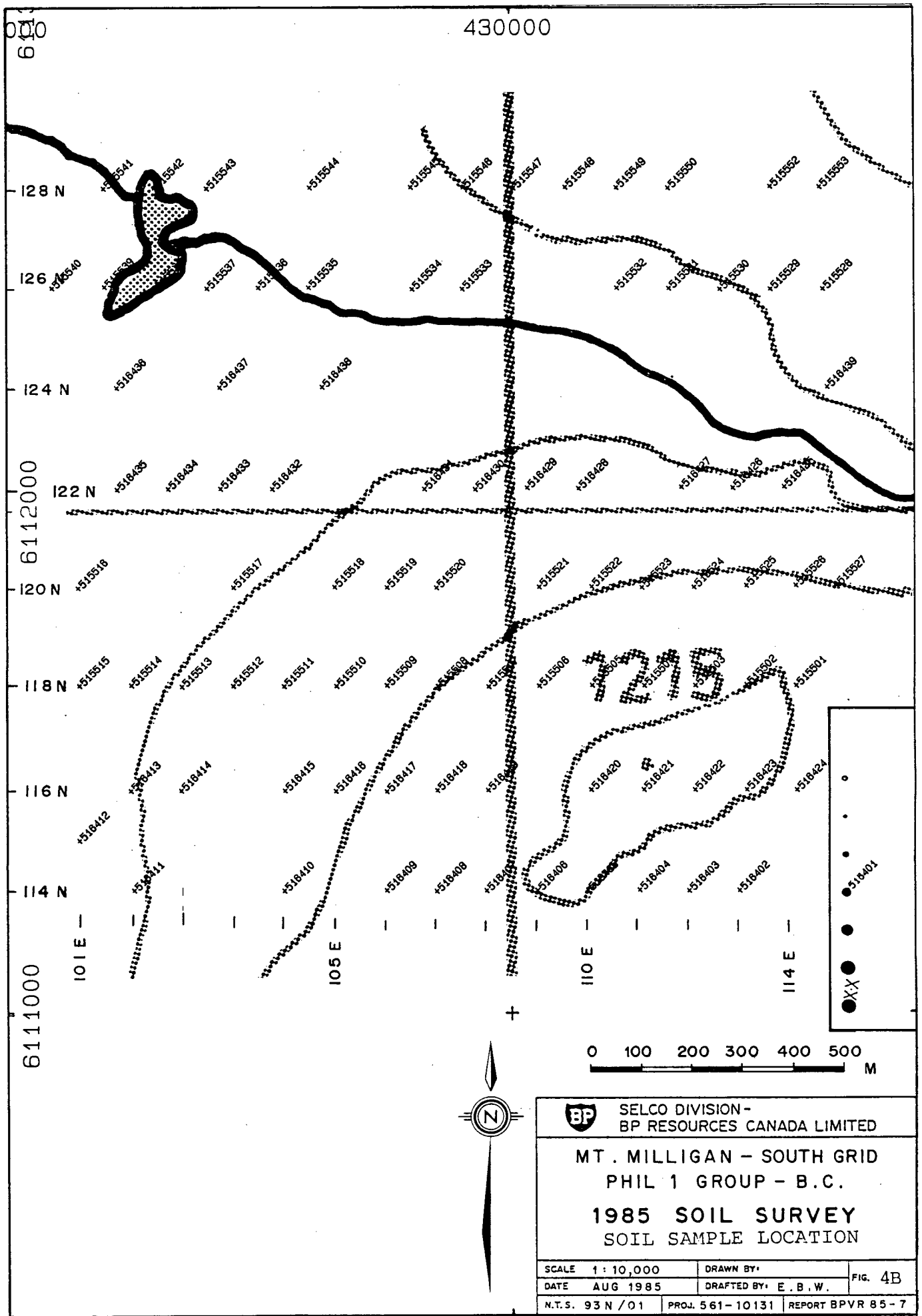
Soil samples were collected at 100 metre intervals along lines 200 metres apart (Figures 4A, 4B and 4C). The B soils horizon was sampled at depths of 20 to 30 cm and samplers attempted to avoid organic-rich material. Samples were placed in 10 cm X 23 cm Kraft paper envelopes and allowed to air dry at ambient temperatures. A numbered pink flagging tape was left to mark each sample location.

### Method of Data Evaluation

Appendix 2 lists field technical data and analytical results in three parts, appropriately numbered in the upper right hand corner of each page. Histograms were drawn to summarize the



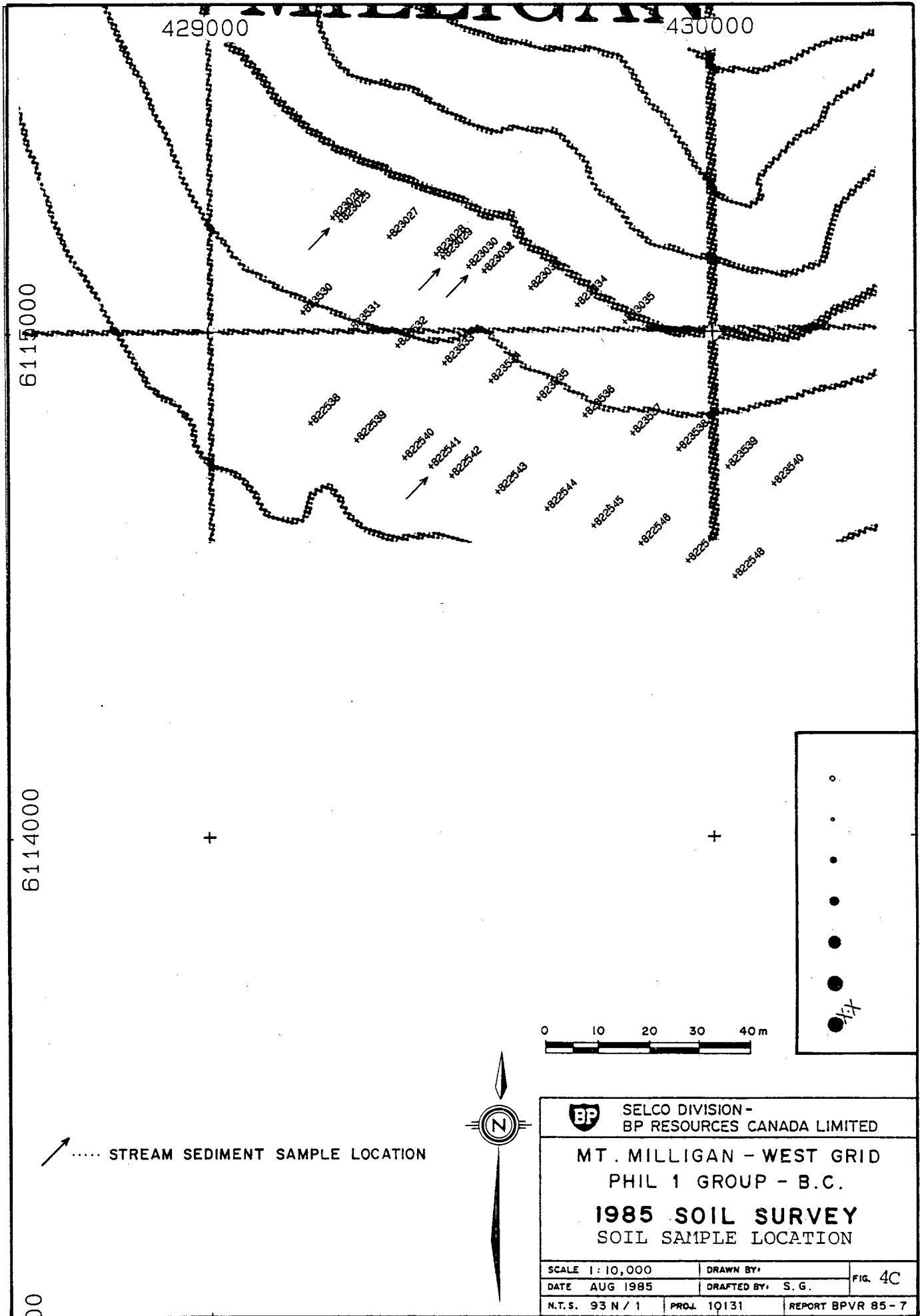
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> SOIL SAMPLE LOCATION		
SCALE 1: 10,000	DRAWN BY:	FIG. 4A
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT, BPVR 85 - 7



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MT. MILLIGAN - SOUTH GRID  
PHIL 1 GROUP - B.C.  
1985 SOIL SURVEY  
SOIL SAMPLE LOCATION

SCALE 1 : 10,000	DRAWN BY:	FIG. 4B
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7



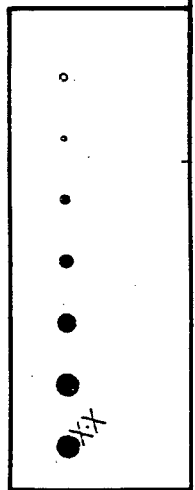
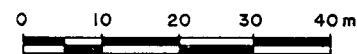
6114000


6115000

429000

430000

..... STREAM SEDIMENT SAMPLE LOCATION



 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C.</b>		
<b>1985 SOIL SURVEY SOIL SAMPLE LOCATION</b>		
SCALE 1 : 10,000	DRAWN BY:	FIG. 4C
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 1Q131	REPORT BPVR 85 - 7

distribution of metal values in soil samples on each grid (Figure 5A, B and C). Selection of arithmetic or logarithmic scales is determined by reference to the detection limit for an element and a number 25X that detection limit. If the maximum value is less than 25X that detection limit, the histogram is calculated by incrementing the detection limit value arithmetically up to 25X the detection limit. If the maximum value exceeds 25X the limit, both arithmetic and logarithmic scales have been plotted, scale increments being a constant factor of the detection limit or the standard deviation interval.

In view of the abnormally great influence exceptionally high values have on the construction of a histogram, data sets have been truncated (T on Figure 5A, B and C) where this is prudent (i.e., where the maximum values is  $>25X$  the detection limit and truncation does not leave the remaining maximum values  $<25X$  the detection limit). Truncated data have been replotted in arithmetic or logarithmic format; all values greater than the mean plus 1.9 standard deviation interval truncation limit being plotted in the greatest concentration class interval.

Histograms are interpreted subjectively to arrive at size coding intervals for the dots shown on Figure 6, 7 and 8. The largest dots represent the most anomalous conditions; numbers printed

next to the largest dots represent the maximum values of the survey. The second largest dots represent weakly anomalous values. Dot selection otherwise attempts to divide the data into recognizable populations. Each population is subdivided by dot size selection to highlight the upper approximate 5 and 10 percentiles of that population. Anomalous conditions do not necessarily have to be indicated by the very largest dots, but can also be defined relative to the majority of surrounding lower values. The largest dots are considered anomalous under all conditions, save their random distribution throughout the survey area. The method of histogram interpretation is reported in Appendix 3.

### Description of Results

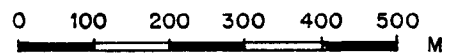
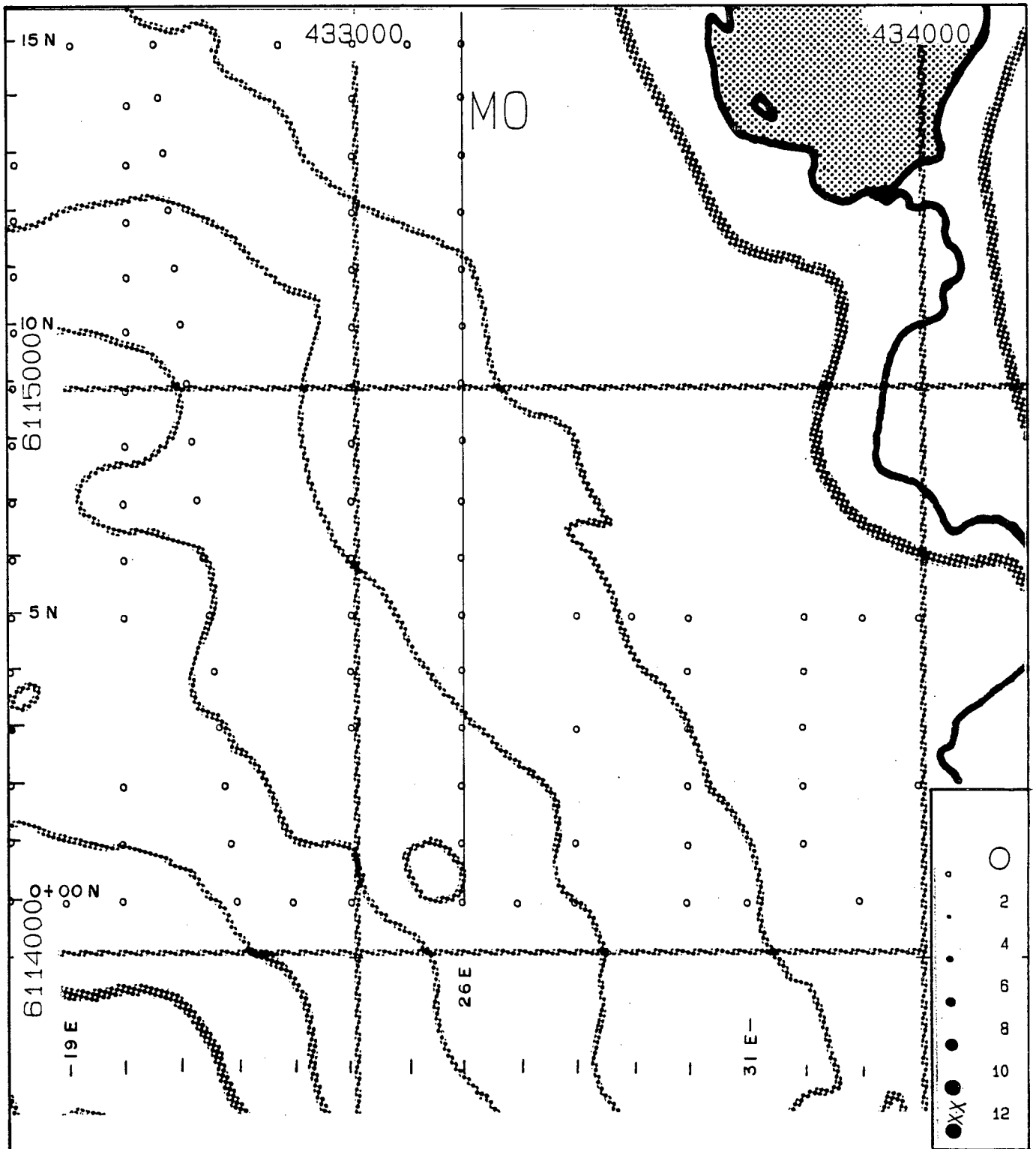
#### 1. East Grid Survey


##### a) Molybdenum (Figure 6A)

One sample in the west exceeds 4 ppm; remaining samples are all at values less than 4 ppm.

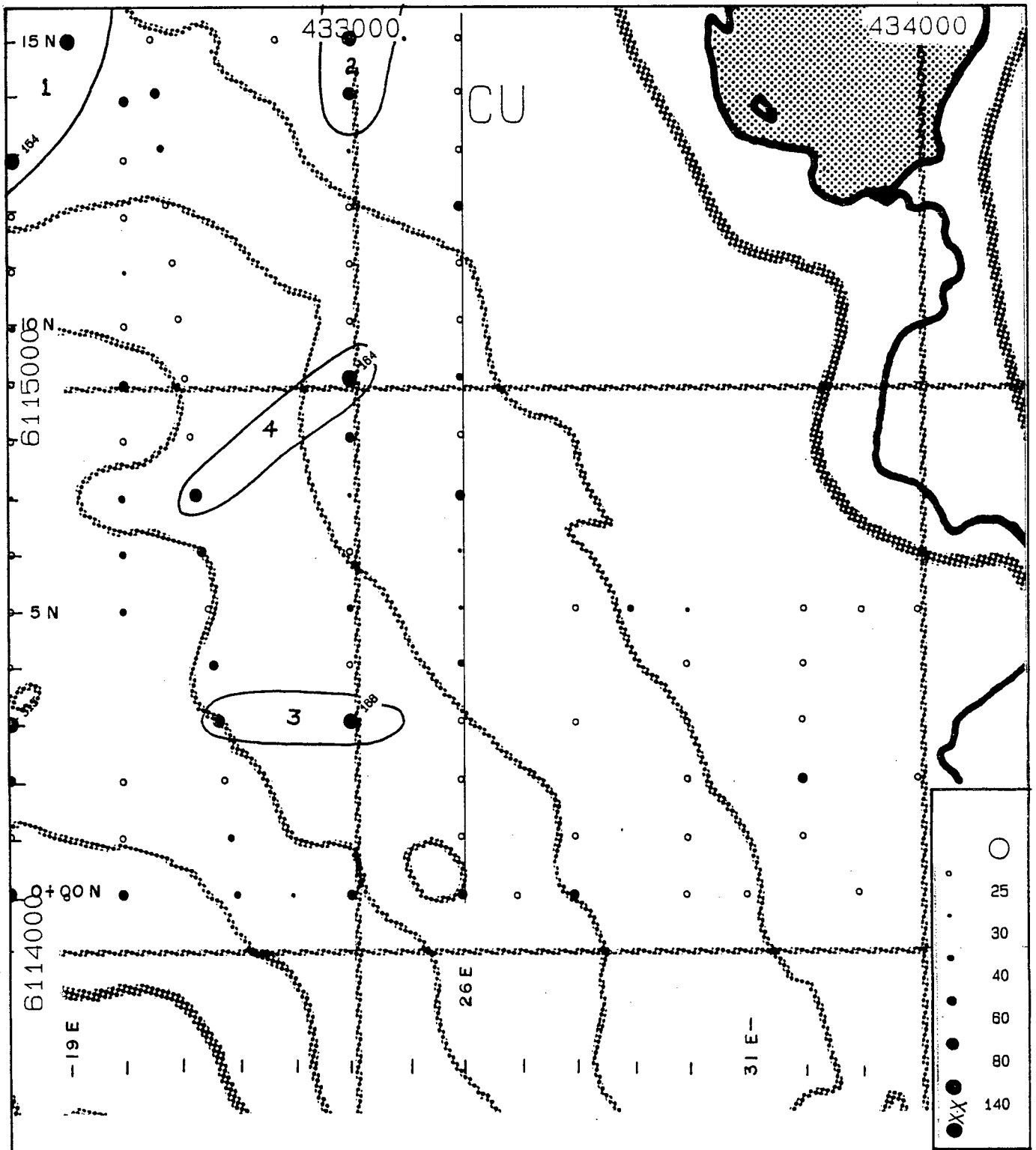
##### b) Copper (Figure 6B)


Four two point and one isolated value of 310 ppm in the Mo-rich sample are outlined as anomalous. Maximum Cu values are about 160 ppm in three of the four Cu-rich zones.



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY MOLYBDENUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6A
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT BPVR 85 - 7






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**MT. MILLIGAN - EAST GRID  
PHIL 1 GROUP - B.C.  
1985 SOIL SURVEY  
COPPER**

SCALE 1: 10,000	DRAWN BY:	FIG. 6B
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10.13.1	REPORT BPV.R. 85 - 7...

c) Lead (Figure 6C)

Pb levels are close to the detection limit. Highest values follow the UTM 433000 m E line in two zones.

d) Zinc (Figure 6D)

Four widely separated, weakly enhanced zones of Zn are indicated. Levels of Zn could be explained by variations in silicate Zn contents.

e) Nickel (Figure 6E)

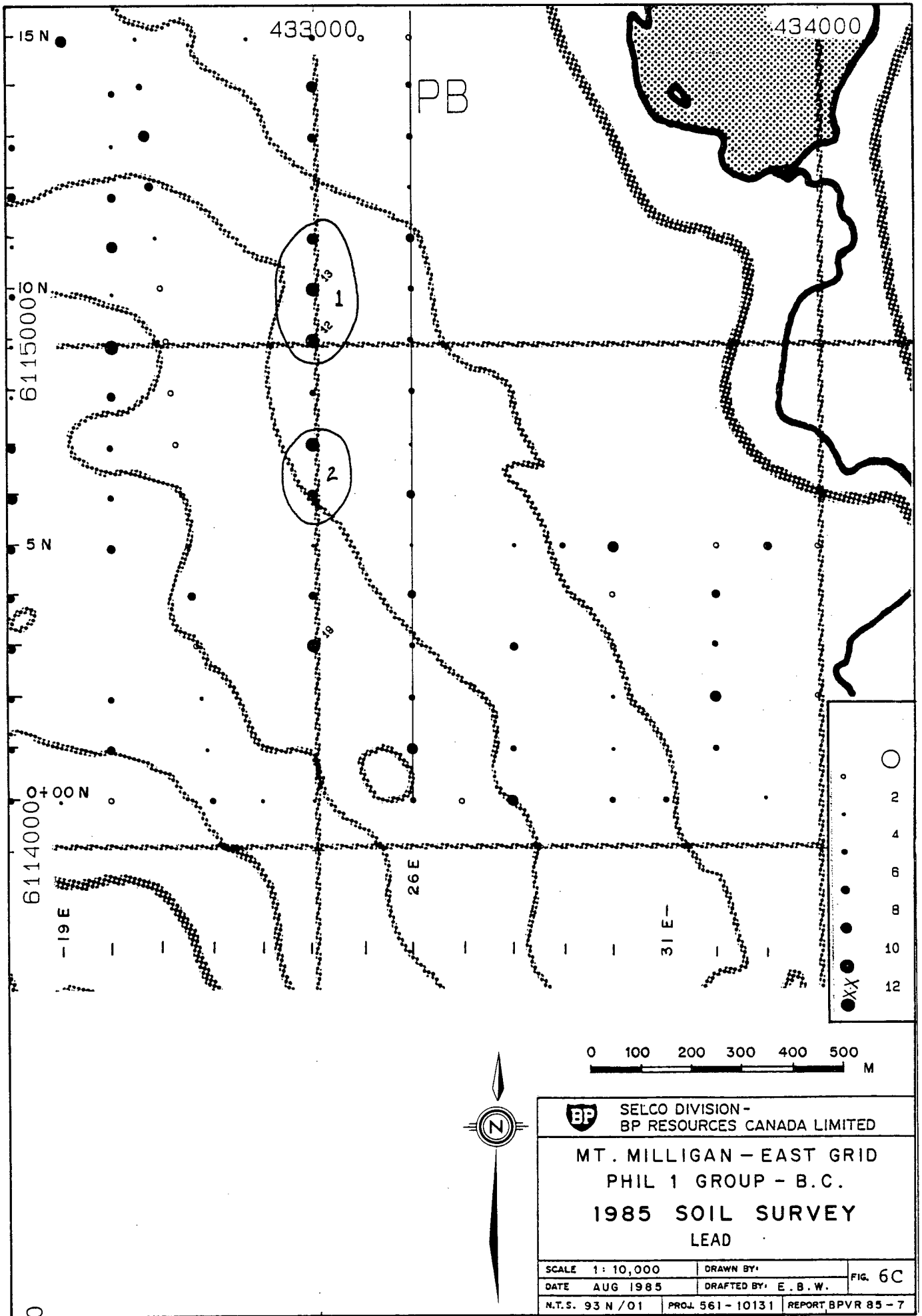
Three two point Ni features are defined, two in the northwest and one in the southeast.


f) Manganese (Figure 6F)

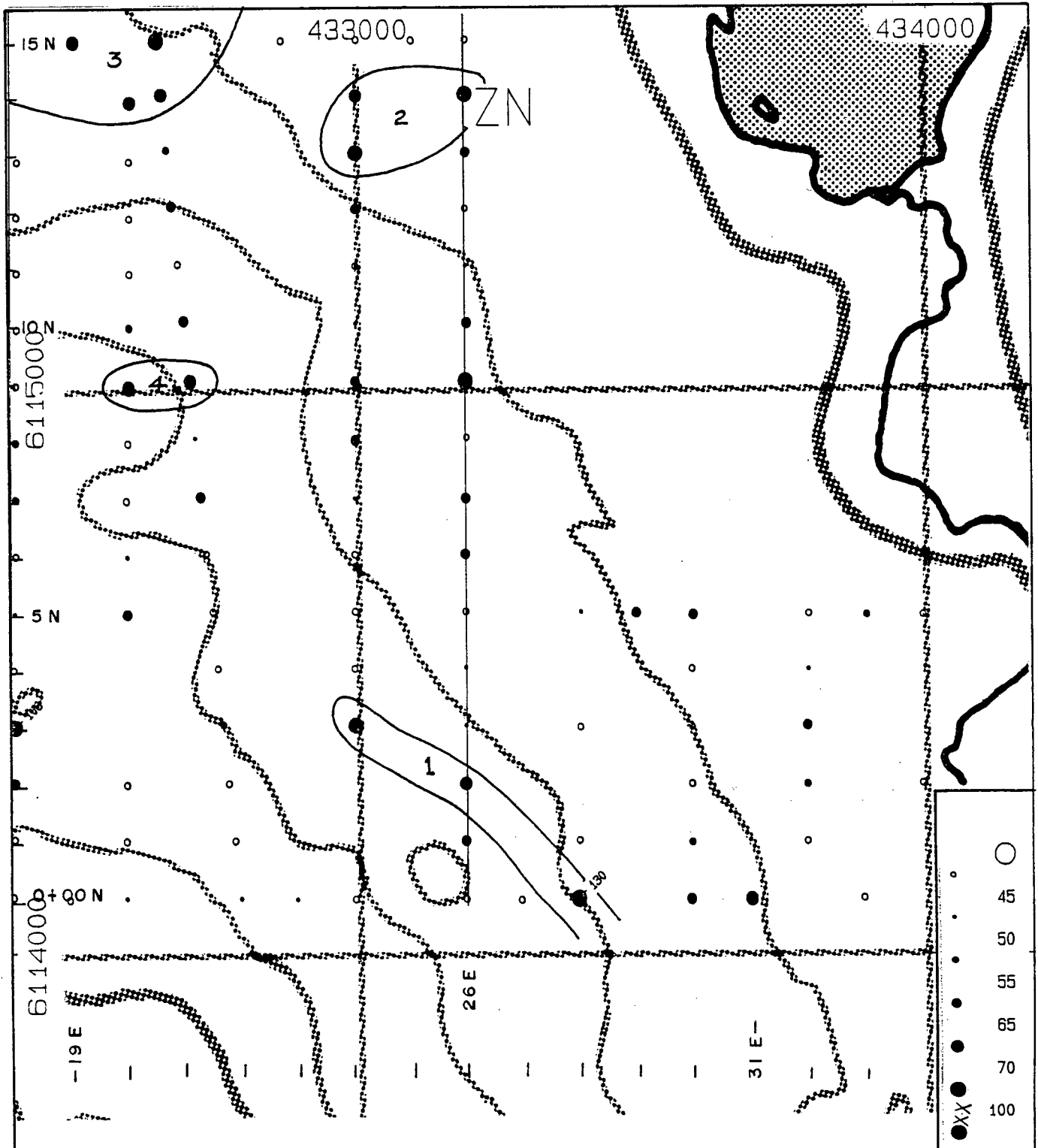
Two Mn anomalies are indicated in the west. Four isolated Mn-rich samples exceeding 1000 ppm are also noted.


g) Iron (Figure 6G)

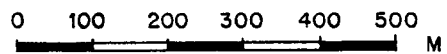
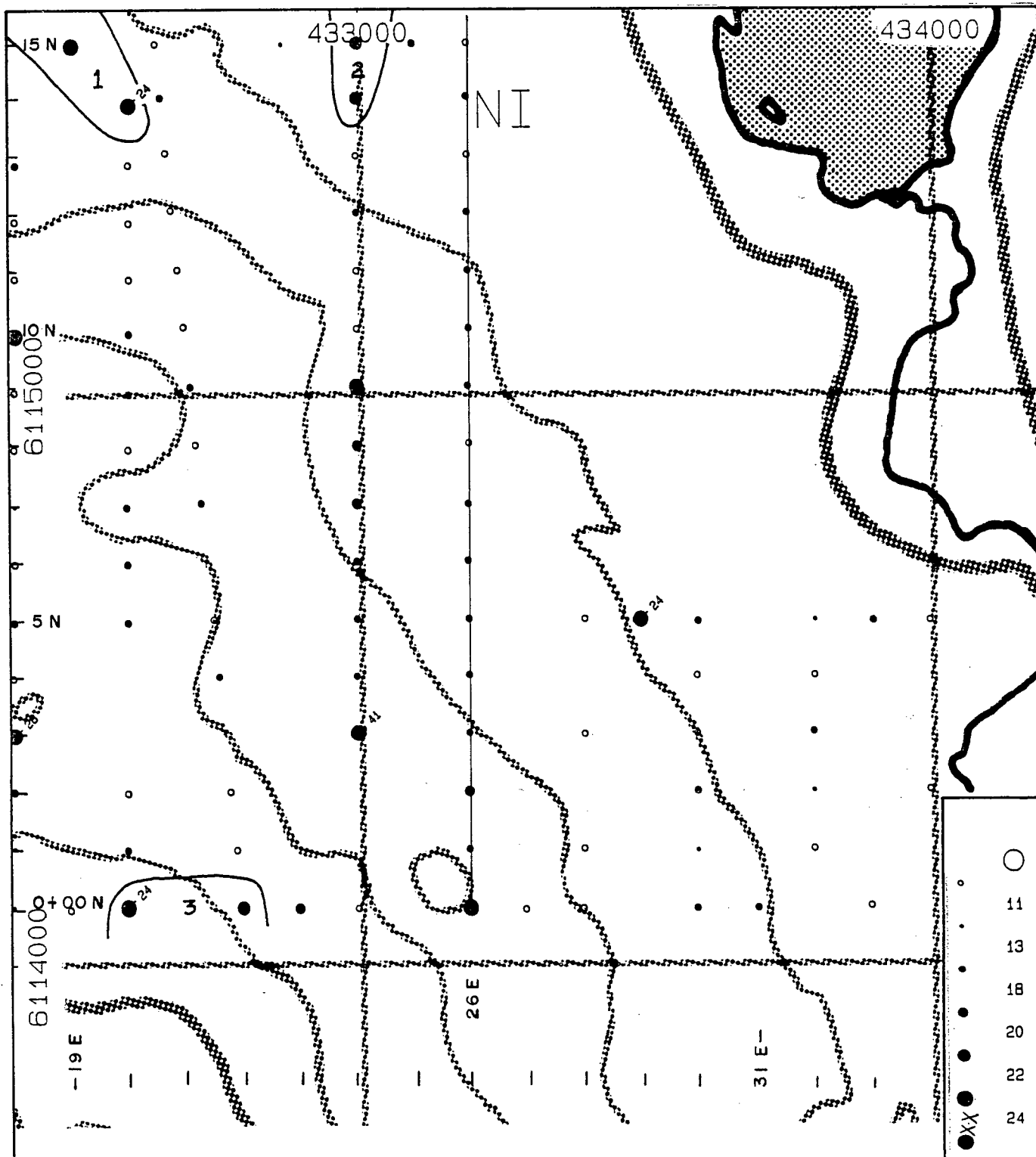
Two zones of Fe enhancement characterize the northeast corner of the grid. Maximum values range between 4.5% and 8% Fe. A regional trend, possibly due to underlying geology, is probably controlling the Fe distribution.




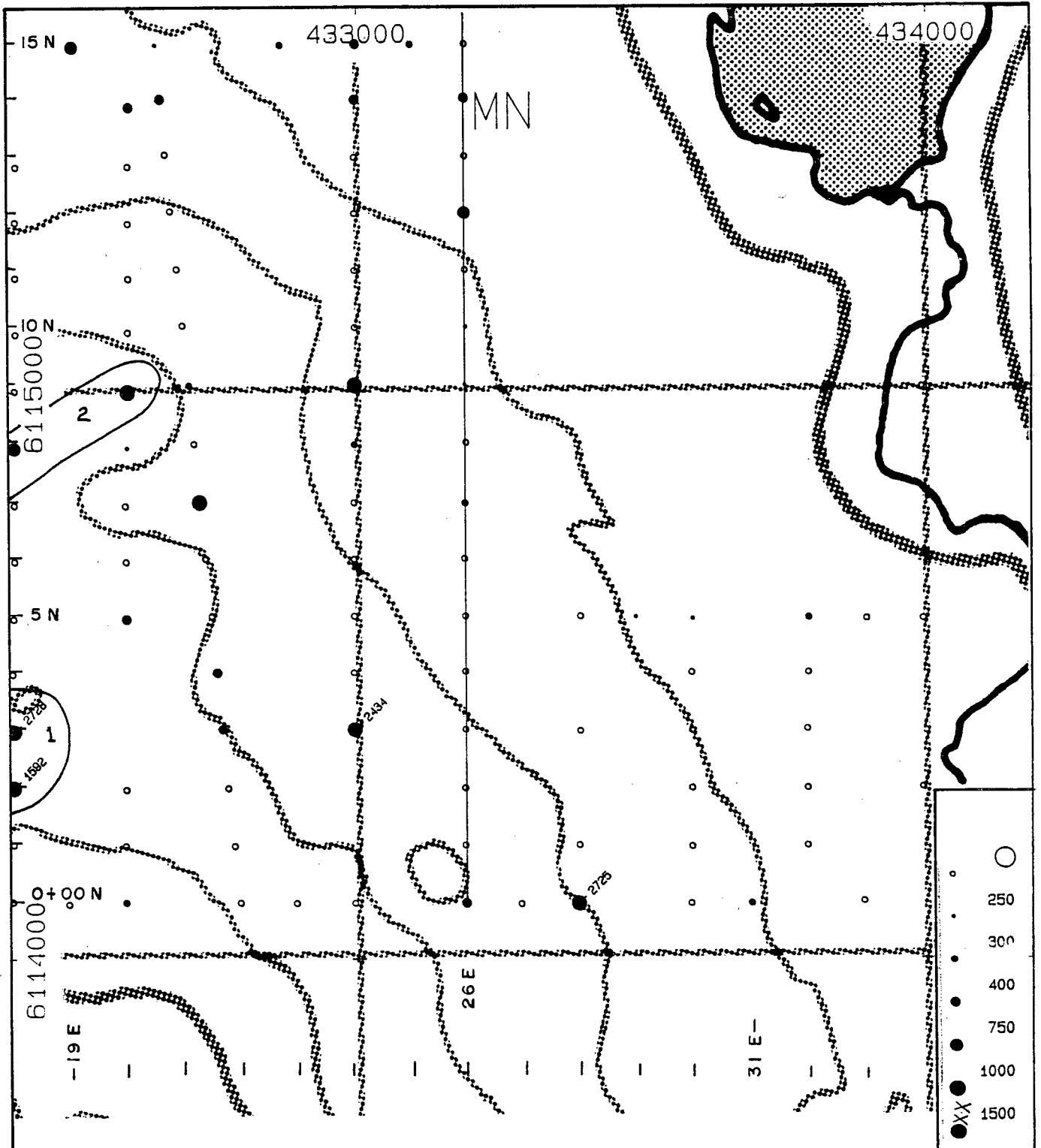
 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY LEAD</b>		
SCALE 1: 10,000	DRAWN BY:	FIG. 6C
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT BPVR 85 - 7




 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ZINC</b>		
SCALE 1: 10,000	DRAWN BY:	FIG. 6D
DATE AUG 1985	DRAFTED BY: E.B.W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT BPVR 85 - 7



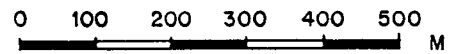
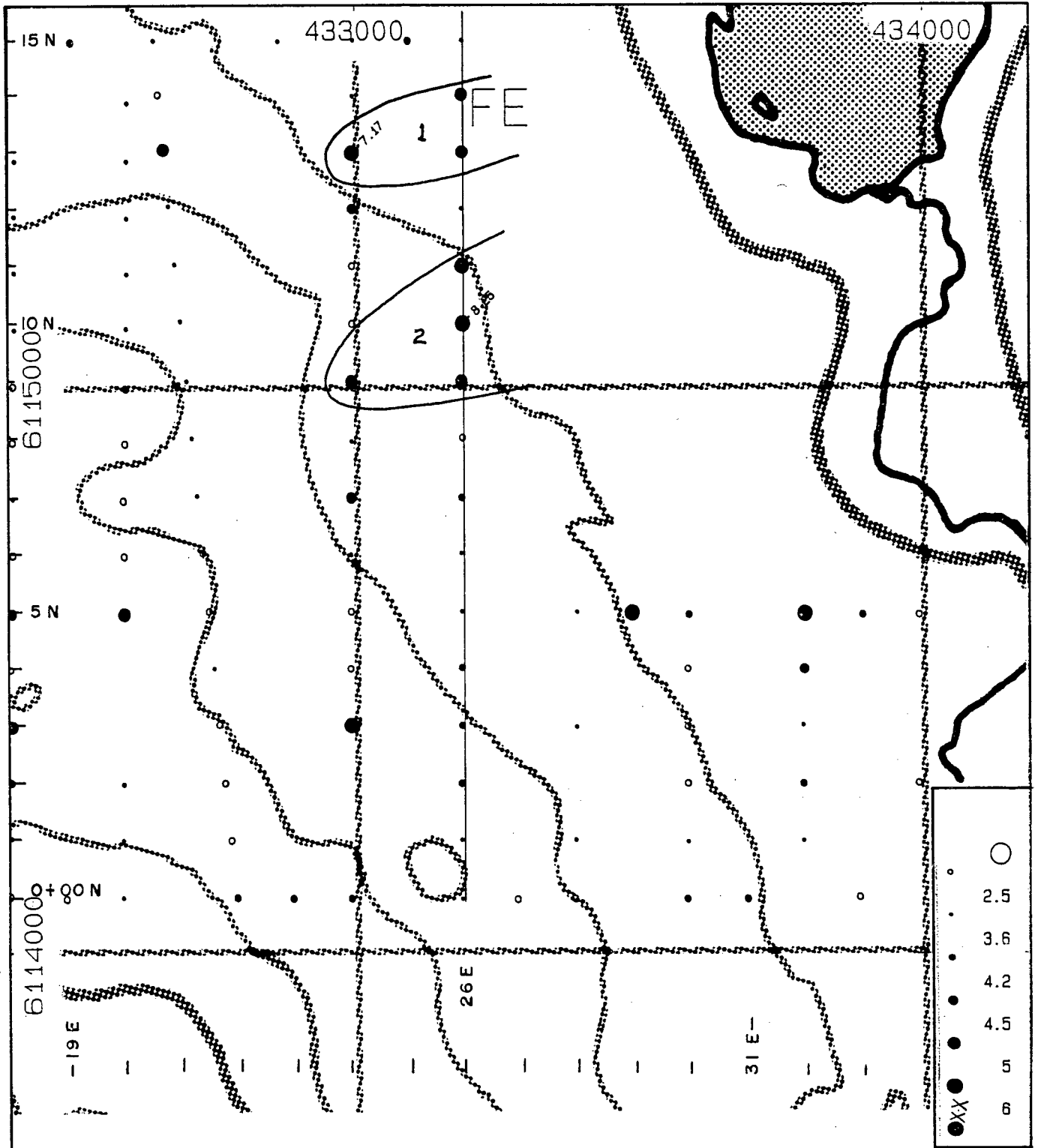
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY NICKEL		
SCALE 1: 10,000	DRAWN BY:	FIG. 6E
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT: BPVR 85 - 7





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**MT. MILLIGAN - EAST GRID  
PHIL 1 GROUP - B.C.  
1985 SOIL SURVEY  
MANGANESE**

SCALE 1: 10,000	DRAWN BY:	FIG. 6F
DATE AUG 1985	DRAFTED BY: E. B. W.	
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 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY IRON		
SCALE 1:10,000	DRAWN BY:	FIG. 6G
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h) Silver (Figure 6H)

One sample contains 1 ppm Ag.

i) Cobalt (Figure 6I)

Co levels are all close to the detection limit. Three areas report values in the 8 to 14 ppm range.

j) Gold (Figure 6J)

Four isolated samples contain in excess of 30 ppb Au, but none exceed 75 ppb.

k) Arsenic (Figure 6K)

As levels are all close to the 2 ppm detection limit. No anomalies are outlined.

l) Bismuth (Figure 6L)

Bi anomalies are not defined.

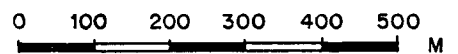
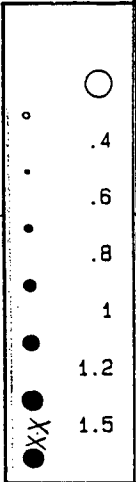
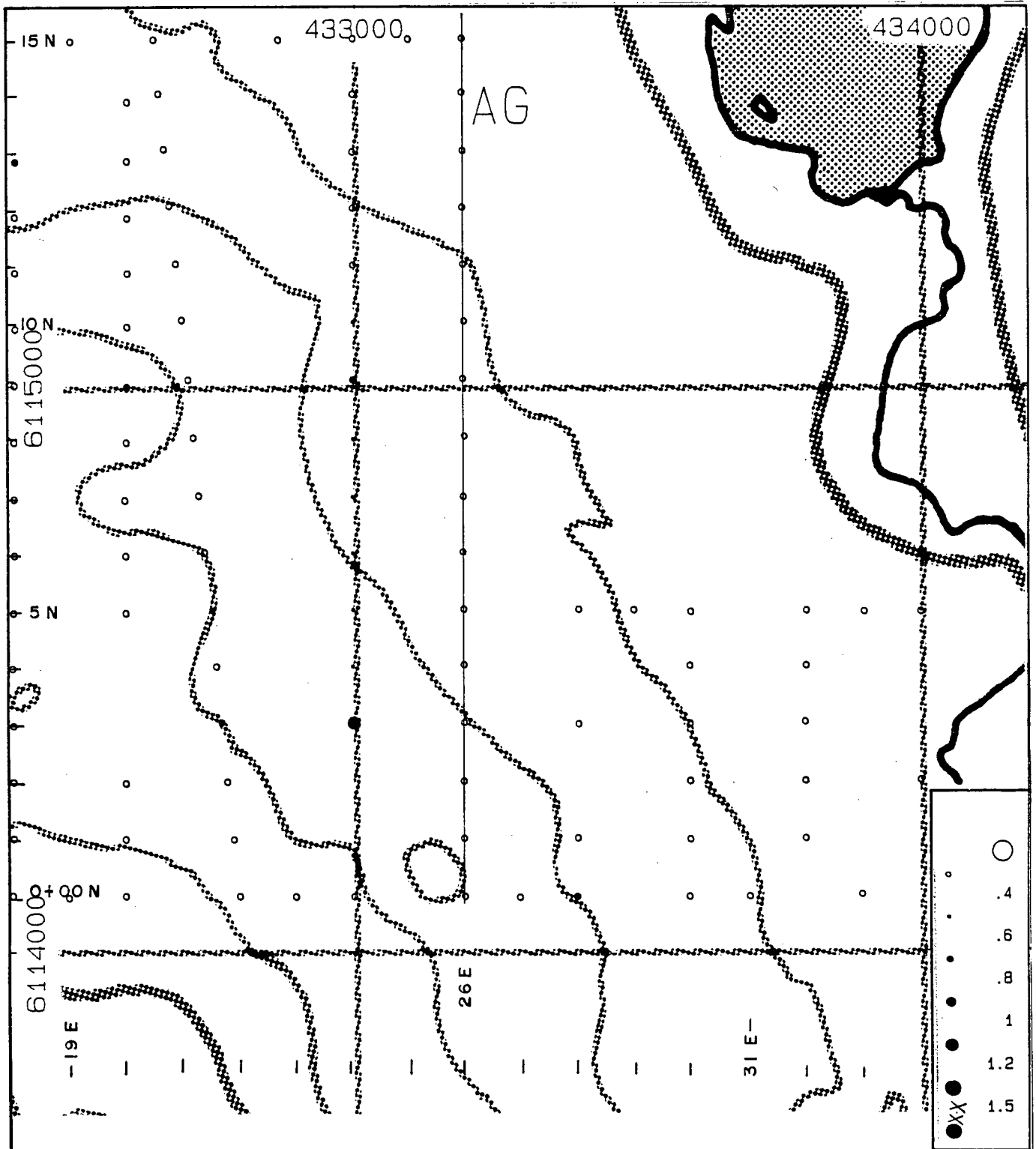
m) Vanadium (Figure 6M)

V follows Fe.

n) Barium (Figure 6N)

Two Ba anomalies are outlined. In addition, three






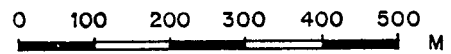
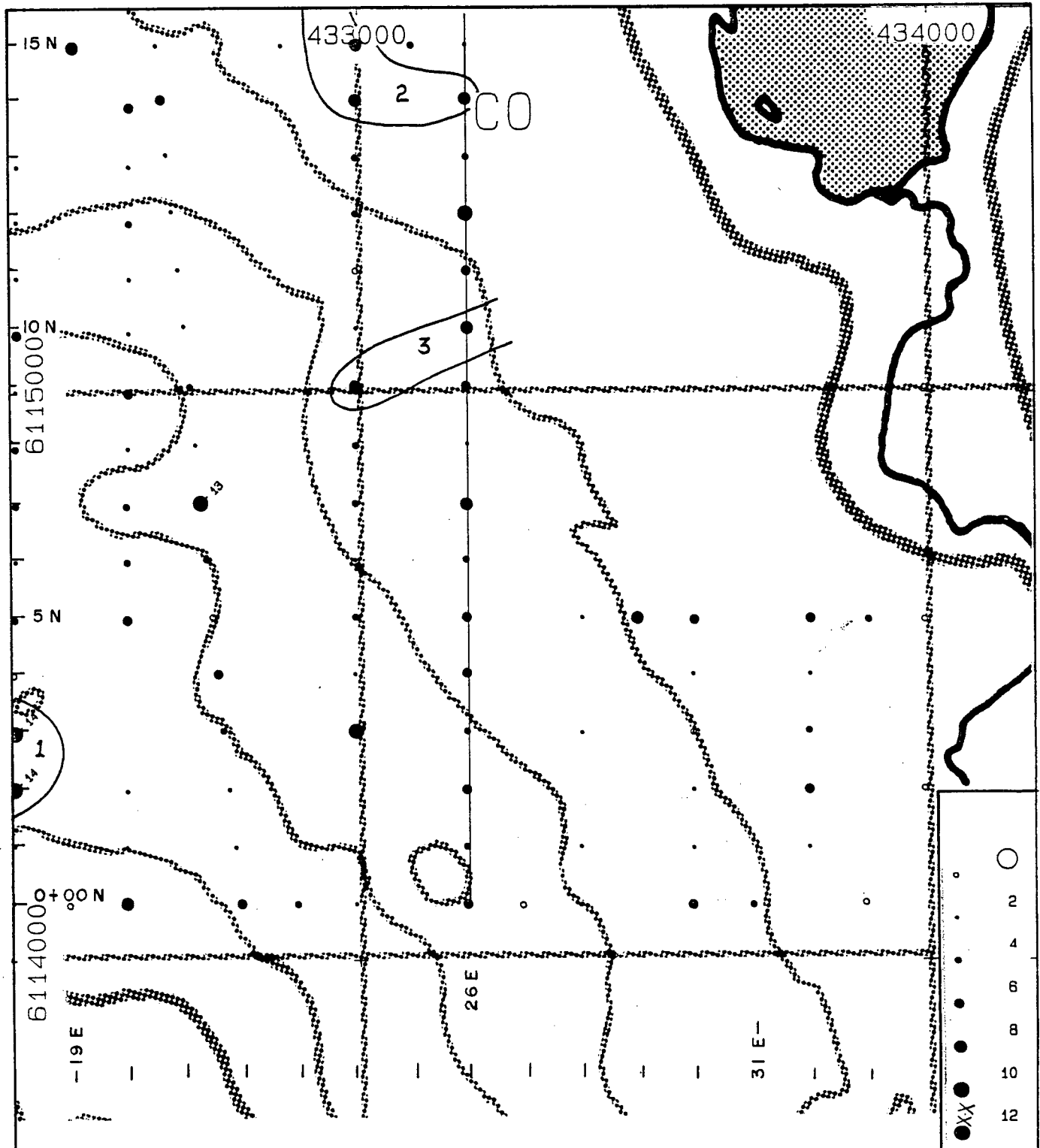

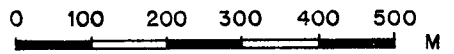
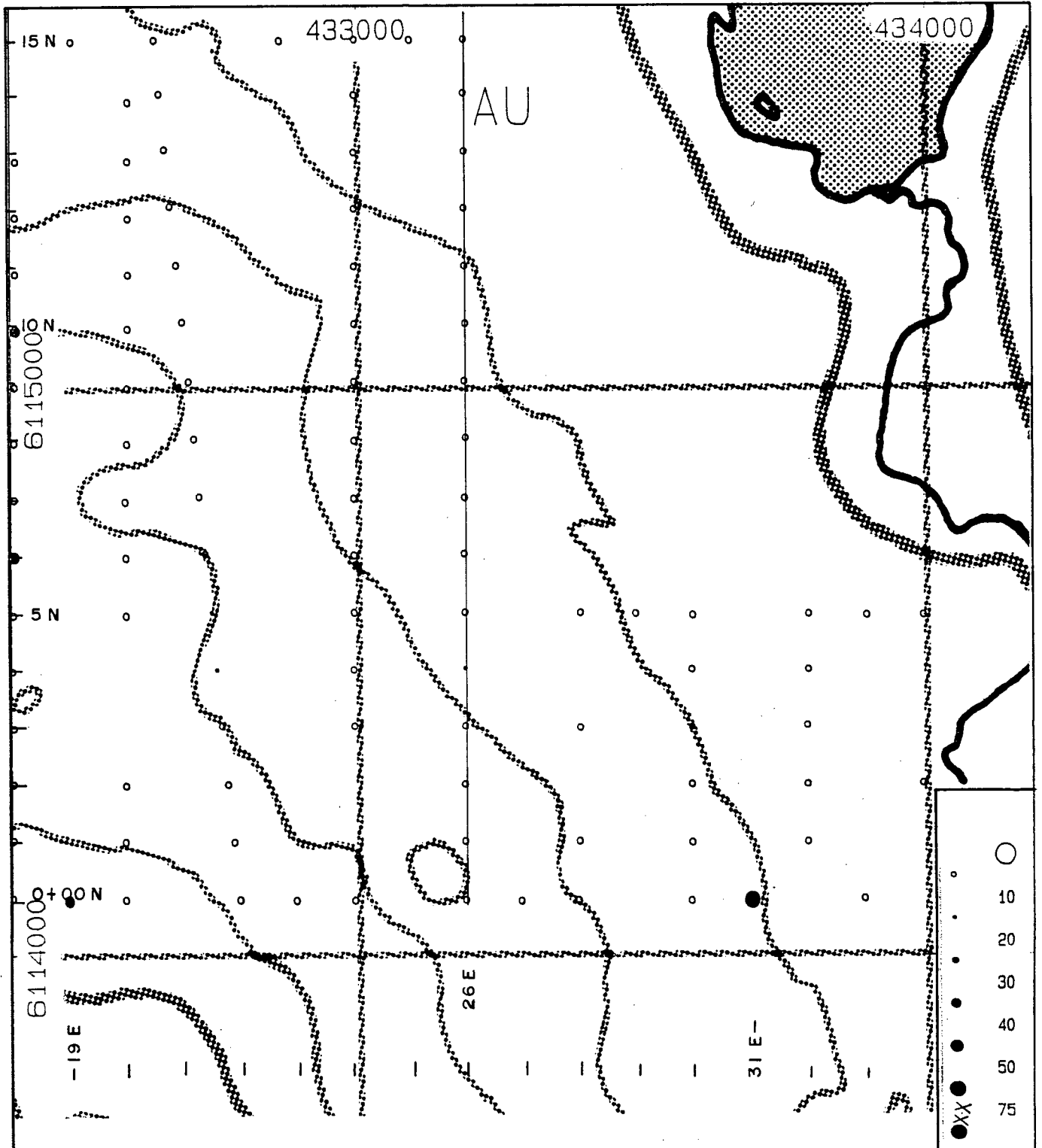

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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY SILVER	
SCALE 1: 10,000	DRAWN BY:
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REPORT: BPVR.85-7.	

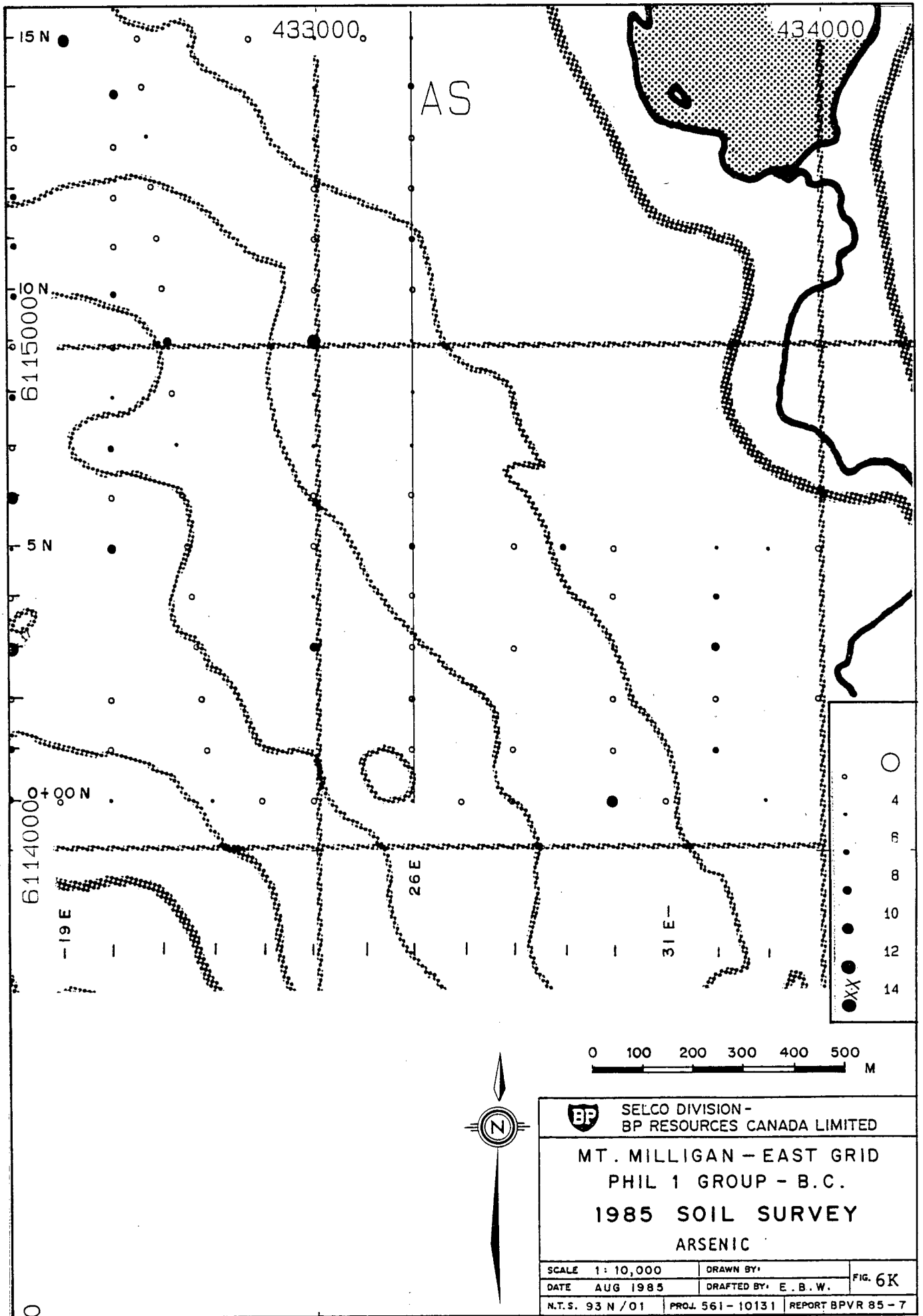
FIG. 6H




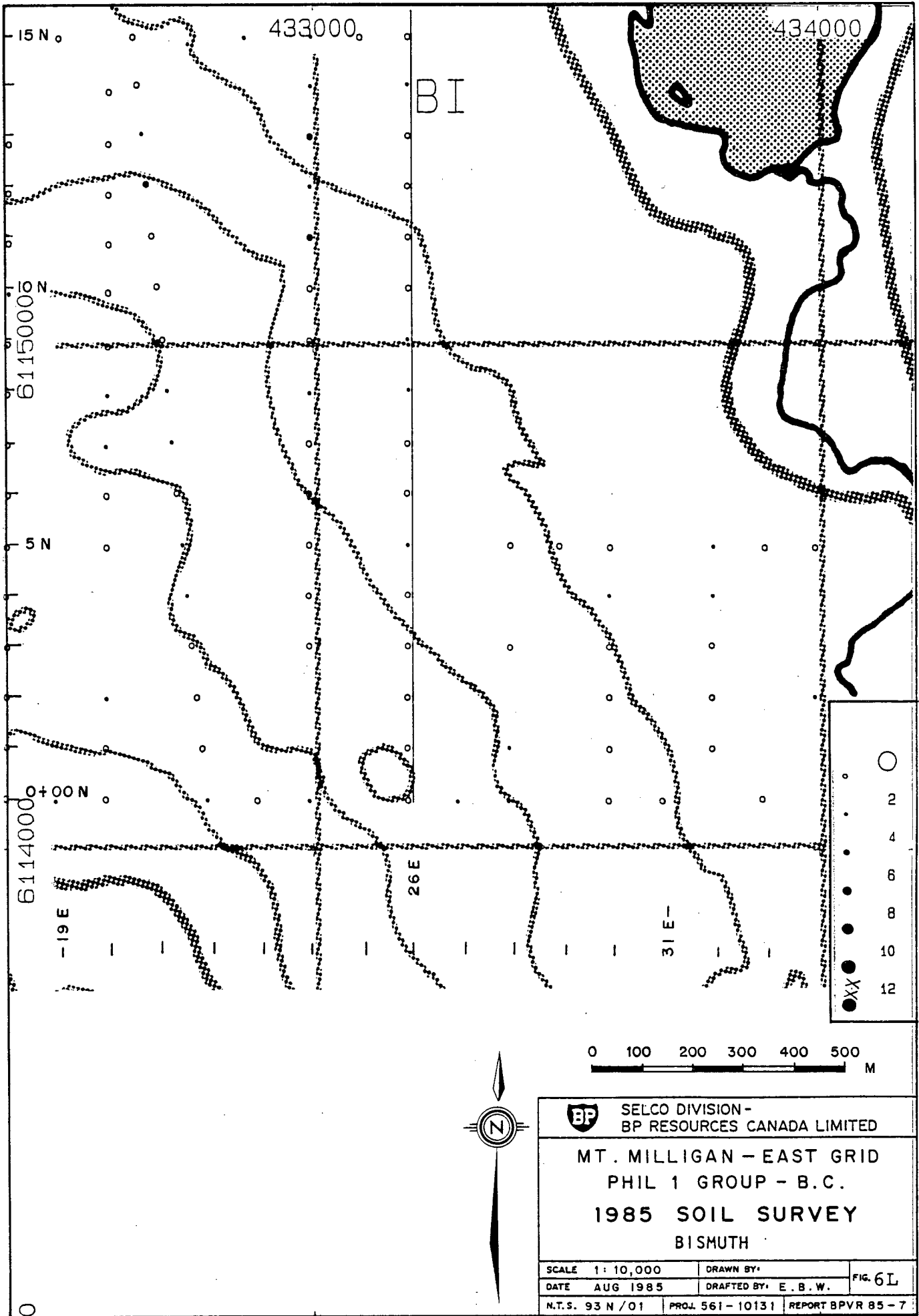
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY COBALT		
SCALE 1: 10,000	DRAWN BY:	FIG. 6I
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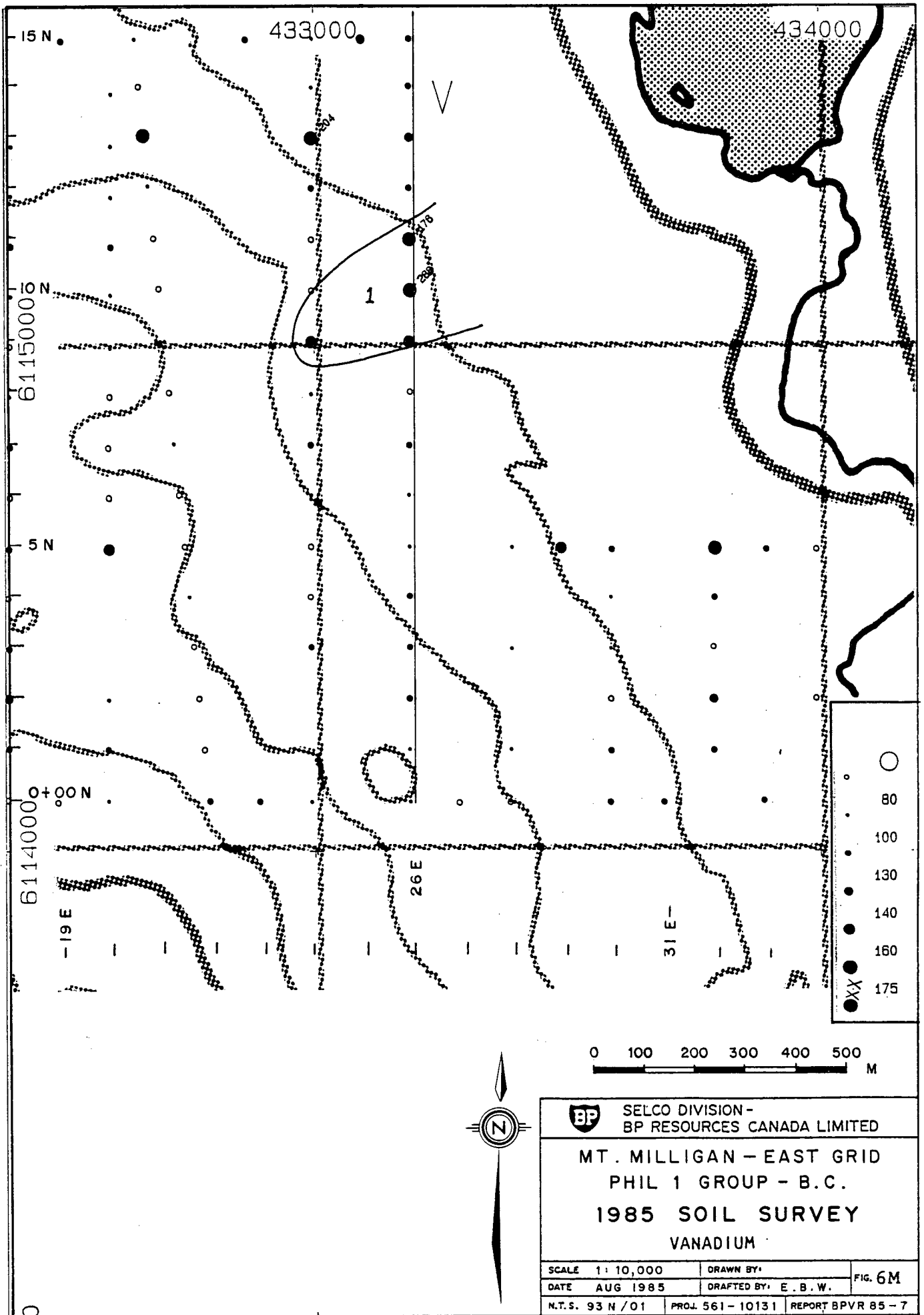
 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY GOLD	
SCALE 1: 10,000	DRAWN BY:
DATE AUG 1985	DRAFTED BY: E. B. W.
N.T.S. 93 N / 01	PROJ. 561 - 10131
REPORT BPVR 85 - 7	FIG. 6J




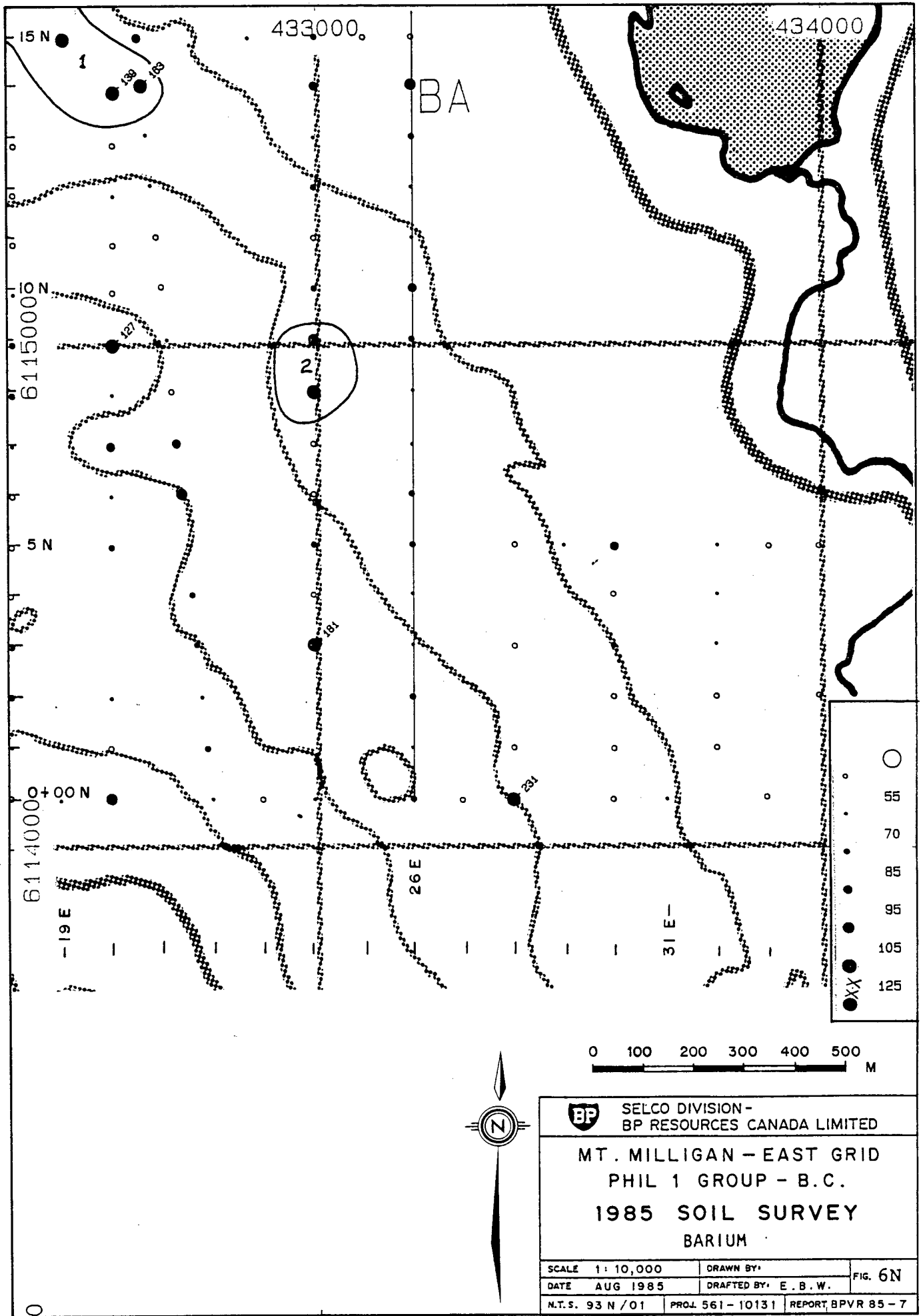
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ARSENIC		
SCALE 1:10,000	DRAWN BY:	FIG. 6K
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 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY BISMUTH	
SCALE 1: 10,000	DRAWN BY:
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N.T.S. 93 N / 01	PROJ. 561 - 10131
REPORT BPVR 85 - 7	FIG. 6L



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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY VANADIUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6M
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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY BARIUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6N
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samples contain enhanced values of 130 to 230 ppm. Ba levels are not indicative of barite.

o) Strontium (Figure 6O)

One Sr anomaly is defined. Sr levels are higher in the west than in the east.

p) Aluminum (Figure 6P)

Two Al anomalies are contoured, enhanced Al contents appear to reflect regional features rather than being due to isolated clay-rich samples.

q) Calcium (Figure 6Q)

Two Ca anomalies are outlined, both in the southwest. Two isolated samples contain high Ca contents, possibly due to organic contaminants in predominantly inorganic samples.

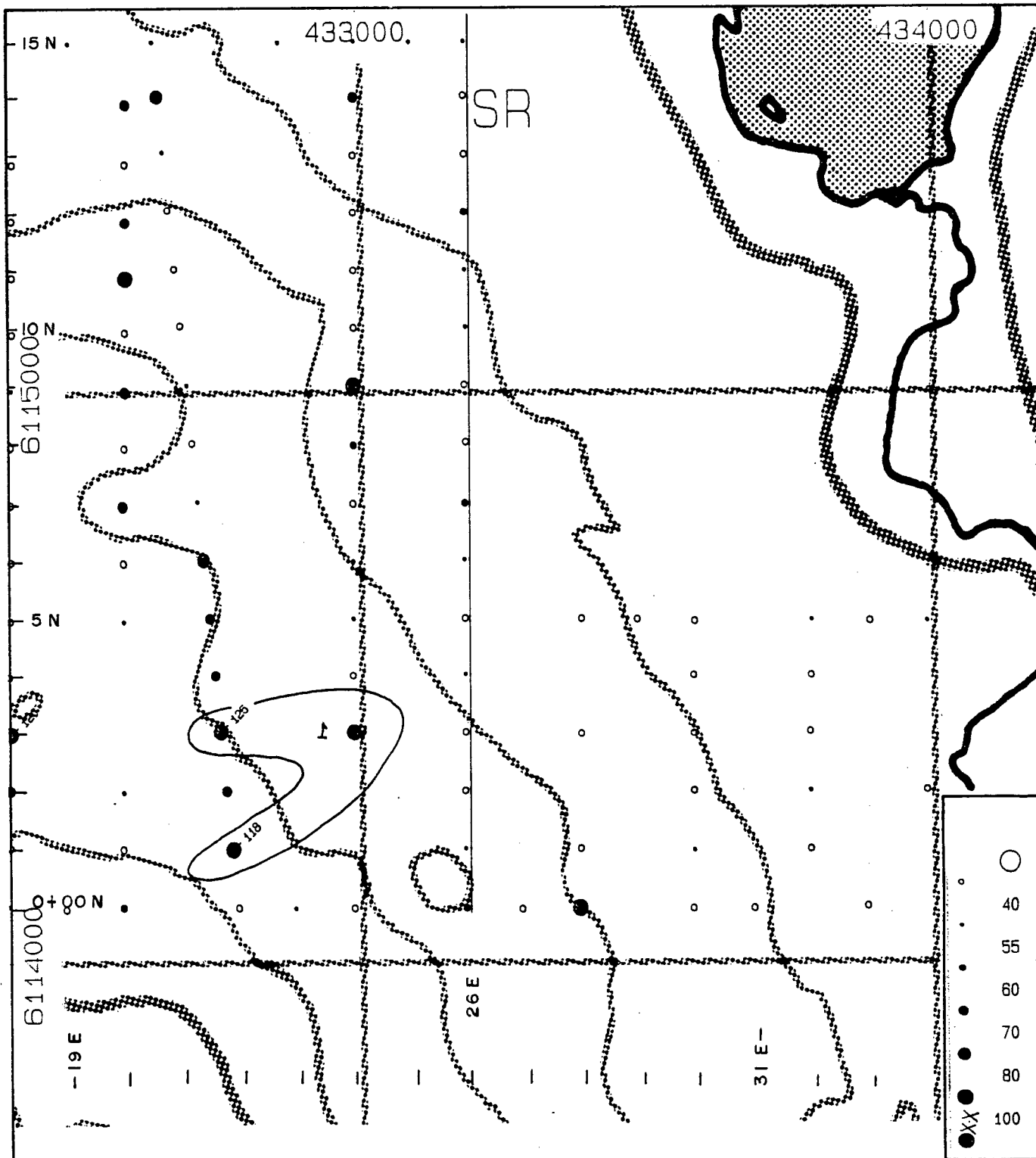
r) Magnesium (Figure 6R)


Four areas of Mg enrichment are indicated in addition to four isolated, Mg-rich samples.

s) Potassium (Figure 6S)

K is enriched in one zone.

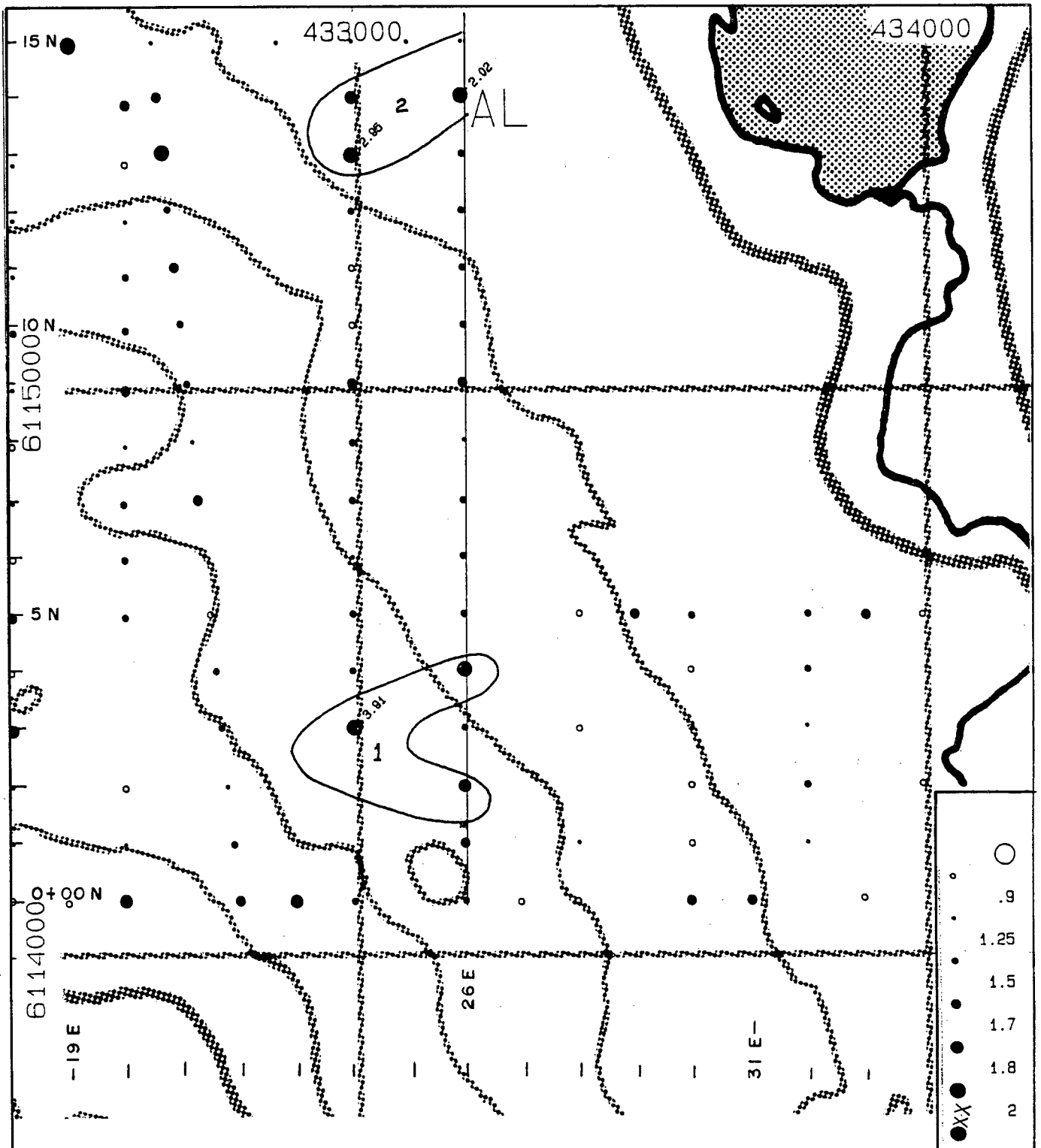





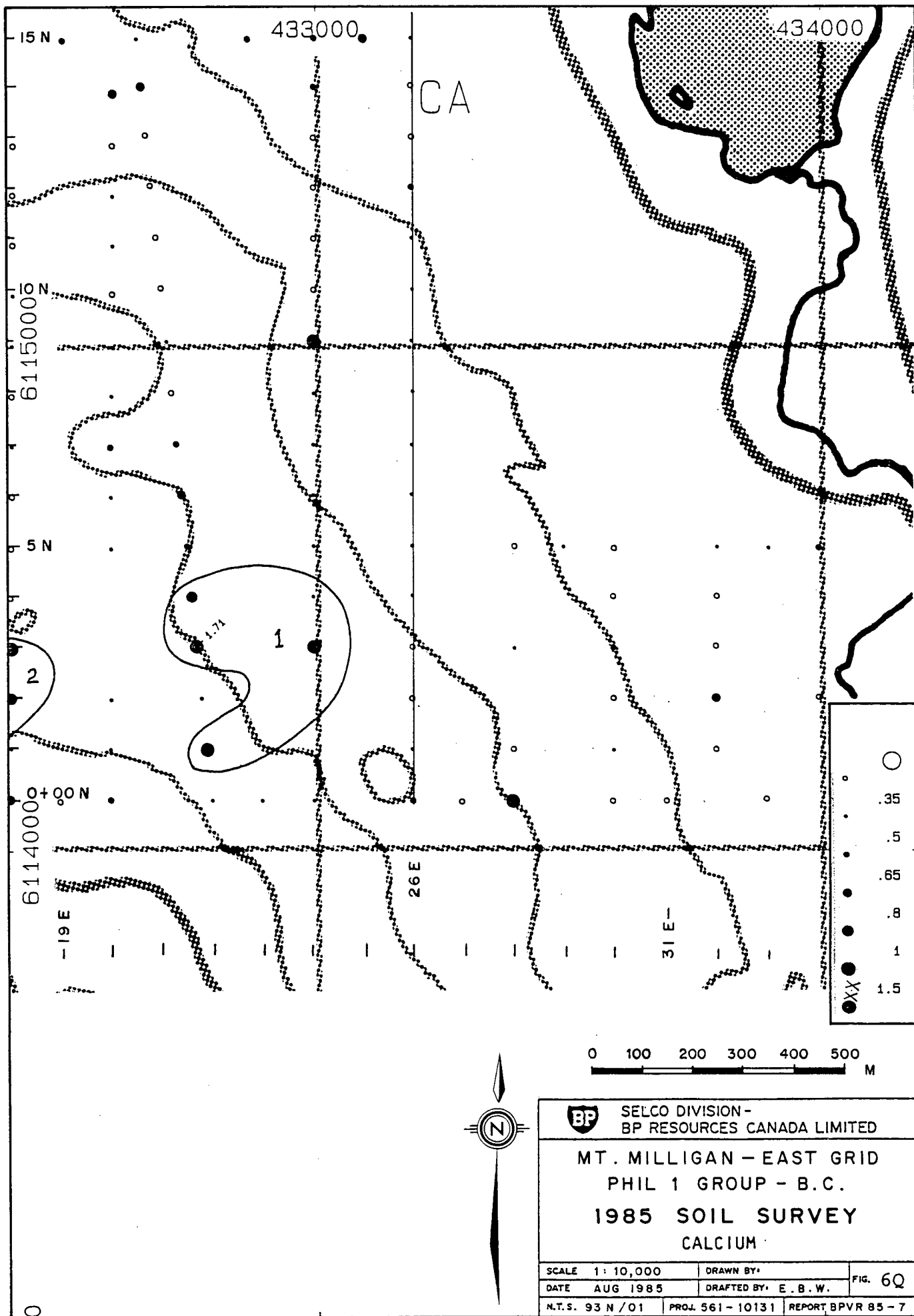

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**MT. MILLIGAN - EAST GRID  
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1985 SOIL SURVEY  
STRONTIUM**

SCALE 1: 10,000	DRAWN BY:	FIG. 60
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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ALUMINUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6P
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT, BPVR 85 - 7



CA

15 N

433000

434000

6115000 N

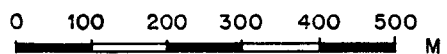
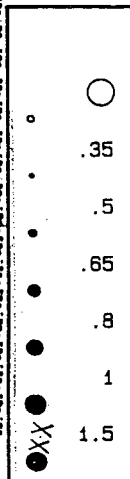
5 N

0+00 N

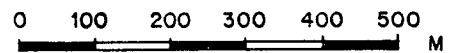
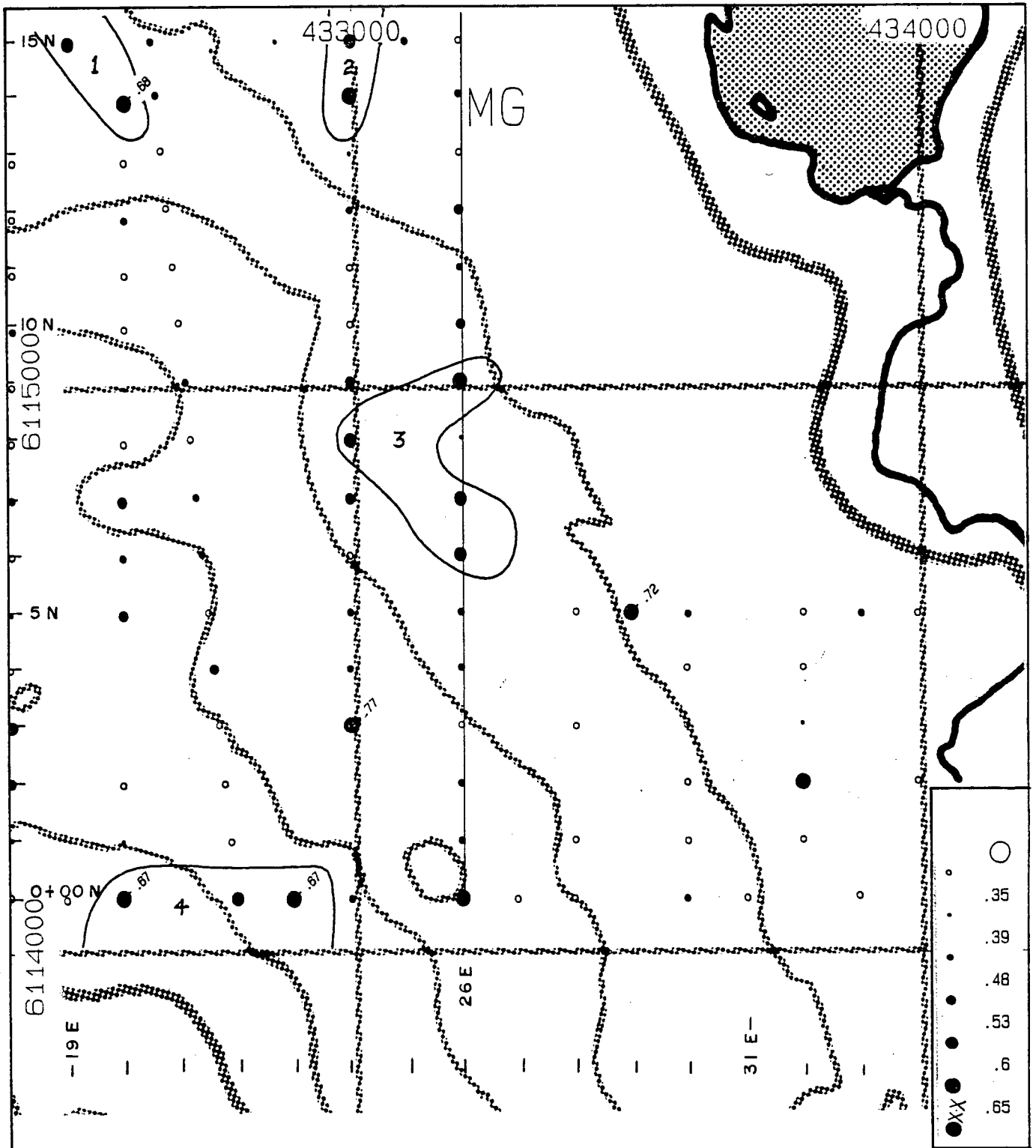
19 E


26 E

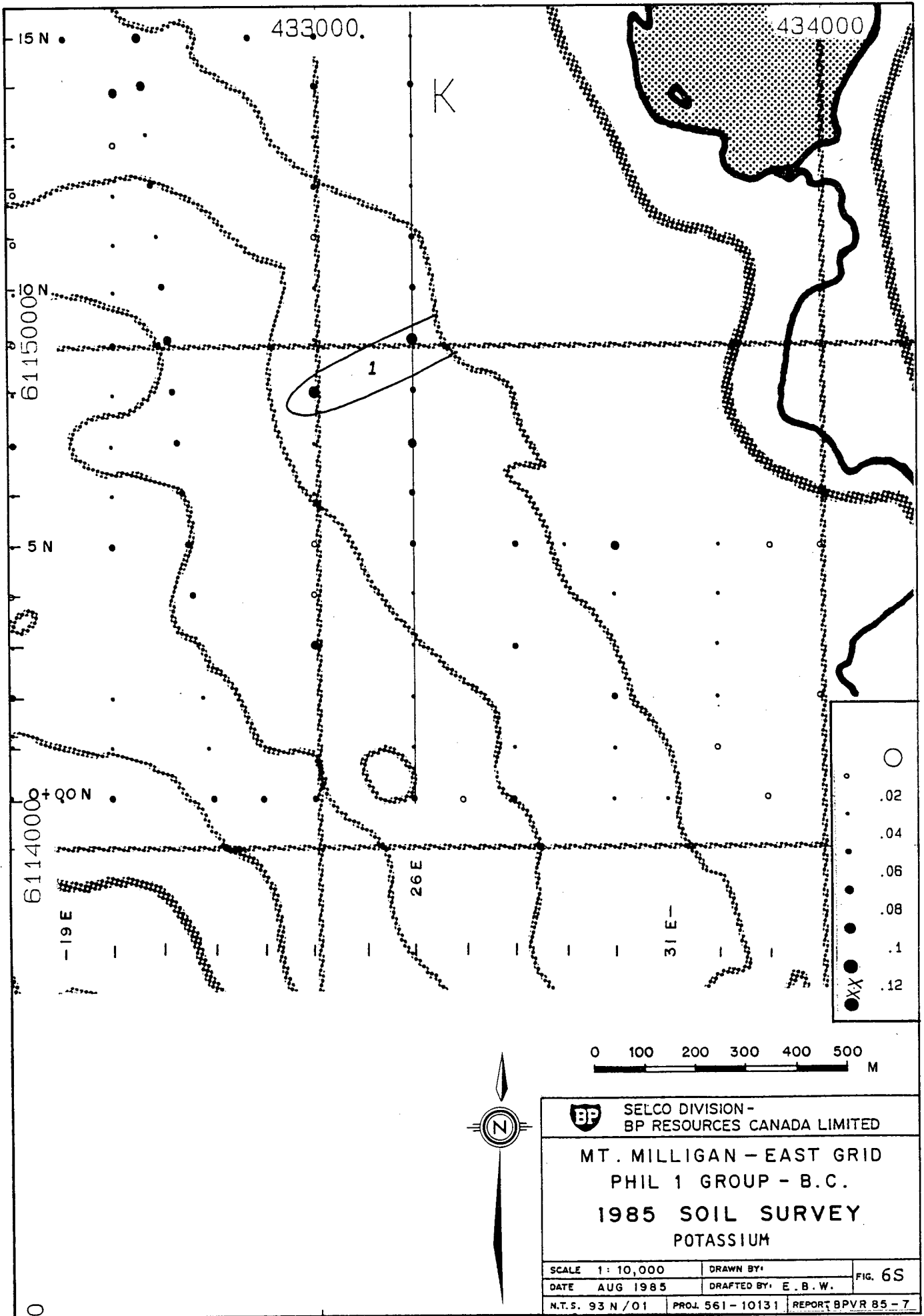
31 E




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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY CALCIUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6Q
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N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT BPVR 85 - 7



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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY MAGNESIUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6R
DATE AUG 1985	DRAFTED BY: E. B. W.	
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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY POTASSIUM		
SCALE 1 : 10,000	DRAWN BY:	FIG. 6S
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561 - 10131	REPORT BPVR 85 - 7

t) Titanium (Figure 6T)

Three areas are defined to have elevated Ti levels.

u) Phosphorus (Figure 6U)

Two P anomalies are displayed: zone 1 in the northeast exhibiting a high degree of anomaly contrast to background.

Discussion of Results

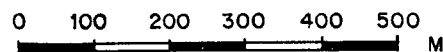
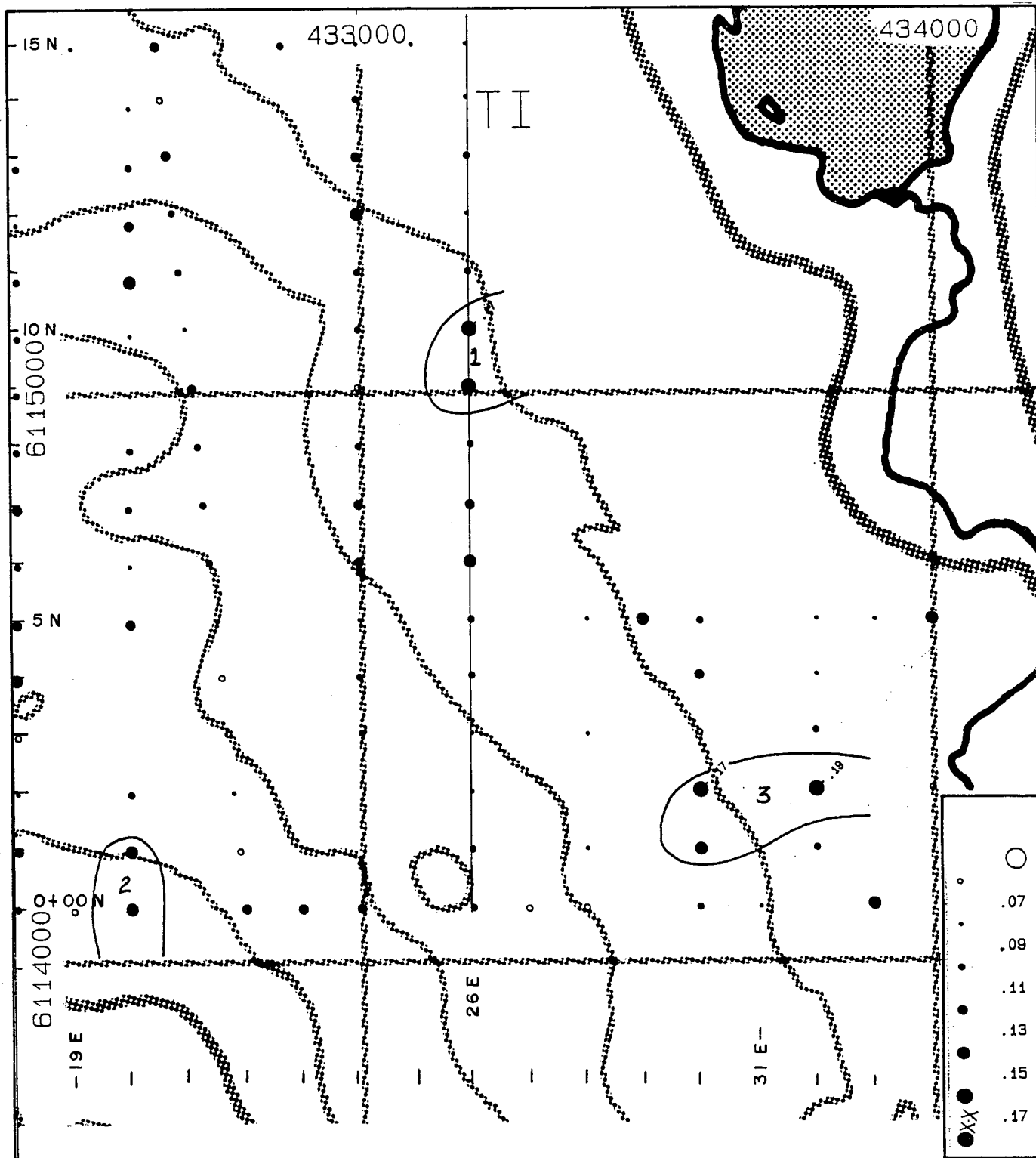
Levels of base, precious, and pathfinder elements are not sufficiently enhanced to be considered anomalous. Two geological patterns are tentatively suggested, that of Fe, Co, V, Zn and P enhancement in the northeast, and that of Ca and Sr in the southwest.


Conclusions

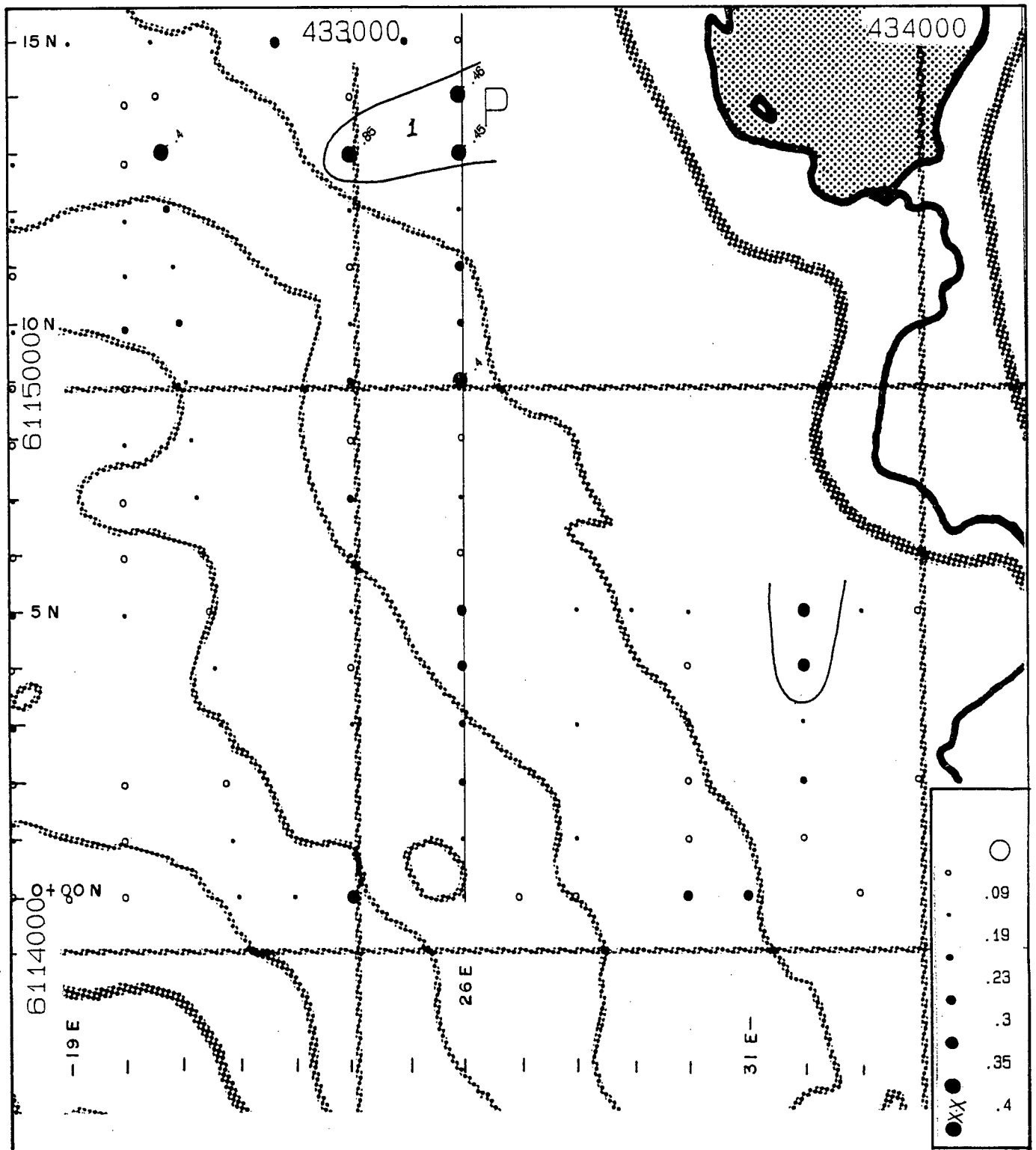
Significant anomalous conditions have not been defined on the east grid and no further work is suggested.


Recommendations

(1) No further work is recommended.



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MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY TITANIUM		
SCALE 1: 10,000	DRAWN BY:	FIG. 6T
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 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
MT. MILLIGAN - EAST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY PHOSPHOROUS	
SCALE 1: 10,000	DRAWN BY:
DATE AUG 1985	DRAFTED BY: E. B. W.
N.T.S. 93 N / 01	PROJ. 561 - 10131
REPORT: BPVR 85 - 7	FIG. 6U



## 2. South Grid Survey

### a) Molybdenum (Figure 7A)

All values report at less than 4 ppm and no anomalies are defined.

### b) Copper (Figure 7B)

One Cu anomaly is outlined in the southeast. Maximum value is 80 ppm.

### c) Lead (Figure 7C)

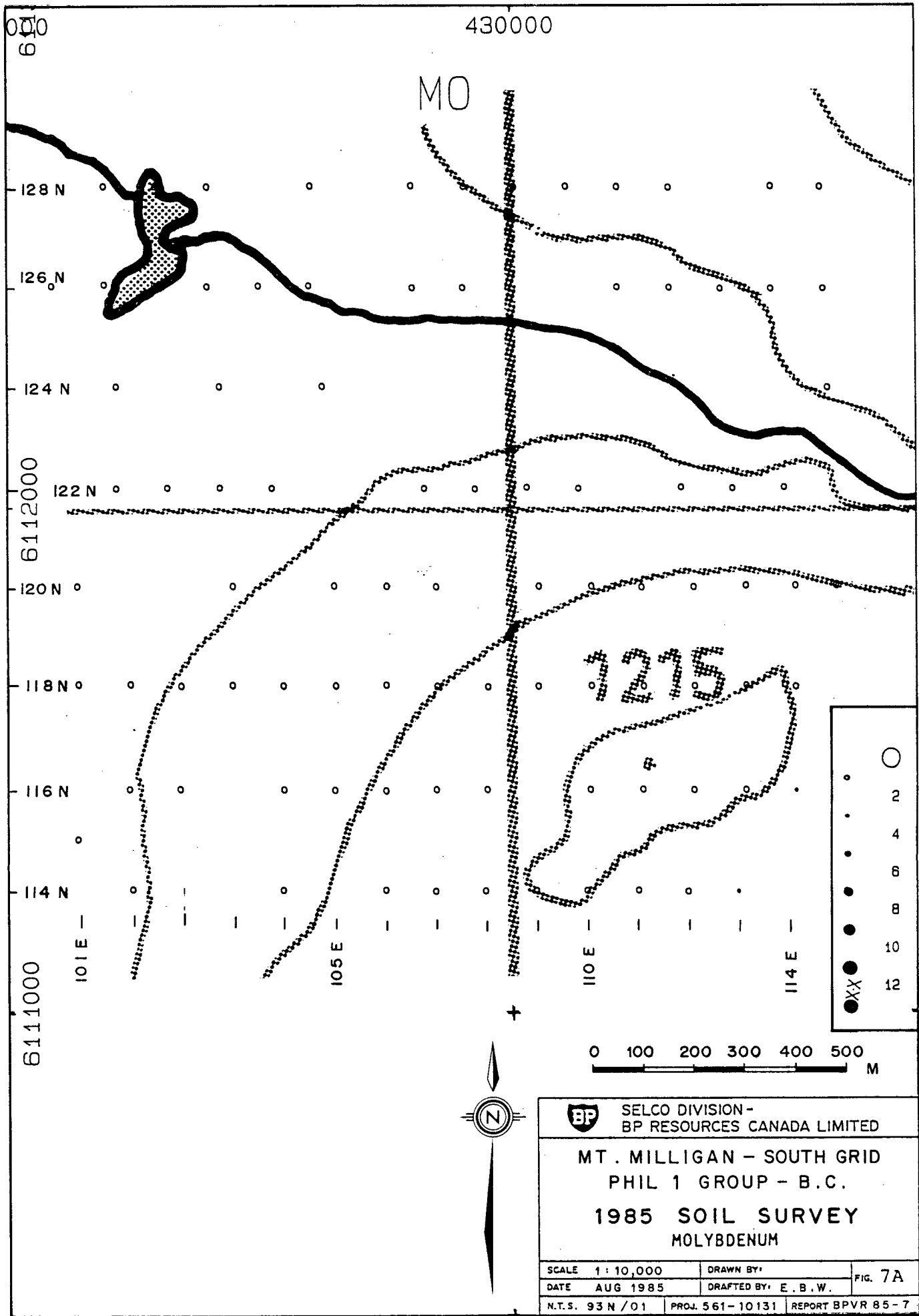
Two weak lead anomalies are defined in the southeast. Maximum values are between 11 and 15 ppm.

### d) Zinc (Figure 7D)

Two weak Zn anomalies are outlined, indicated by values in the 95 to 130 ppm range. Anomaly 2 lies in a base of slope environment whereas Zone 1 trends approximately northward for 400 m across topography.

### e) Nickel (Figure 7E)

Ni accumulation to 19 to 30 ppm value can be described in four areas. Zone 4 in the northwest is the most homogeneous feature some 200 m across.



611000

430000

MO

128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

6111000

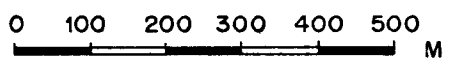
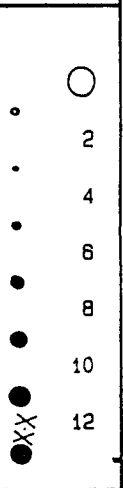
101 E


105 E

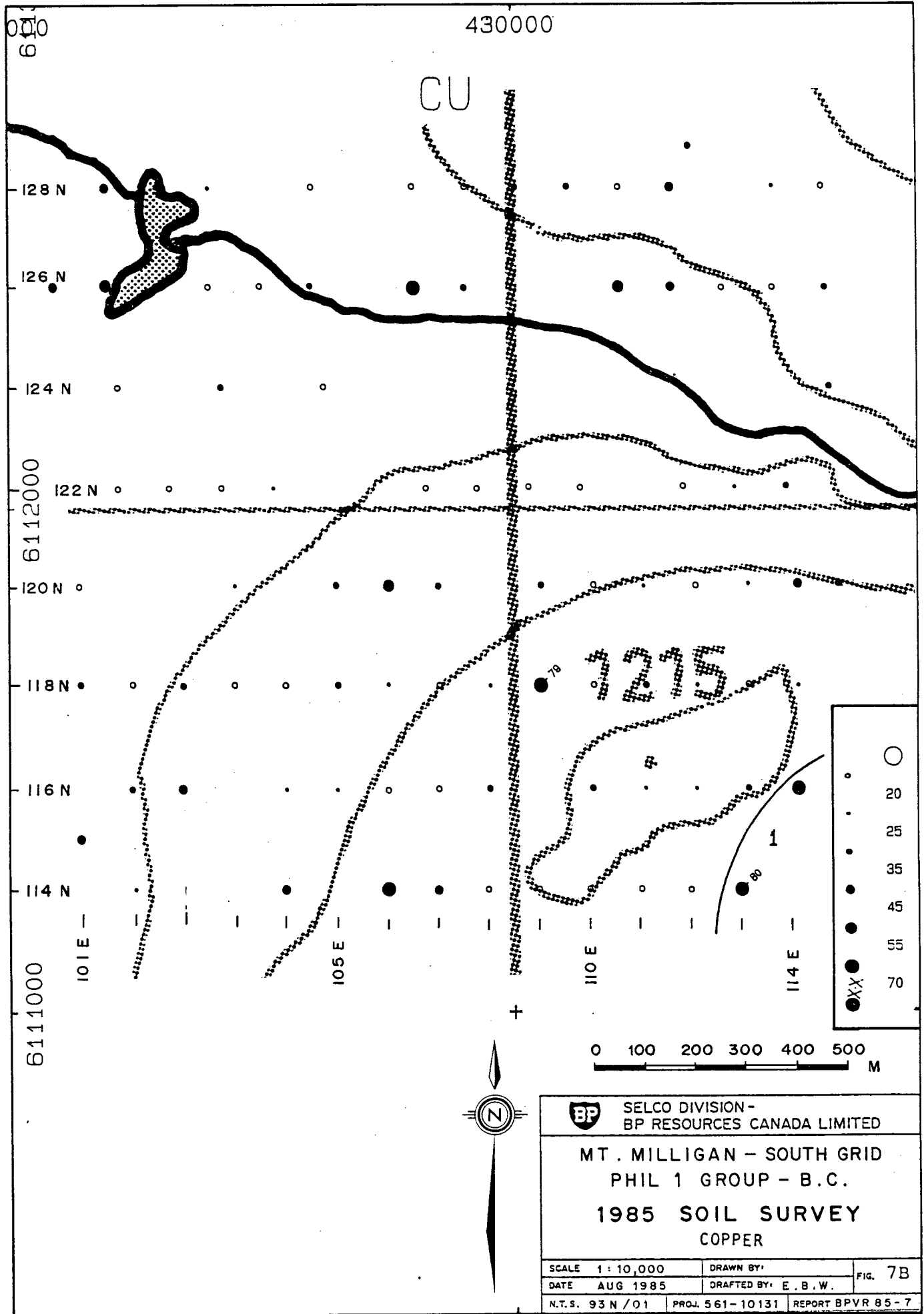
110 E

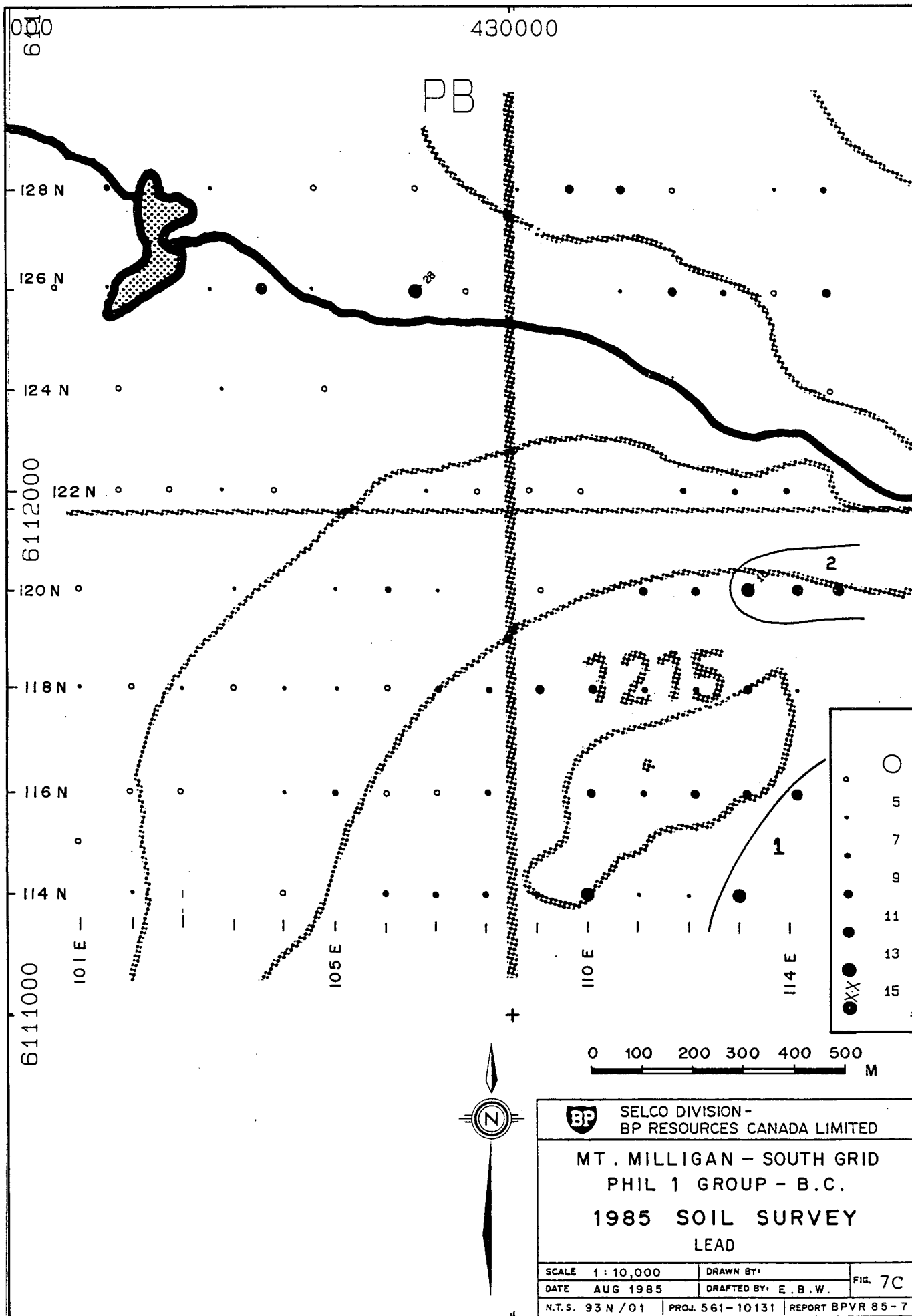
114 E

7275



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MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY MOLYBDENUM		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7A
DATE AUG 1985	DRAFTED BY: E. B. W.	
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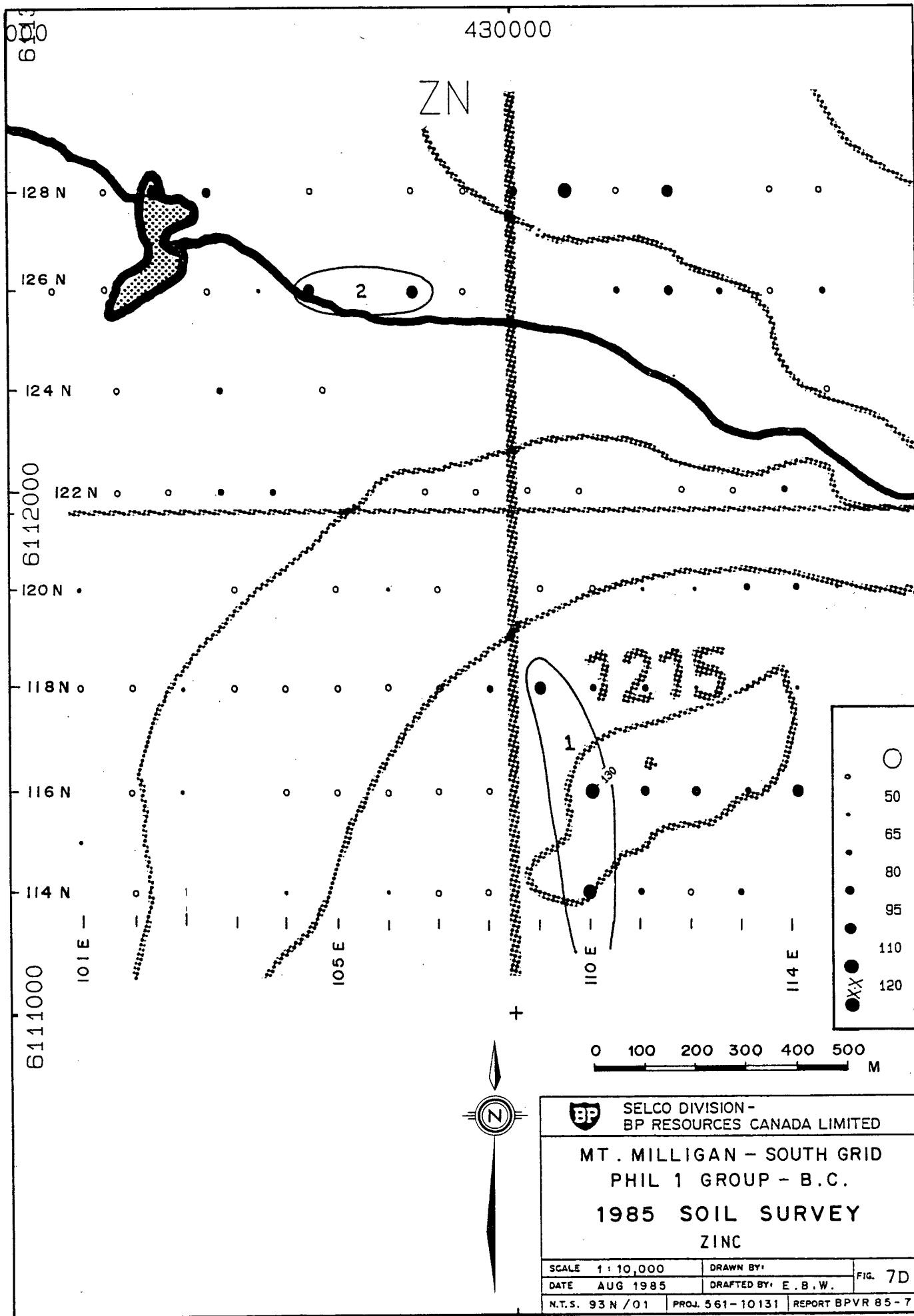





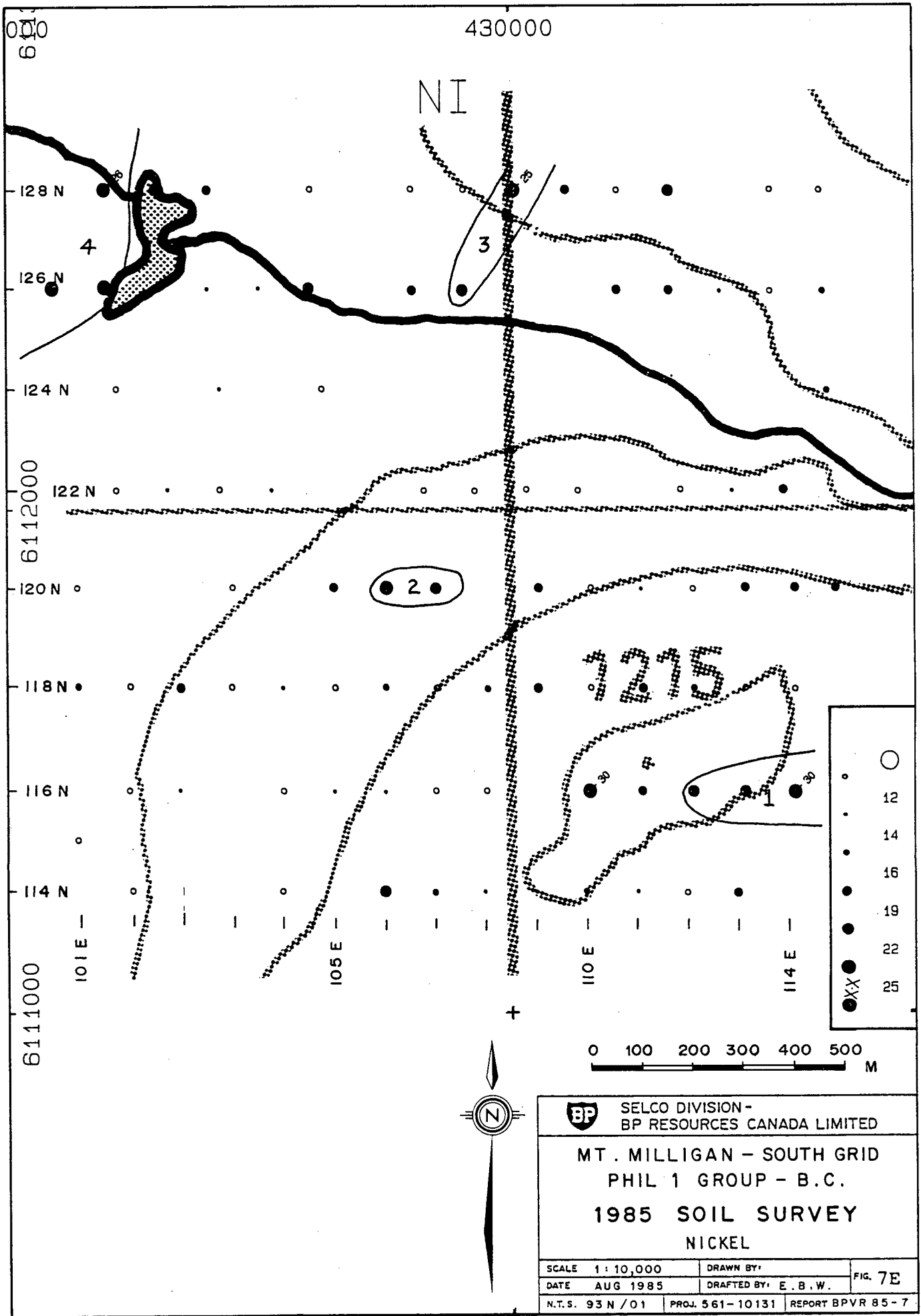
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MT. MILLIGAN - SOUTH GRID  
PHIL 1 GROUP - B.C.  
1985 SOIL SURVEY  
LEAD

SCALE 1:10,000	DRAWN BY:	FIG. 7C
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<b>MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ZINC</b>		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7D
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7



000  
6

430000

NI

128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

6111000  
101 E

105 E

110 E

114 E

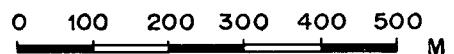
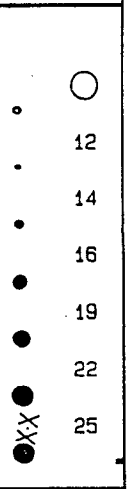
4

3

2

1

1275



SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY NICKEL		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7E
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7

f) Manganese (Figure 7F)

One Mn-rich zone is indicated values ranging between 500 and 1000 ppm. Three isolated samples exceed 1000 ppm.

g) Iron (Figure 7G)

Five areas are reflected by high Fe contents, in the range of 3.6 to 4.6%. These levels are not unusual. Much of the central and southwestern portion of the grid is associated with soils containing less than 2.4% Fe.

h) Silver (Figure 7H)

Silver anomalies are not outlined.

i) Cobalt (Figure 7I)

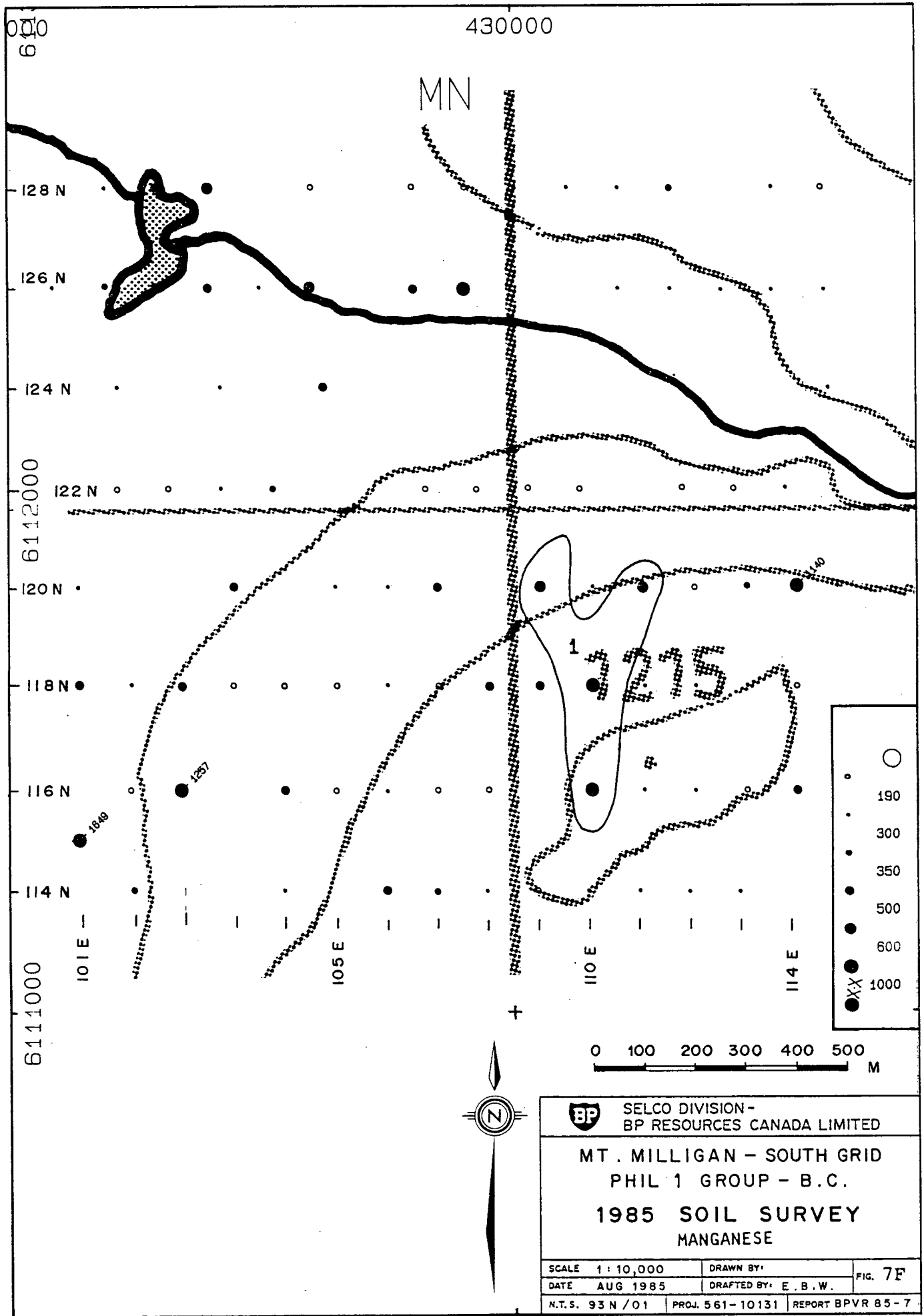
Co anomalies are not outlined.


j) Gold (Figure 7J)

Four samples exceed 25 ppb; of these, three samples contain 100 ppb, 295 ppb, and 485 ppb Au. One multisample anomaly has been outlined in the northwest.

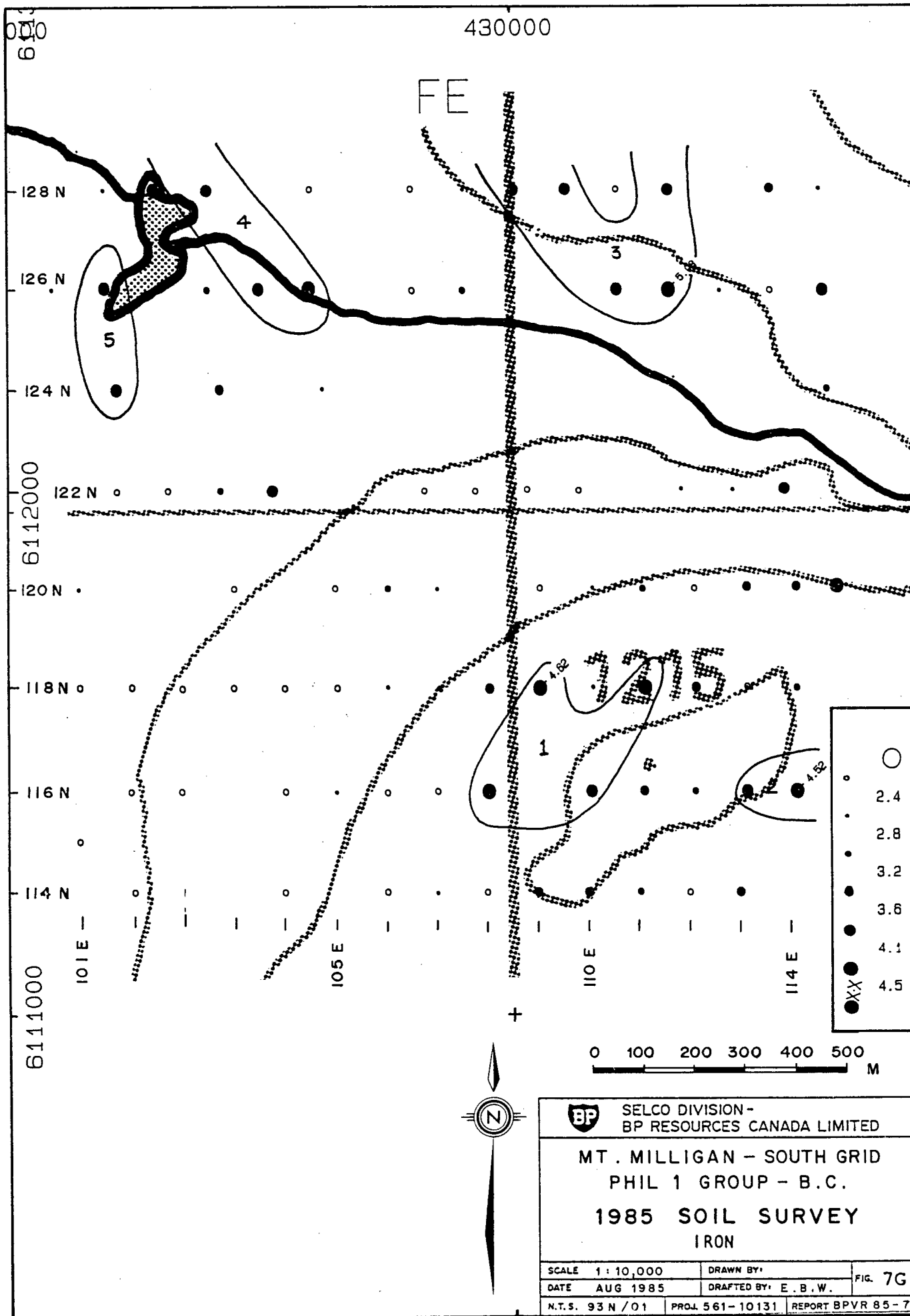
k) Arsenic (Figure 7K)

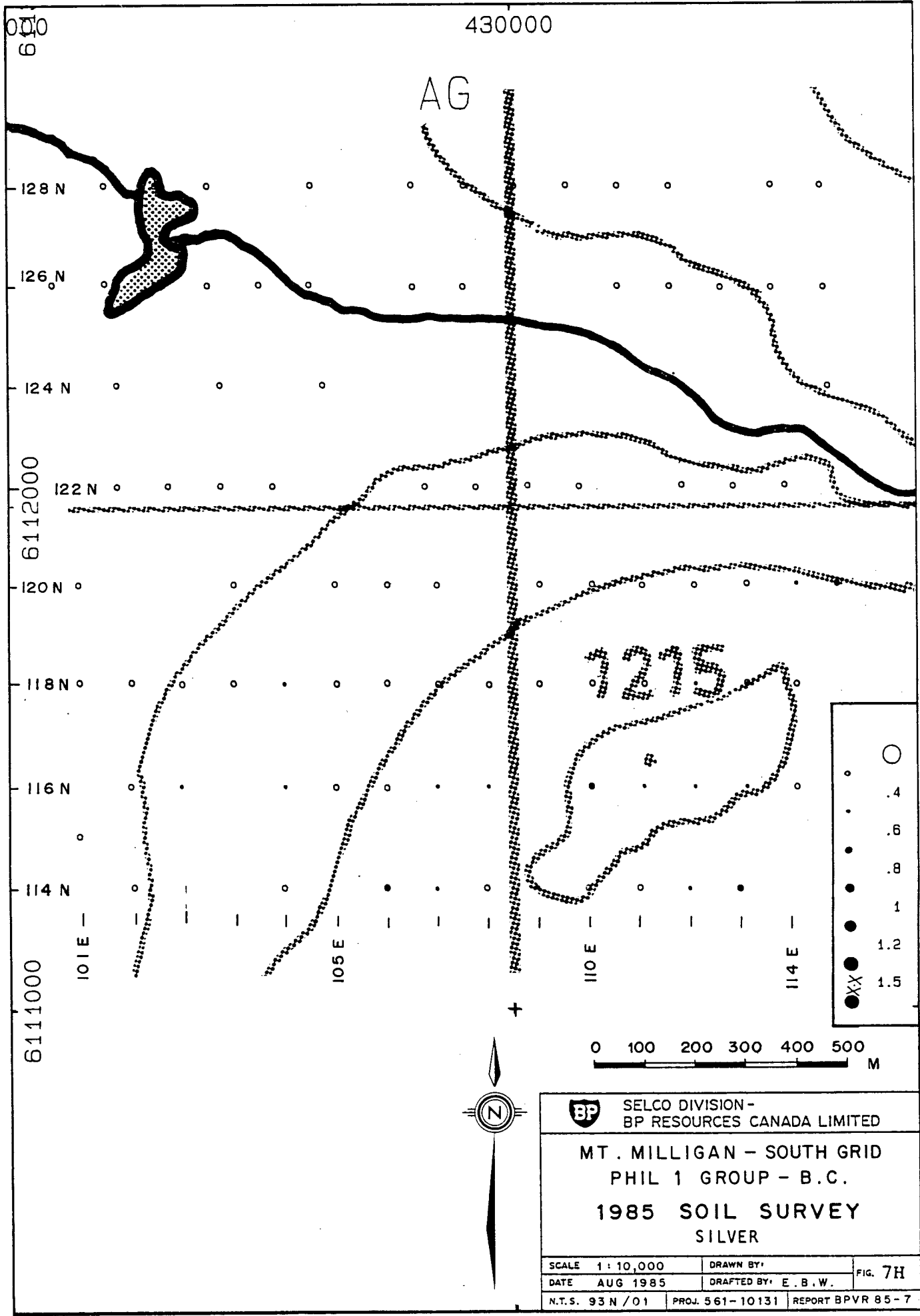
A large As anomaly, some 500 m X 500 m, is evident in the




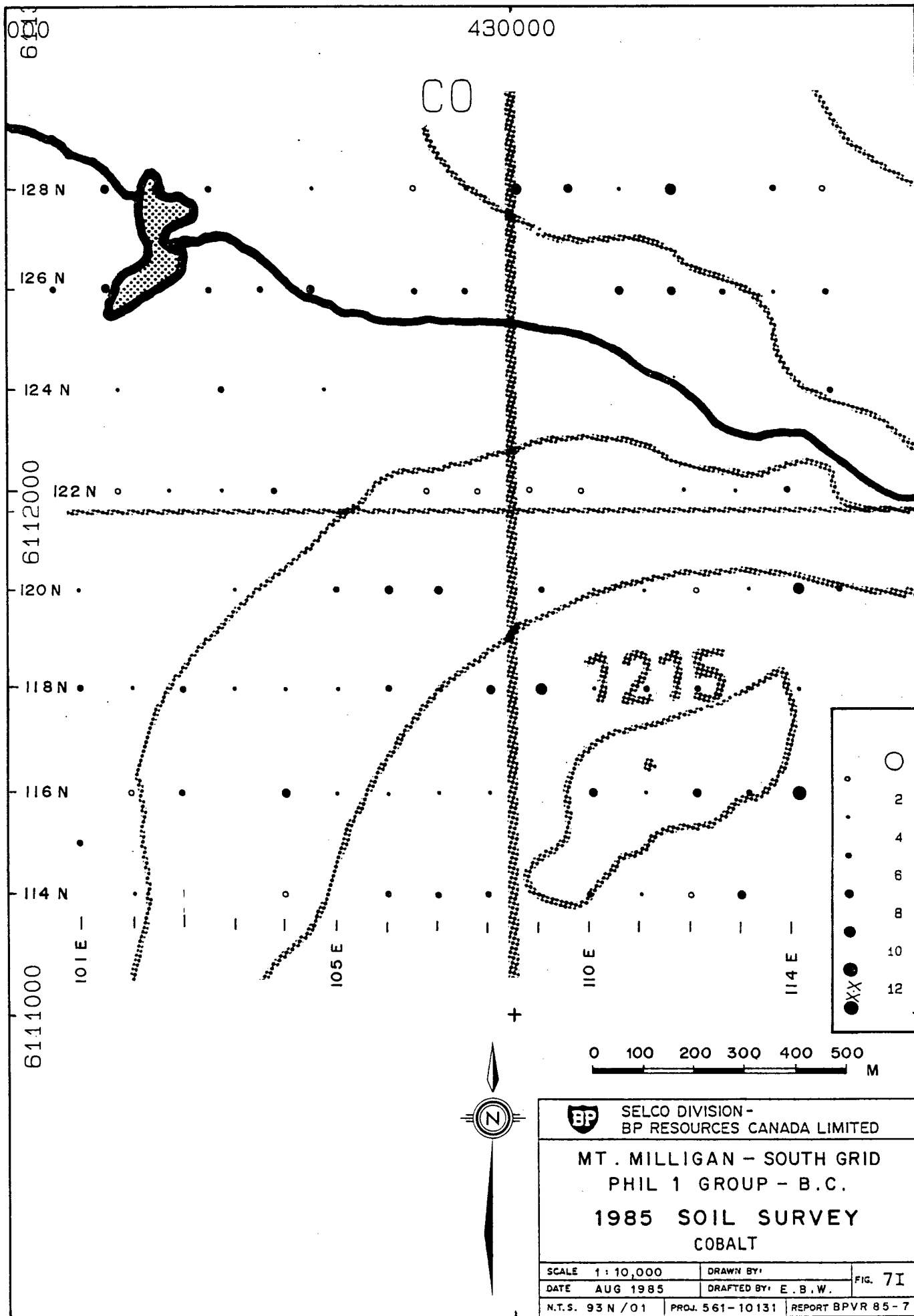
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY MANGANESE		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7F
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N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7







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MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY SILVER	
SCALE 1 : 10,000	DRAWN BY:
DATE AUG 1985	DRAFTED BY: E. B. W.
N.T.S. 93 N / 01	PROJ. 561-10131
REPORT BPVR 85-7	FIG. 7H



600000

430000

CO

128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

6111000

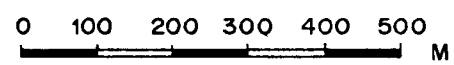
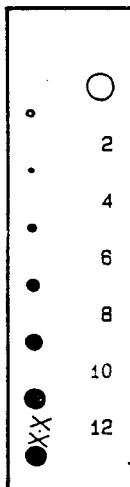
101 E

105 E

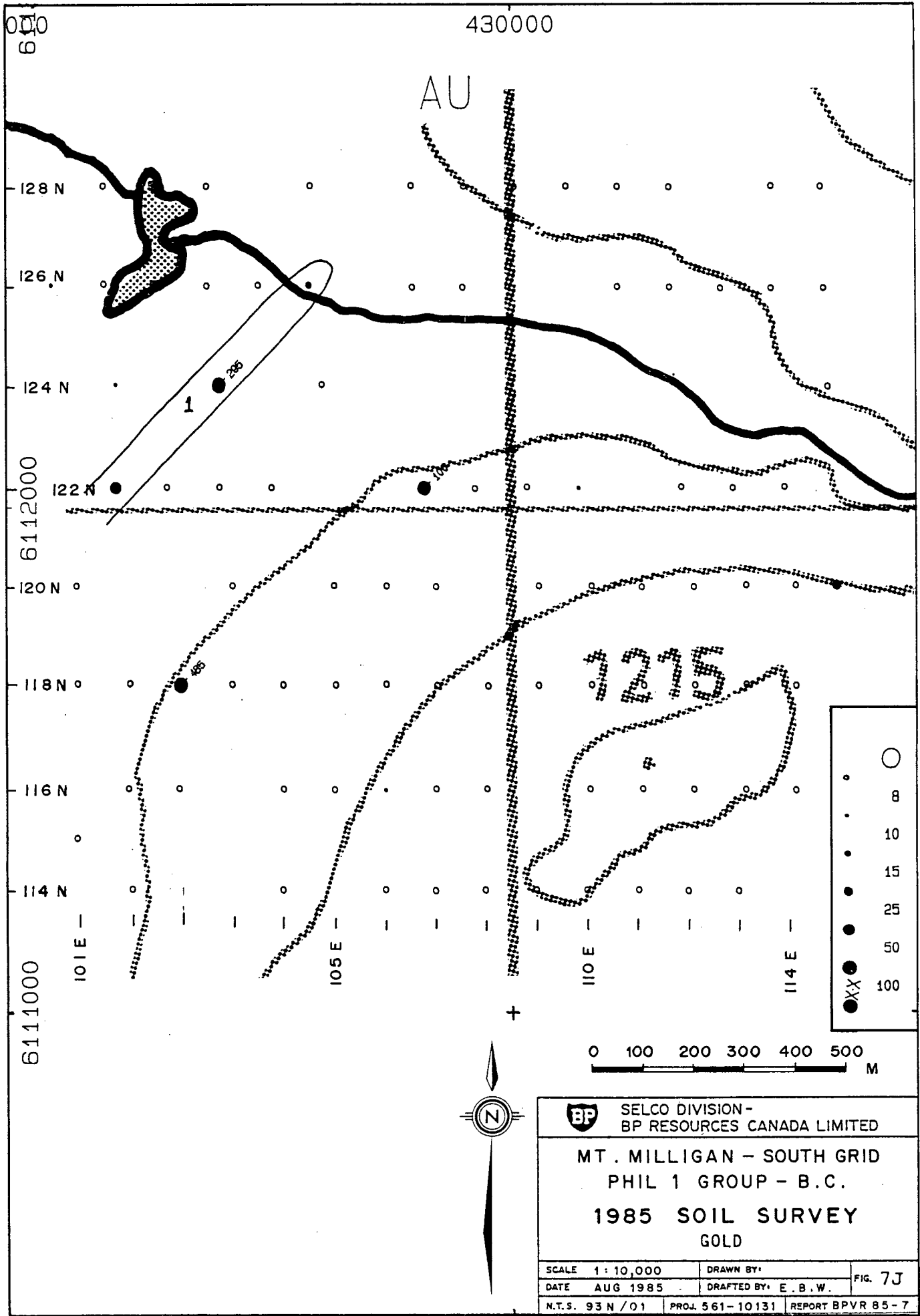
110 E

114 E

7275

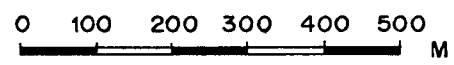
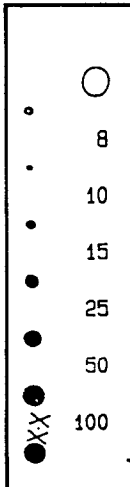



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MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY COBALT		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7I
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7

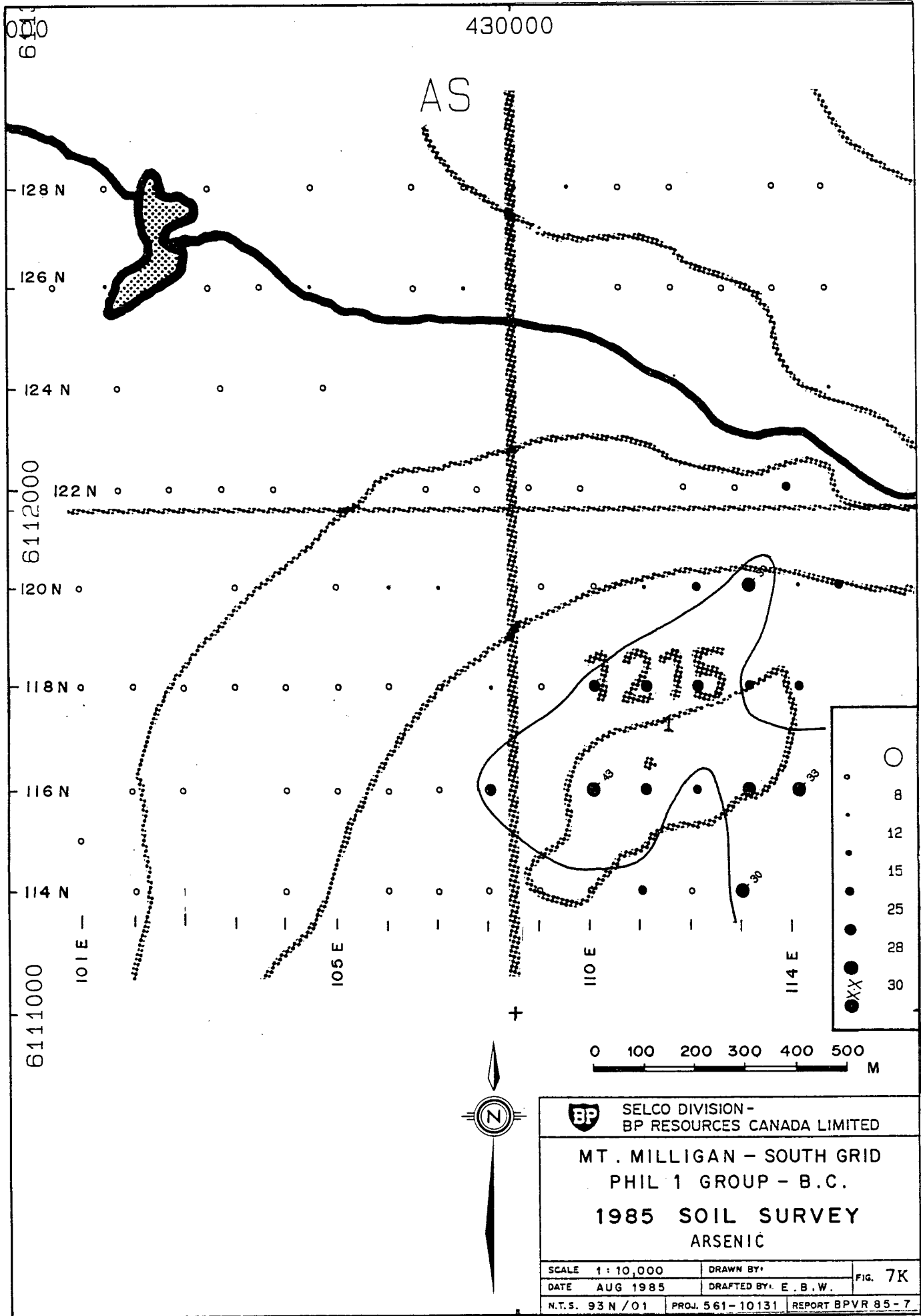



AU

7275



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<b>MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY GOLD</b>		
SCALE 1:10,000	DRAWN BY:	FIG. 7J
DATE AUG 1985	DRAFTED BY: E. B. W.	
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<b>MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ARSENIC</b>		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7K
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7

southeast. Maximum As content is 30 to 40 ppm.

l) Antimony (Figure 7L)

Sb anomalies are not indicated.

m) Bismuth (Figure 7M)

Bi anomalies are not indicated.

n) Vanadium (Figure 7N)

The V distribution is distinguished by higher values north of UTM 6112000 m N. The distribution otherwise is not indicative of geologic or other controls.

o) Barium (Figure 7O)

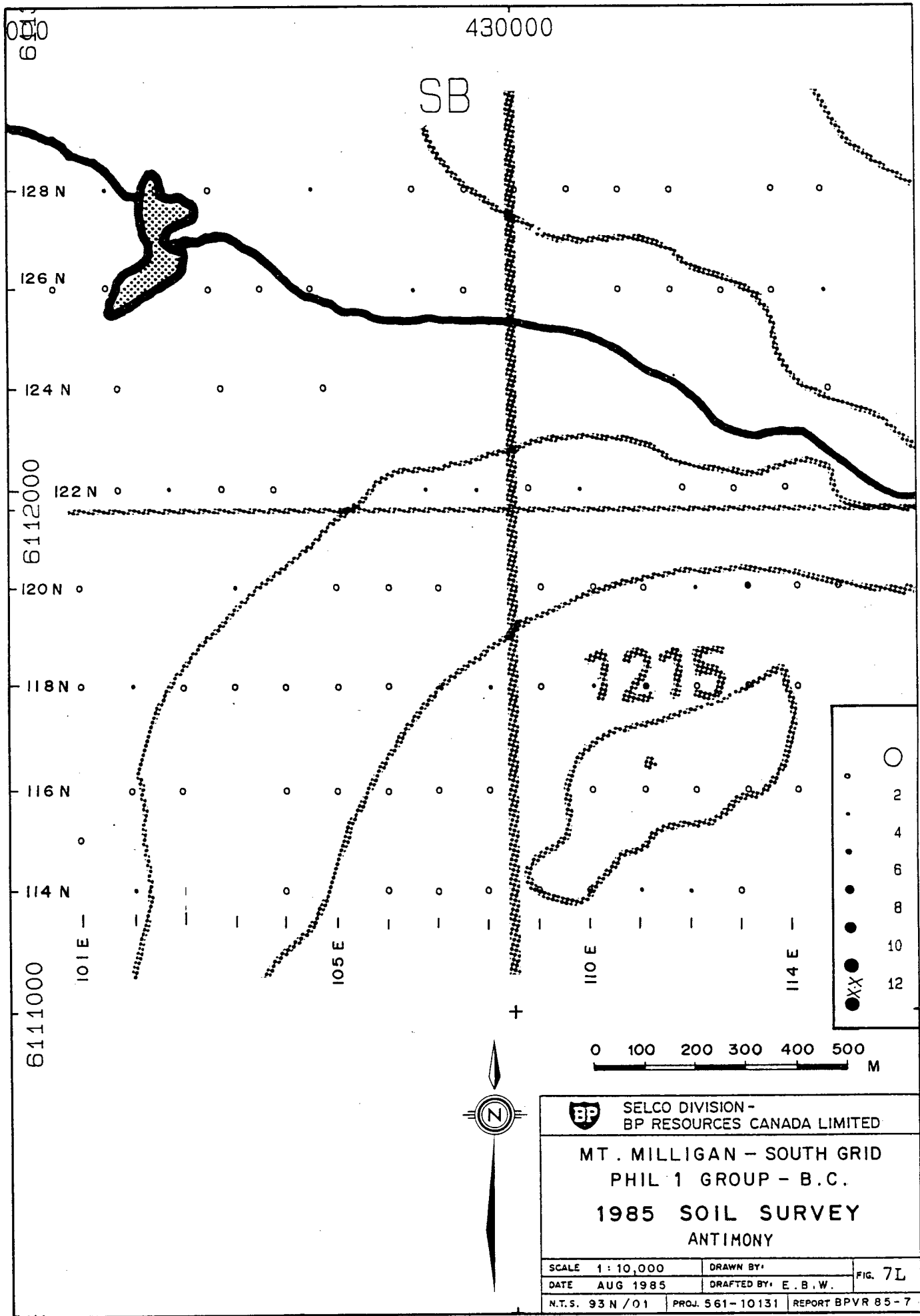
Two areas of higher Ba are noted. These may relate to geology, but are unlikely to be due to occurrence of barite.


p) Strontium (Figure 7P)

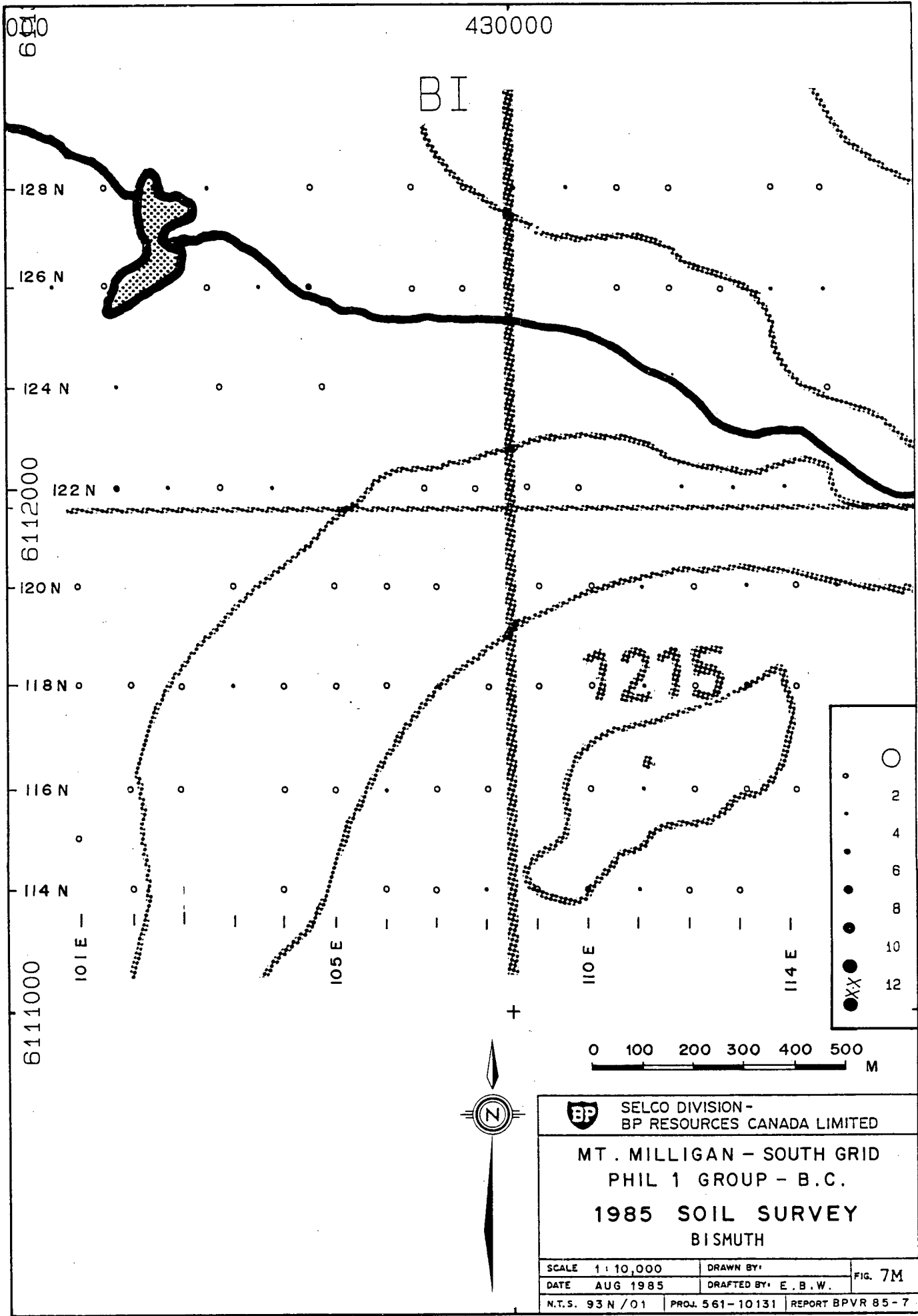
The southwest corner of the grid is reflected by enhanced Sr contents.

q) Aluminum (Figure 7Q)

High Al levels, in the 2 to 2.4% range, are widely



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MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ANTIMONY		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7L
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7



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430000

BI

128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

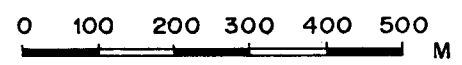
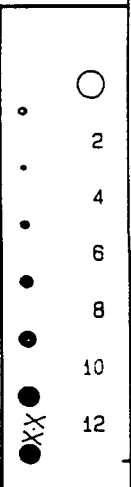
6111000  
101 E

105 E

110 E

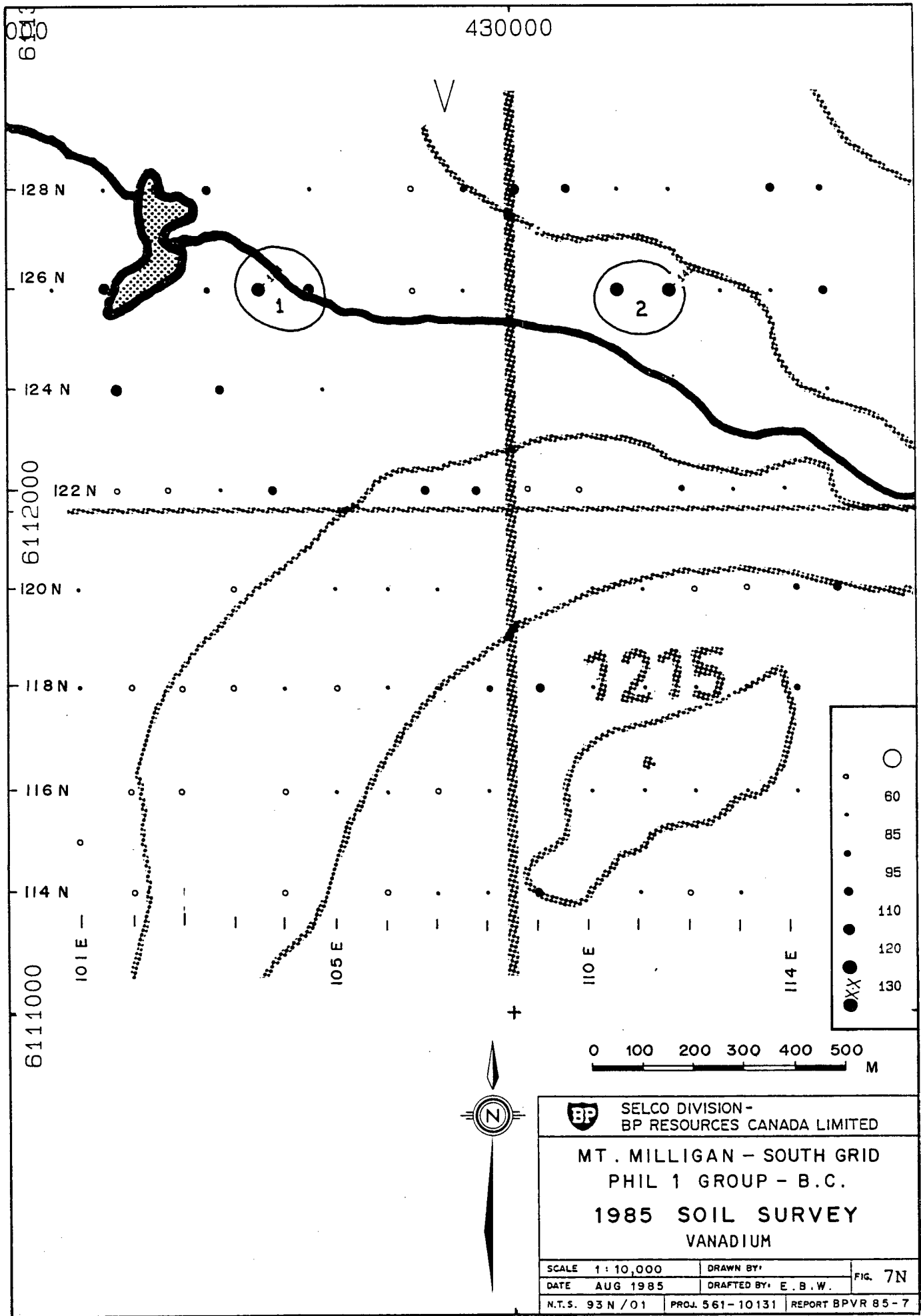
114 E


7275

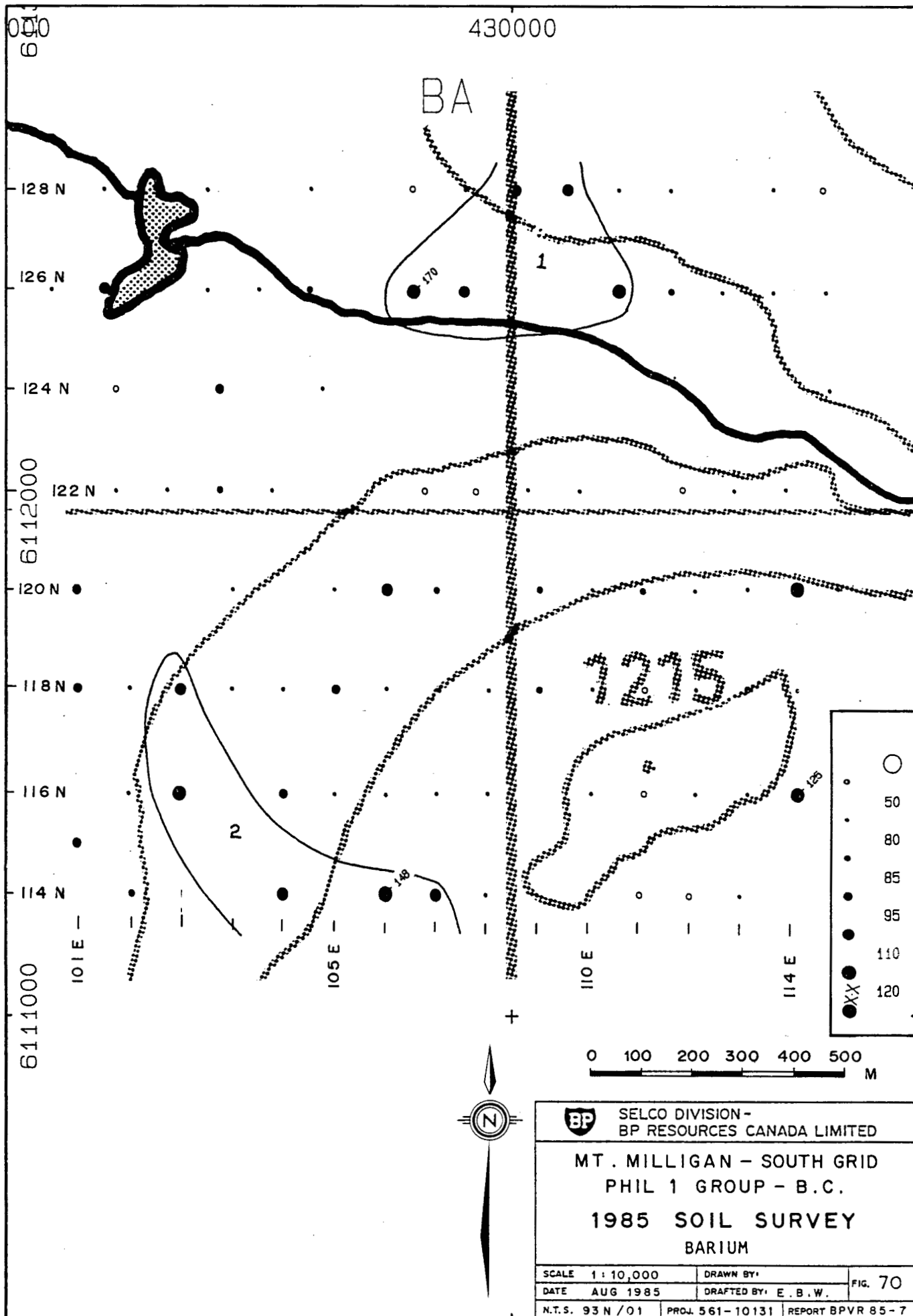



SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY BISMUTH		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7M
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7

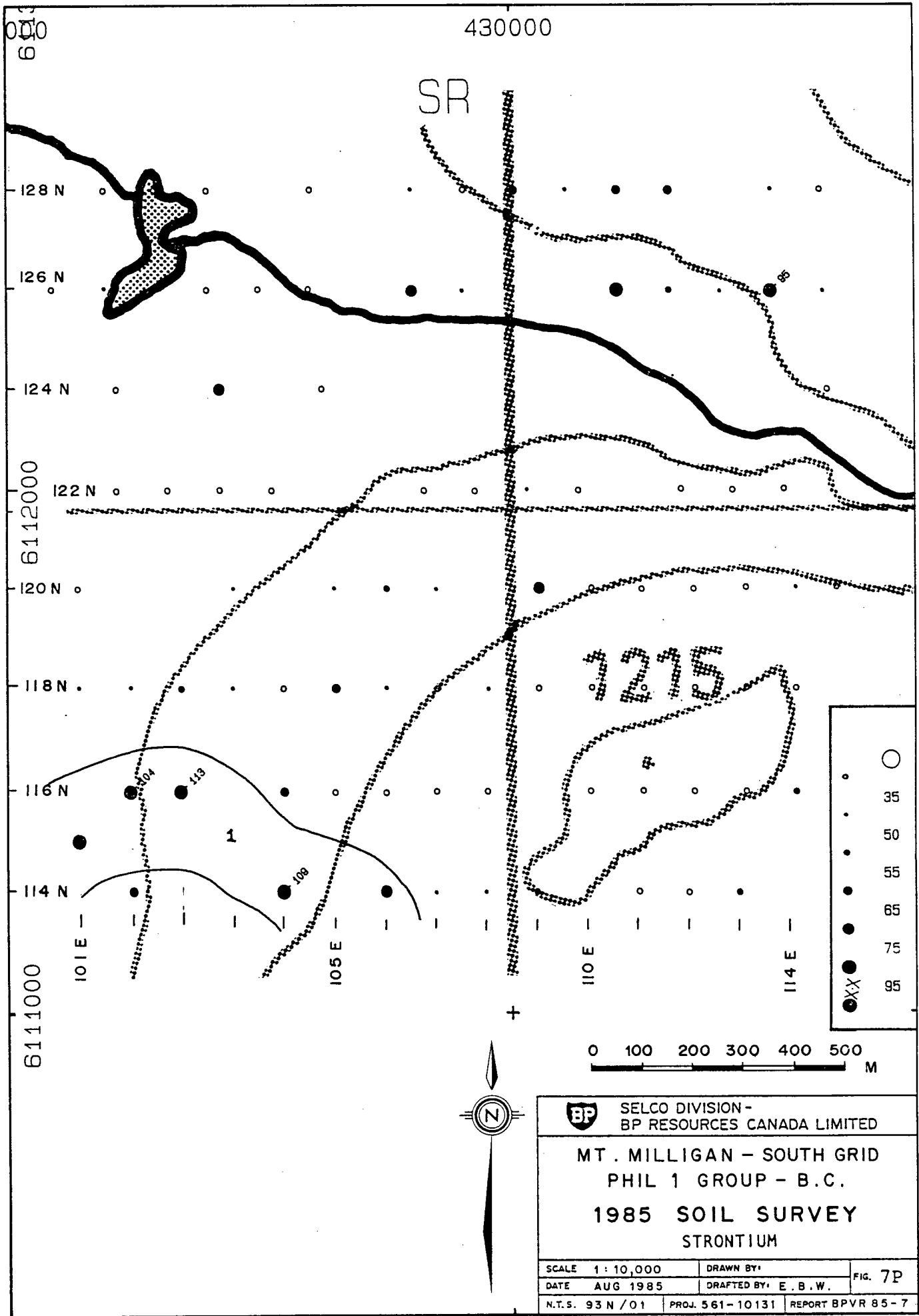




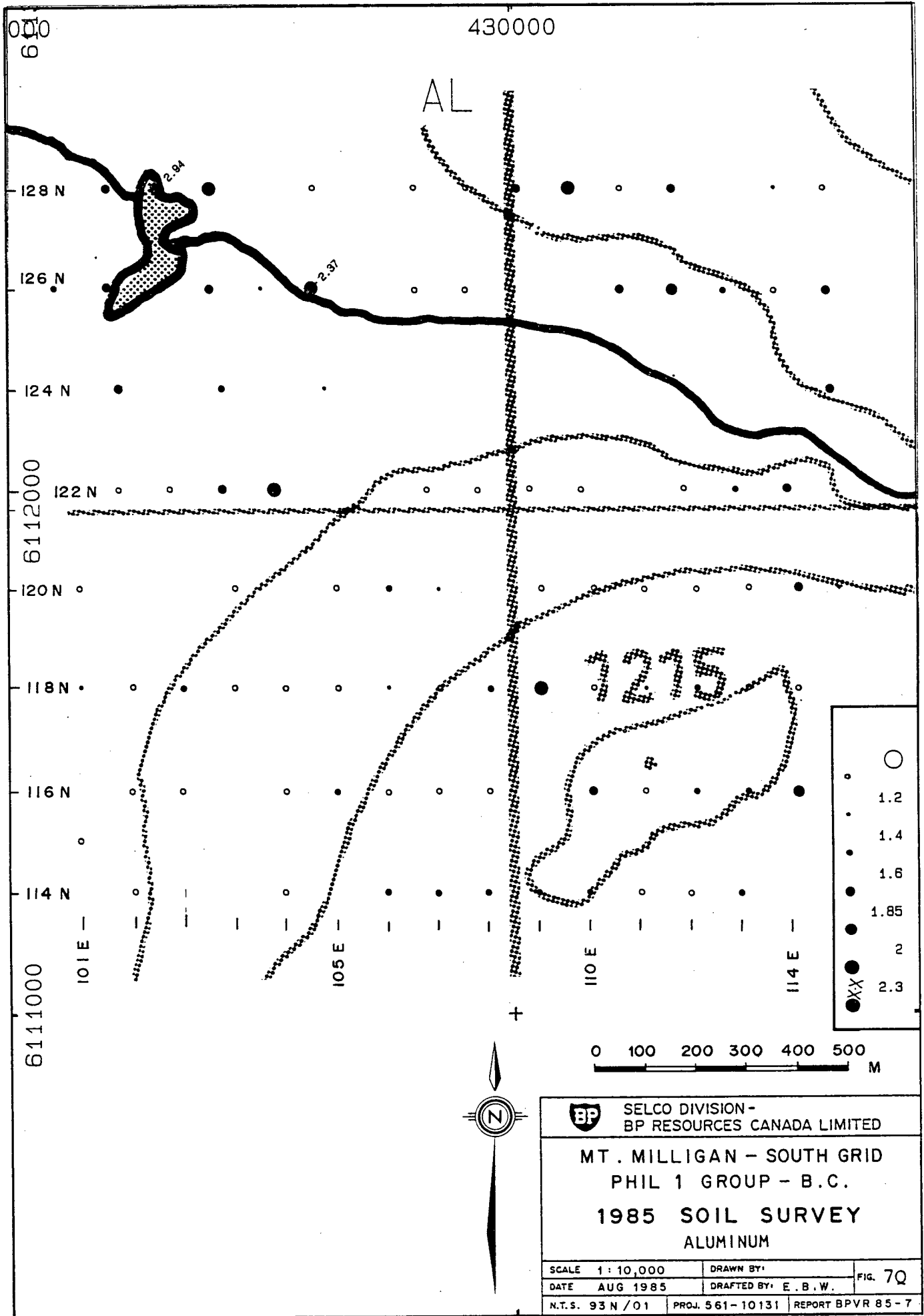
 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY VANADIUM</b>		
SCALE 1: 10,000	DRAWN BY:	FIG. 7N
DATE AUG 1985	DRAFTED BY: E. B. W.	
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 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY BARIUM</b>		
SCALE 1 : 10,000	DRAWN BY:	FIG. 70
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7



SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY STRONTIUM		
SCALE 1:10,000	DRAWN BY:	FIG. 7P
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7



000  
6

430000

AL

128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

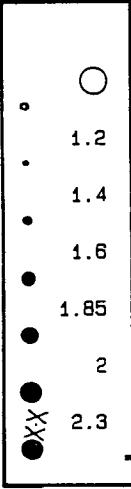
6111000  
101 E


105 E

110 E

114 E

0 100 200 300 400 500 M



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ALUMINUM		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7Q
DATE AUG 1985	DRAFTED BY: E. B. W.	
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scattered over the grid. It is unlikely these samples, which reflect soils rich in clays, are abnormally scavenging trace elements.

r) Calcium (Figure 7R)

One large area exhibits Ca enrichment in the southwest, complimenting the Sr distribution. Three isolated high values are found elsewhere on the grid and may be due to organic contaminated soil samples. These samples are not anomalous in base metals.

s) Magnesium (Figure 7S)

Two Mg anomalies are outlined. These are remote from base metal anomalies.

t) Potassium (Figure 7T)

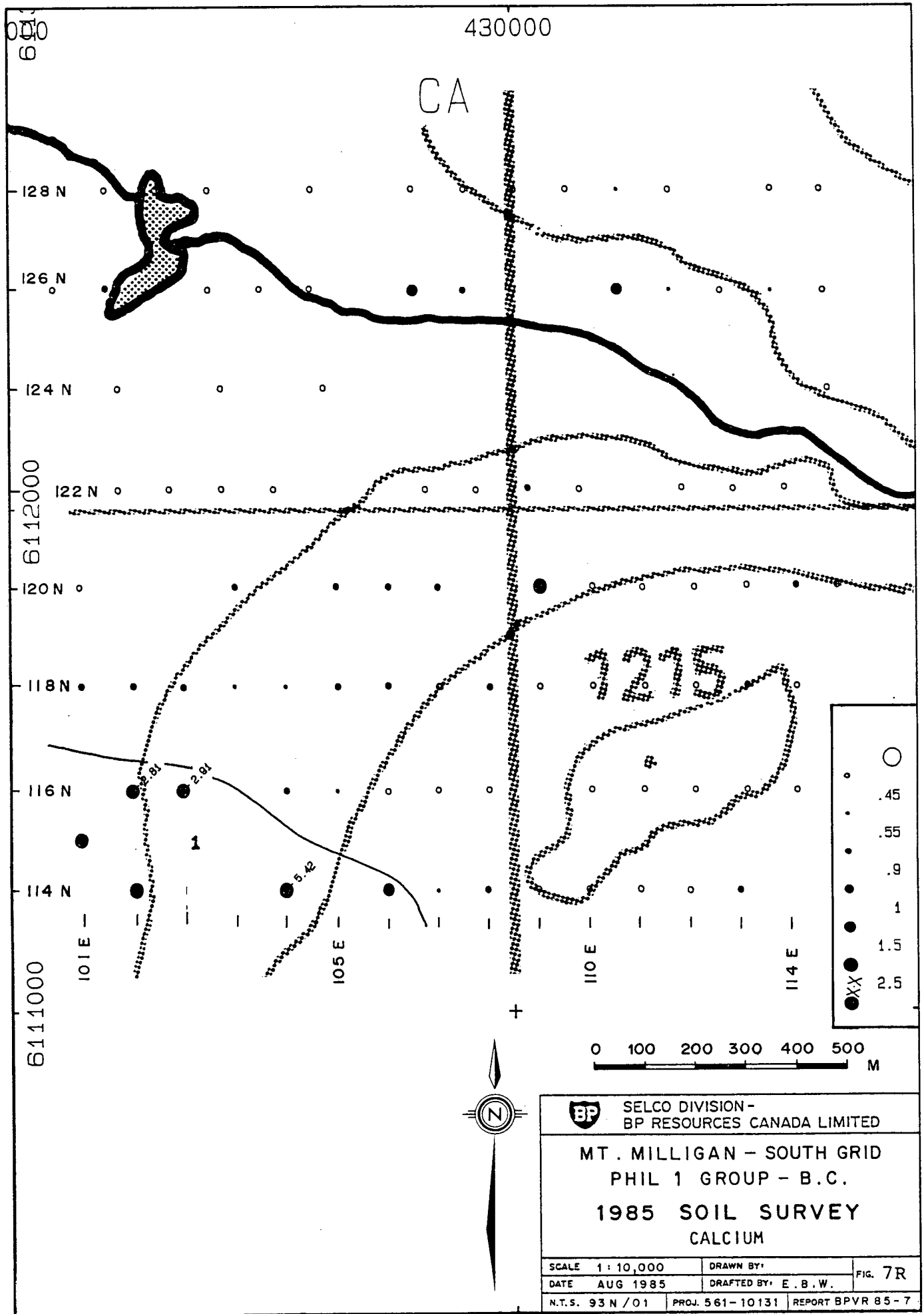
K follows Mg.

u) Titanium (Figure 7U)

Ti follows Mg and K.

v) Phosphorous (Figure 7V)

Two P anomalies are defined over the northern portion of the grid, in the east and west.



430000

CA

611000

128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

6111000

101 E

105 E

110 E

114 E

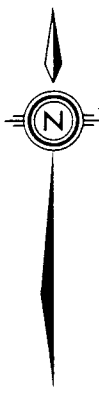
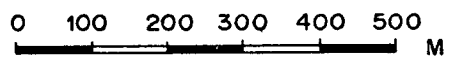
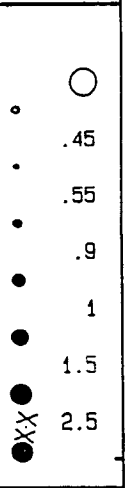
7275


2.91

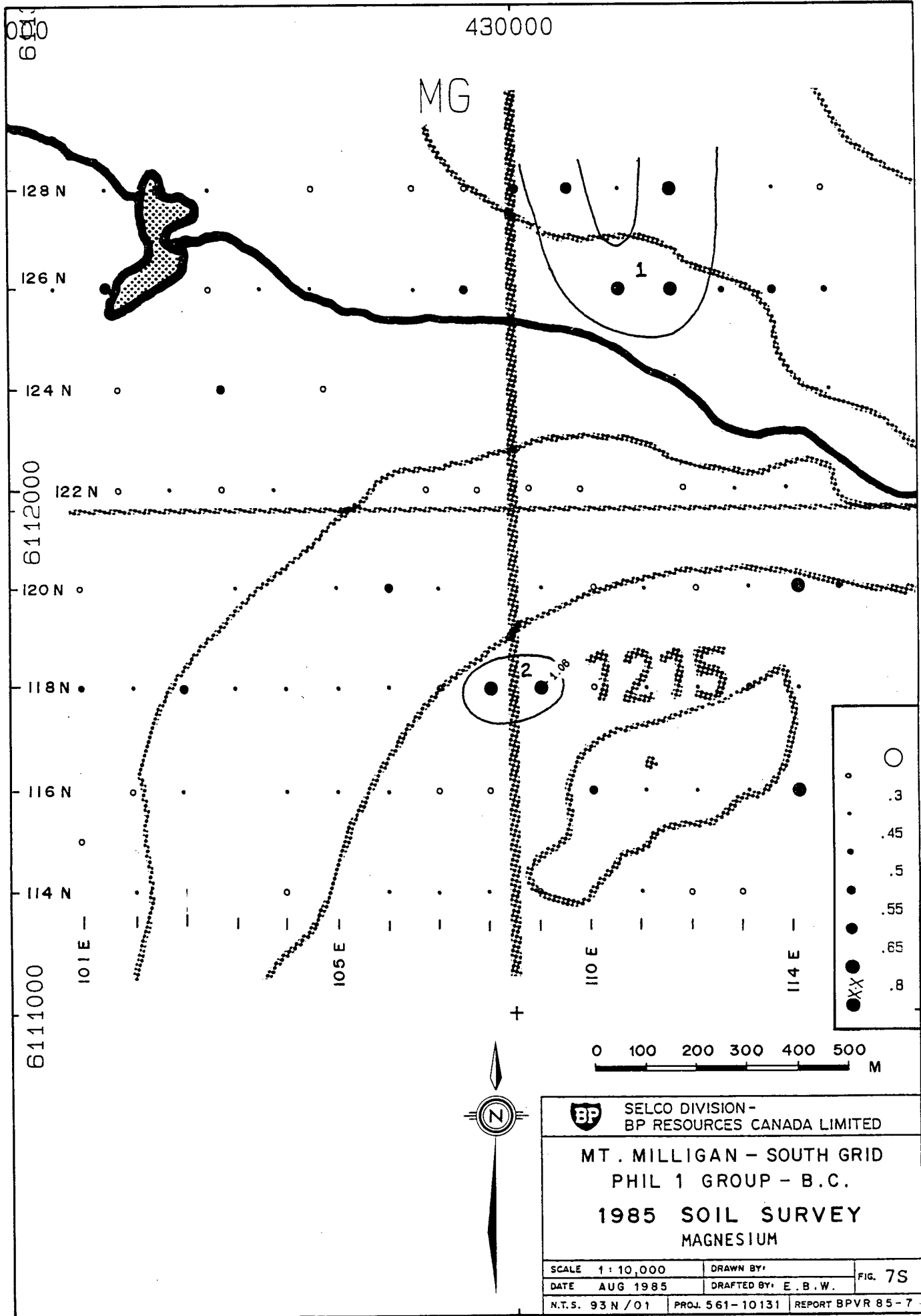
2.91


5.42

1



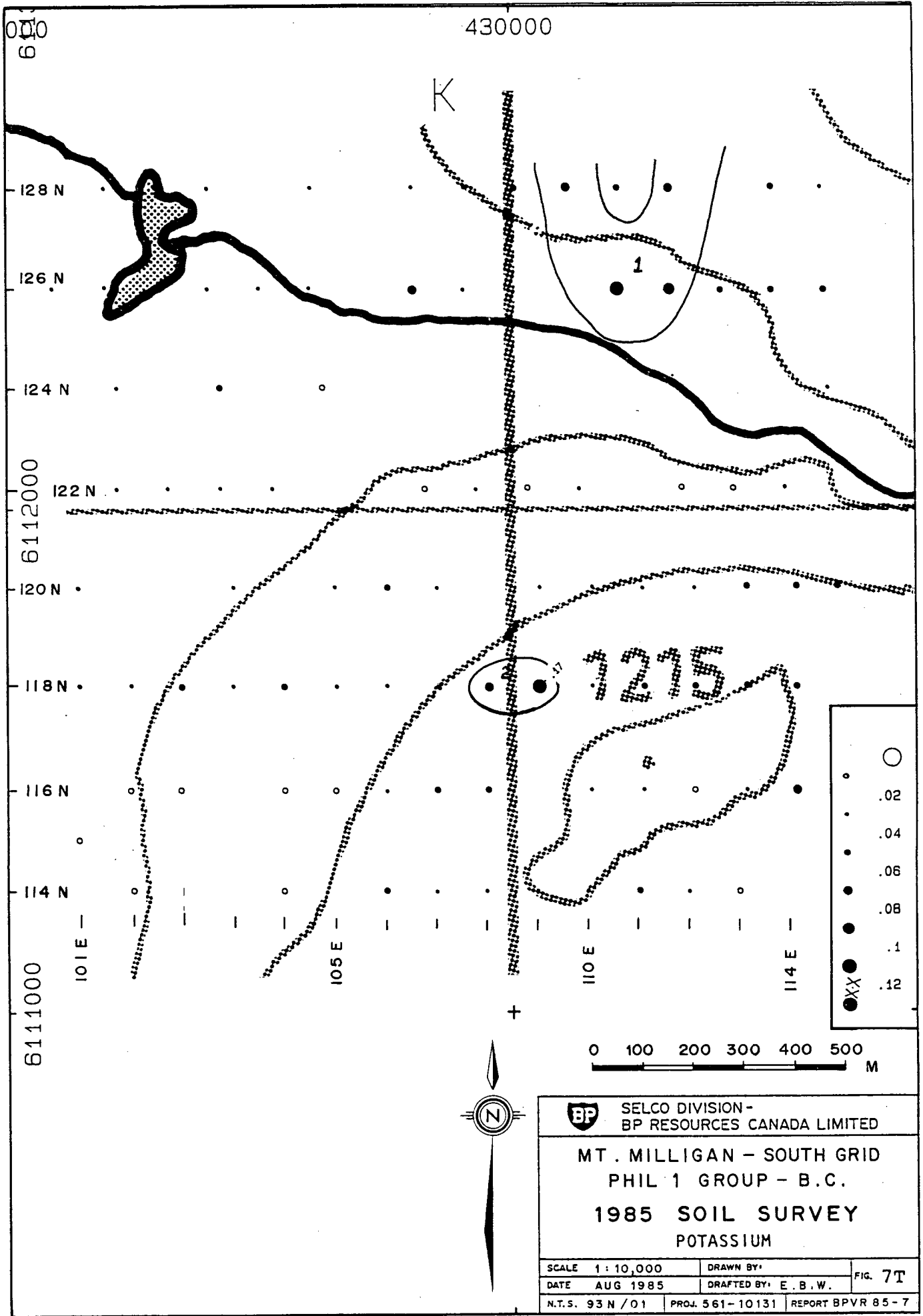
 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY CALCIUM		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7R
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7




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 BP RESOURCES CANADA LIMITED

MT. MILLIGAN - SOUTH GRID  
 PHIL 1 GROUP - B.C.  
 1985 SOIL SURVEY  
 MAGNESIUM

SCALE 1 : 10,000	DRAWN BY:	FIG. 7S
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7

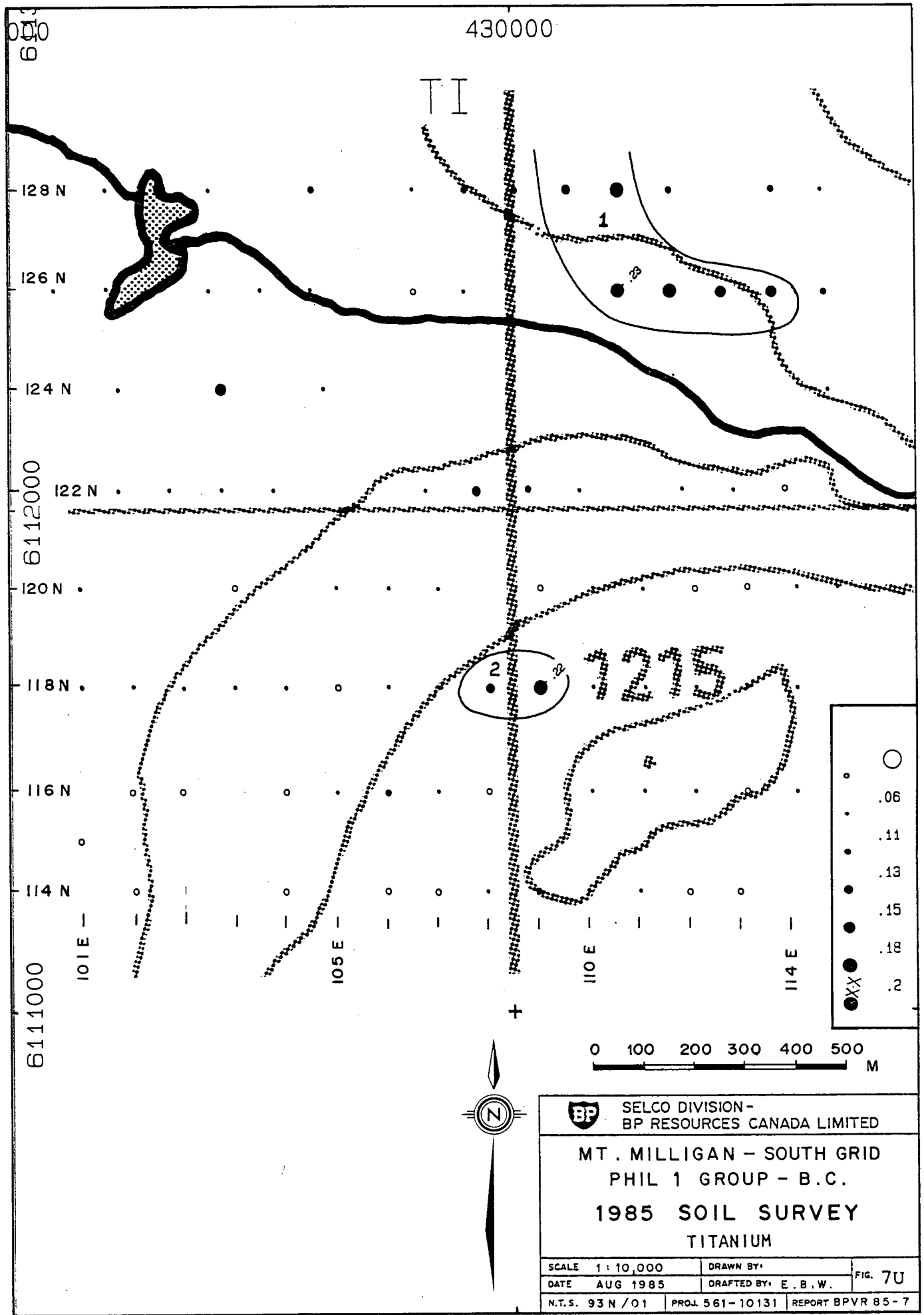


 SELCO DIVISION -  
 BP RESOURCES CANADA LIMITED

MT. MILLIGAN - SOUTH GRID  
 PHIL 1 GROUP - B.C.  
 1985 SOIL SURVEY  
 POTASSIUM

SCALE 1 : 10,000	DRAWN BY:	FIG. 7T
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7





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TI

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128 N

126 N

124 N

122 N

120 N

118 N

116 N

114 N

6111000

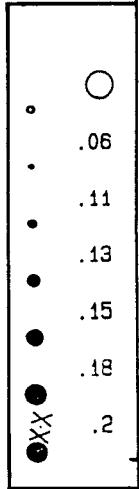
101 E

105 E

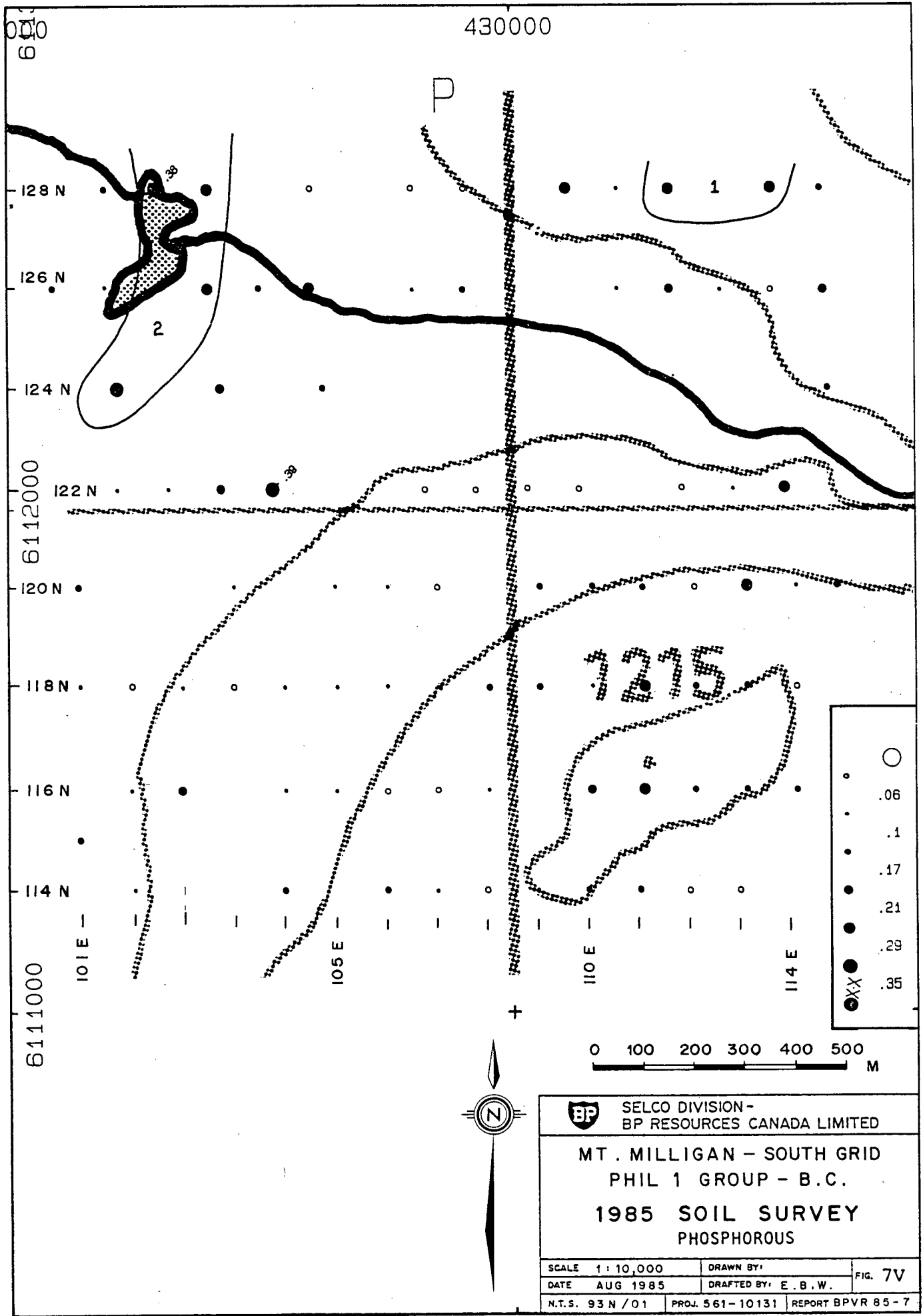
110 E

114 E

0 100 200 300 400 500 M



SELCO DIVISION - BP RESOURCES CANADA LIMITED	
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY TITANIUM	
SCALE 1 : 10,000	DRAWN BY:
DATE AUG 1985	DRAFTED BY: E. B. W.
N.T.S. 93 N / 01	PROJ. 561-10131
REPORT BPVR 85-7	FIG. 7U



SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - SOUTH GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY PHOSPHOROUS		
SCALE 1 : 10,000	DRAWN BY:	FIG. 7V
DATE AUG 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 N / 01	PROJ. 561-10131	REPORT BPVR 85-7

Discussion of Results

Geochemical patterns on the south grid are not outstanding. Base metal anomalies are weak and could be explained by local bedrock not having a sulphide potential. Other pathfinder elements for precious metals are absent with the exception of a large As feature in the southeast which appears lithologically controlled. The As anomaly lies remote from Au-rich soils. Ag is not present in anomalous concentrations on the grid.

Au is about the only element which is present in regionally anomalous levels, but the distribution of values is erratic, suggesting a nugget effect may be controlling its distribution. Reanalysis, followed by resampling is in order prior to continuing systematic ground evaluation.

Geochemical distributions are relatively featureless over the south grid. Suggestions of geological or overburden control on metal levels are given by:

- (1) As, Fe - southeast corner of grid
- (2) Ca, Sr, Ba - southwest corner of grid.
- (3) Mg, K, Ti, V, Fe - northeast corner of grid.

### Conclusions

The grid is not reflected by anomalous geochemistry, with the exception of several high, widely distributed gold values. These should be confirmed analytically for validity and if analysis is positive, resampling at a greater density is warranted.

### Recommendations

- (1) Reanalyse anomalous gold values to check their validity.
- (2) If valid, a one day field visit to resample sites and map local geology is in order. Resampling should be at a 50 m X 100 m density.
- (3) Further work recommendations must await a successful outcome to (2) alone.

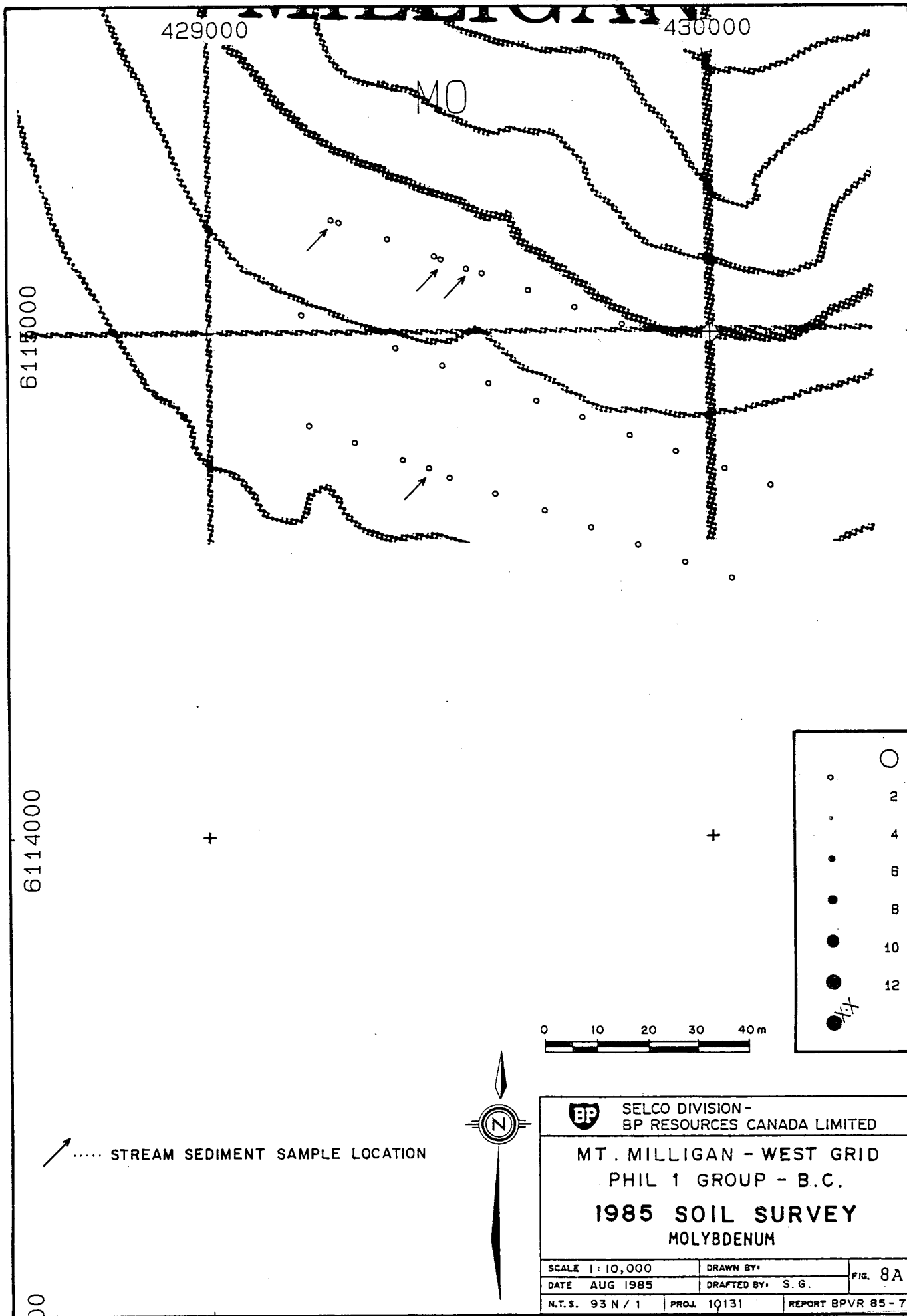
### 3. West Grid Survey

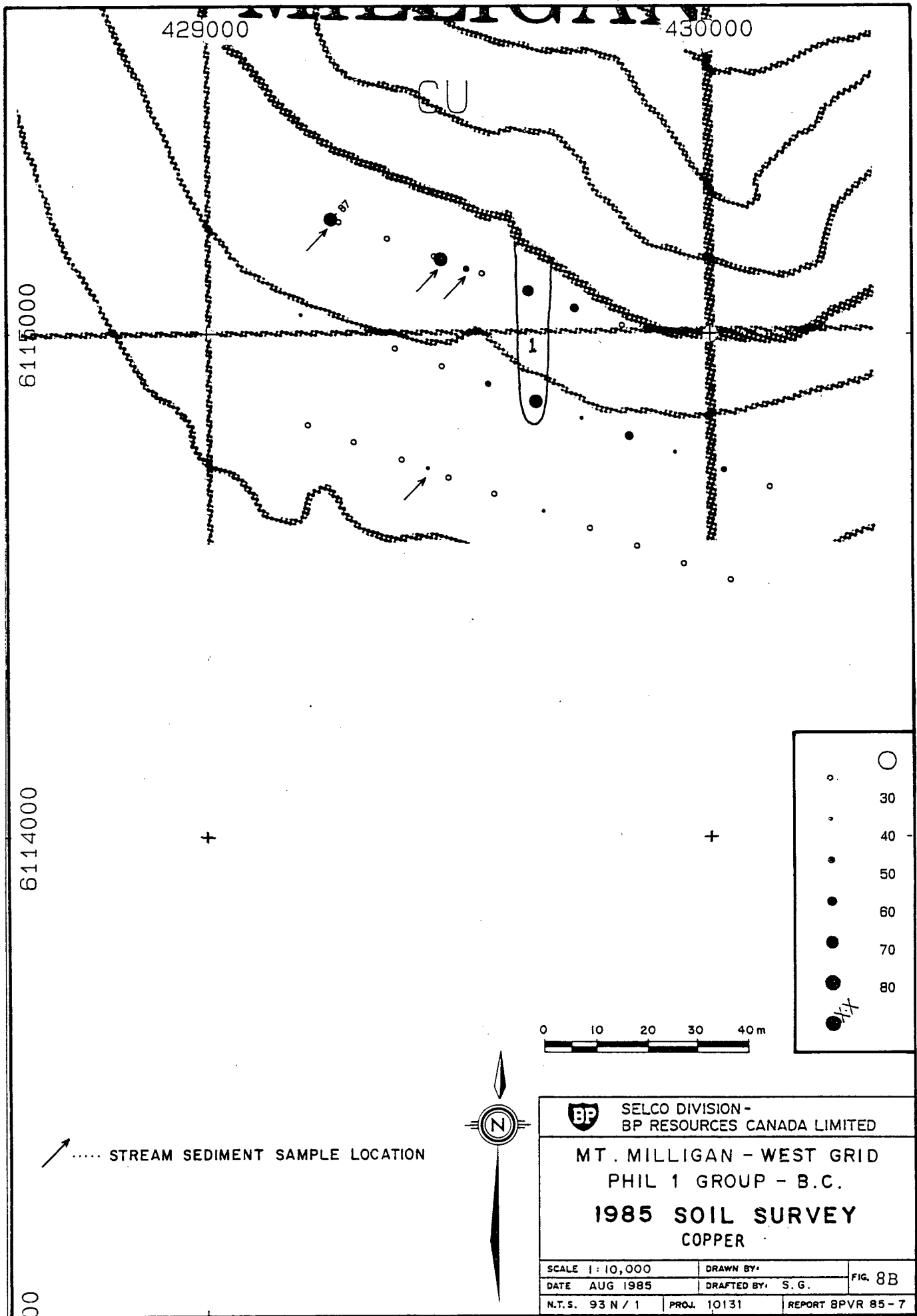
#### a) Molybdenum (Figure 8A)

Mo levels are all below 2 ppm.

#### b) Copper (Figure 8B)

One weak Cu anomaly is defined. Cu content of stream





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Cu

6115000

6114000

○  
30  
40  
50  
60  
70  
80

0 10 20 30 40 m



..... STREAM SEDIMENT SAMPLE LOCATION

**BP** SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

1985 SOIL SURVEY  
COPPER

SCALE 1: 10,000	DRAWN BY:	FIG. 8B
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7

sediments are higher than in soils, but insufficient sediment samples are available to interpret the data.

c) Lead (Figure 8C)

One weak Pb anomaly is indicated.

d) Zinc (Figure 8D)

One zone having 50 to 65 ppm Zn levels is outlined.

e) Nickel (Figure 8E)

Ni contents are high in the east of the grid.

f) Manganese (Figure 8F)

Mn contents are generally low at less than 300 ppm, with the exception of one soil sample and two stream sediment samples.

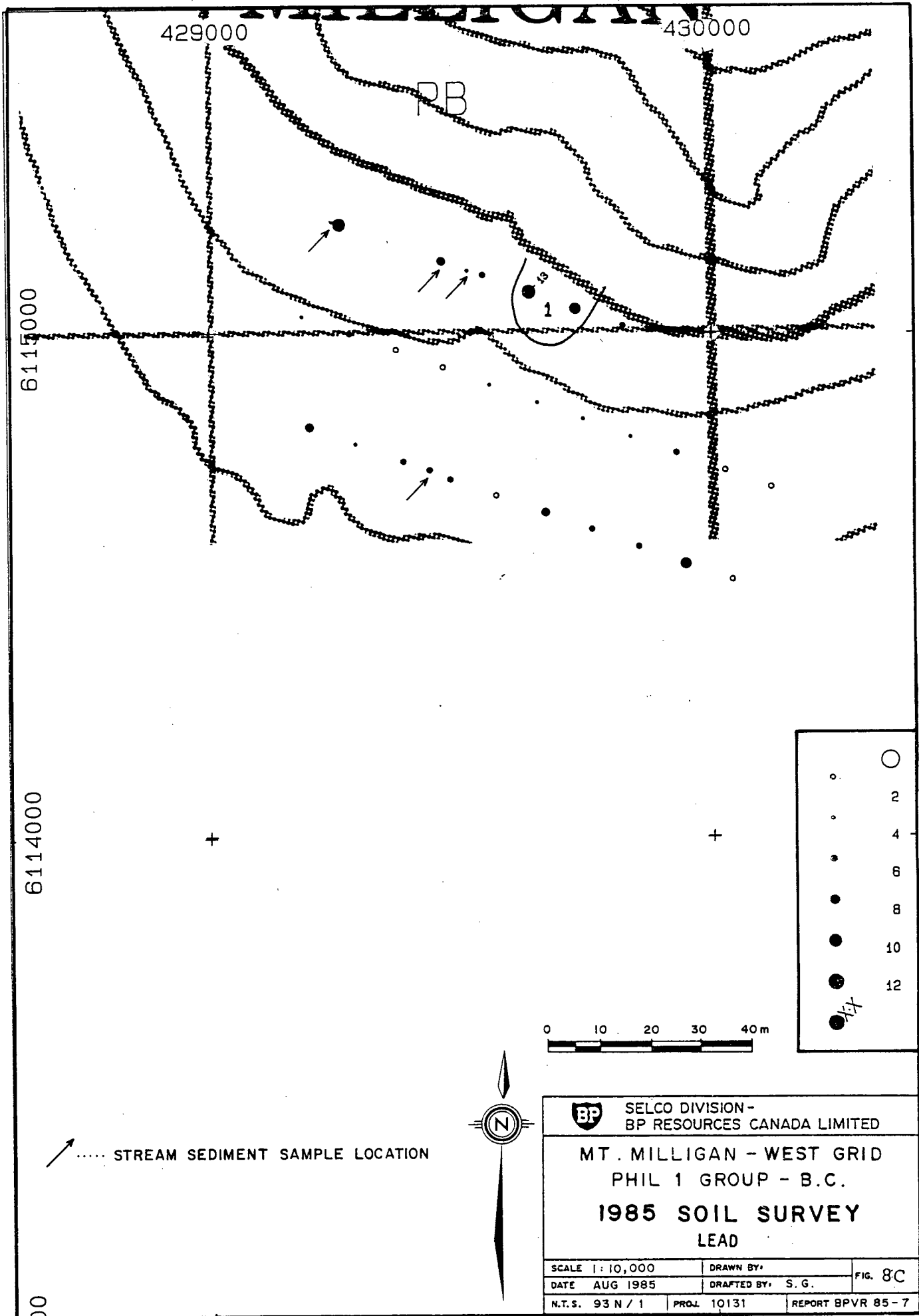
g) Iron (Figure 8G)

Fe contents are higher in the east.

h) Silver (Figure 8H)

Silver contents are all at the detection limit.

i) Cobalt (Figure 8I)



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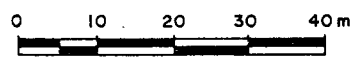
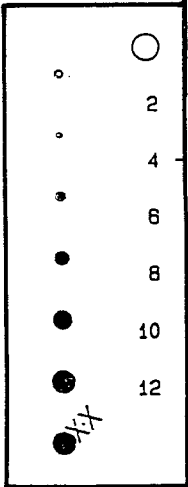
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..... STREAM SEDIMENT SAMPLE LOCATION




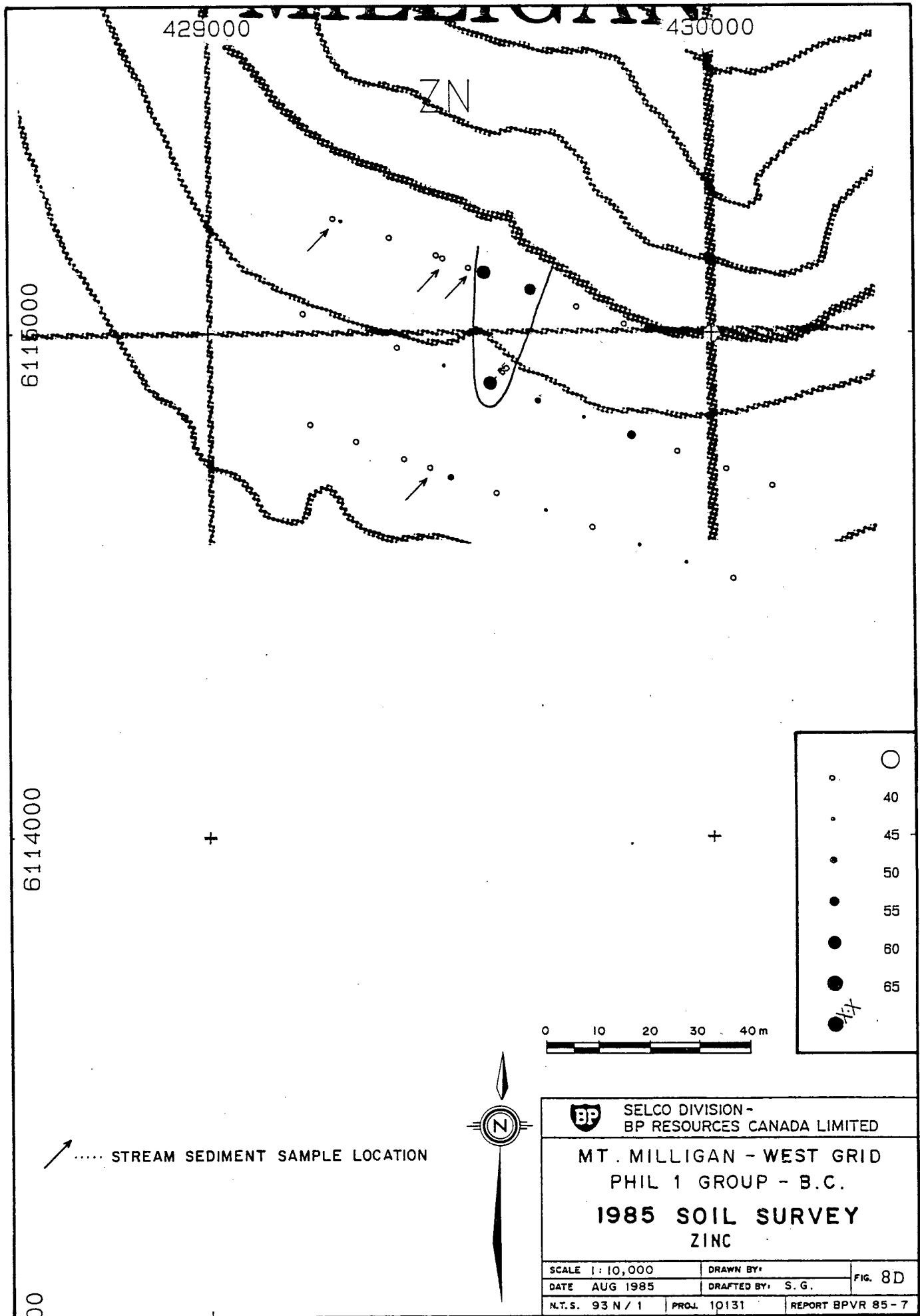
 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>	
<b>MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY LEAD</b>	
SCALE 1: 10,000	DRAWN BY:
DATE AUG 1985	DRAFTED BY: S. G.
N.T.S. 93 N / 1	PROJ. 10131
REPORT BPVR 85 - 7	

FIG. 8C





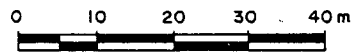
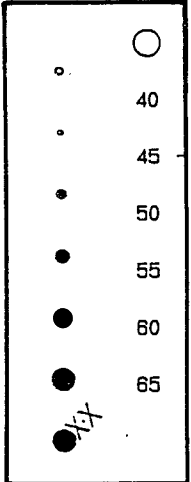
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ZN

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..... STREAM SEDIMENT SAMPLE LOCATION

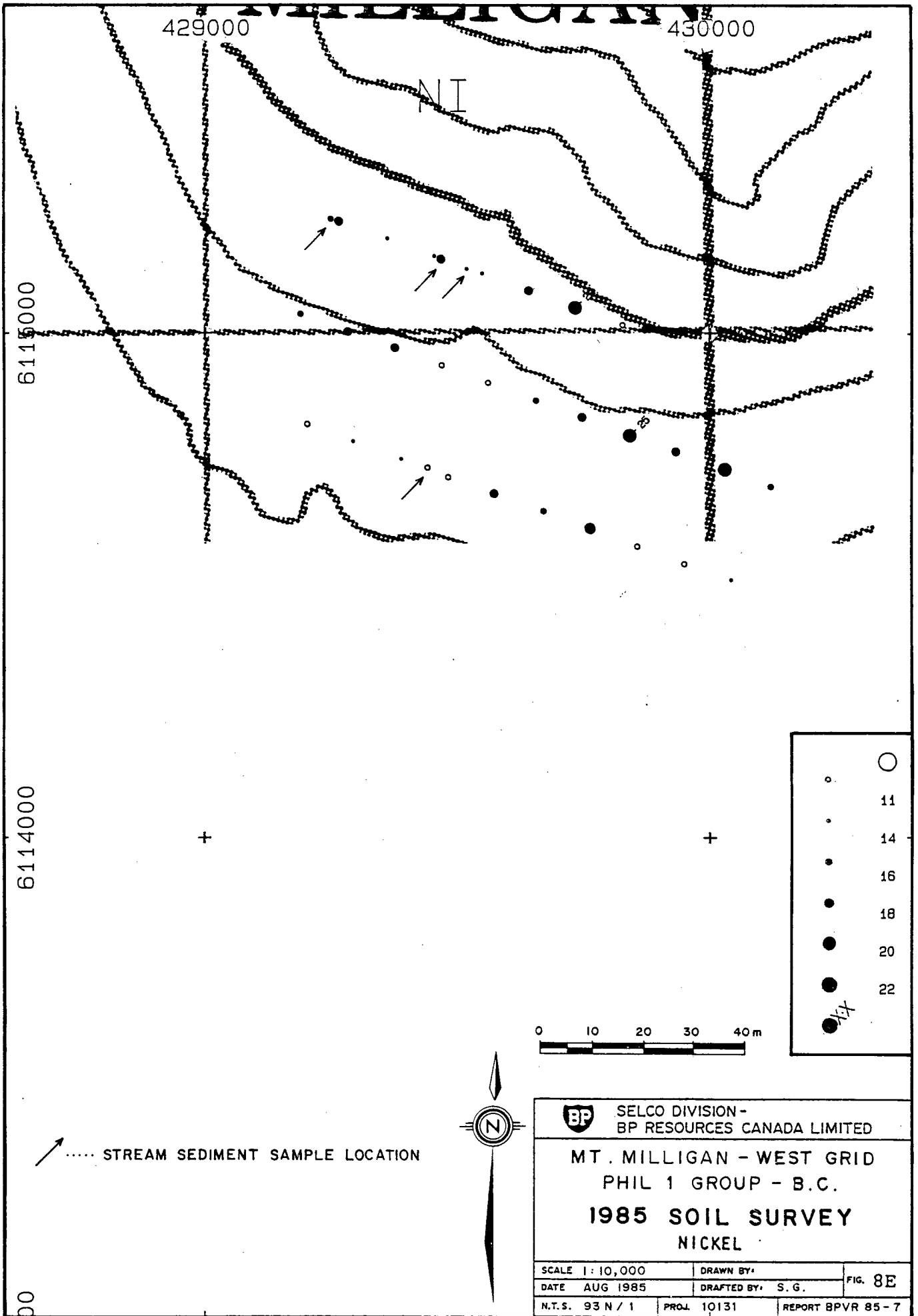


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MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

1985 SOIL SURVEY  
ZINC

SCALE 1: 10,000	DRAWN BY:	FIG. 8D
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7



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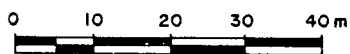
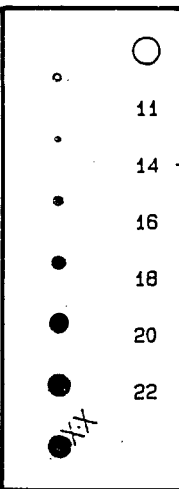
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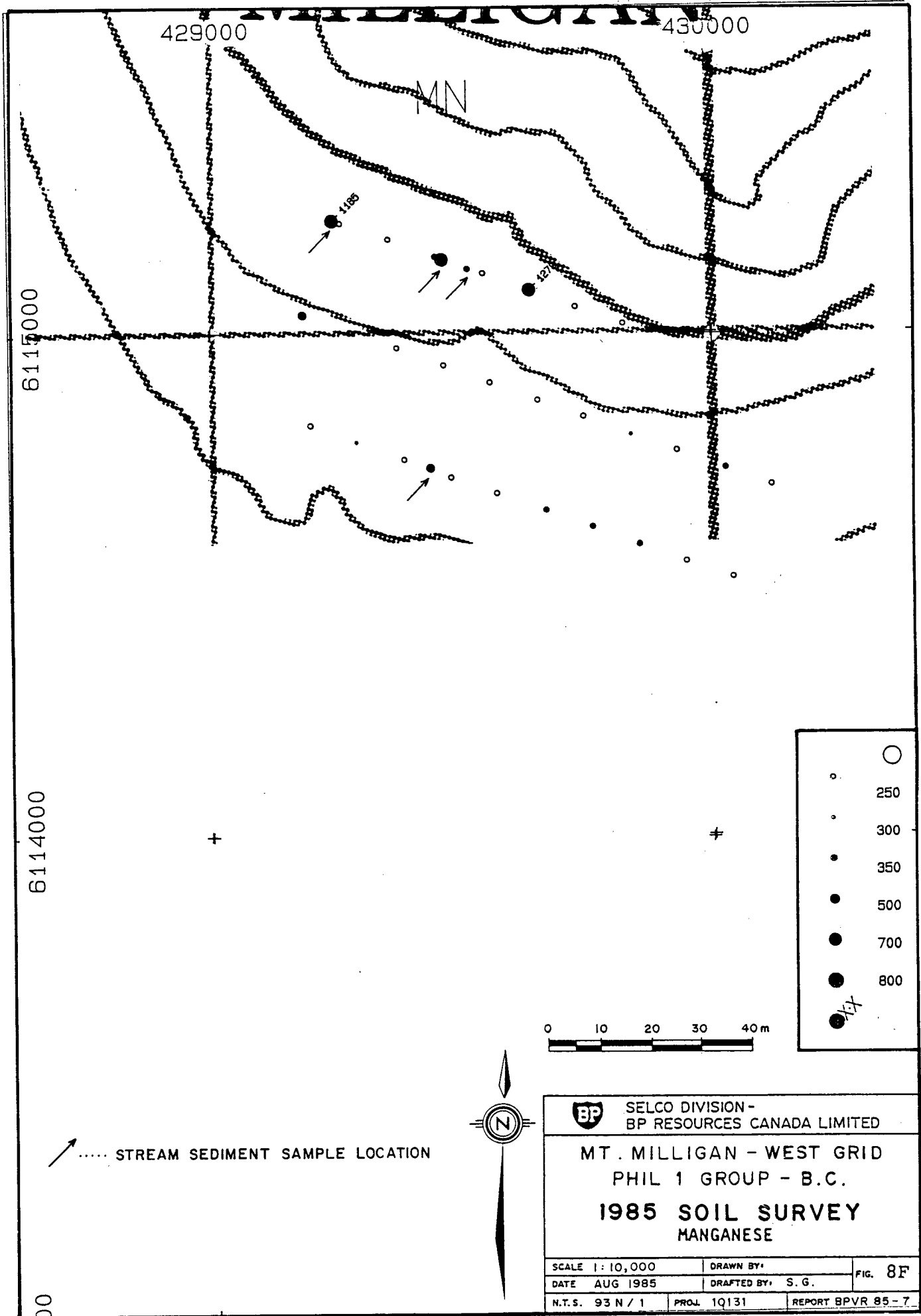
+

+

..... STREAM SEDIMENT SAMPLE LOCATION



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> <b>NICKEL</b>		
SCALE 1:10,000	DRAWN BY:	FIG. 8E
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85-7



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MN

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611400



250

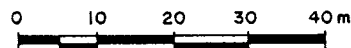
300

350

500

700

800



..... STREAM SEDIMENT SAMPLE LOCATION

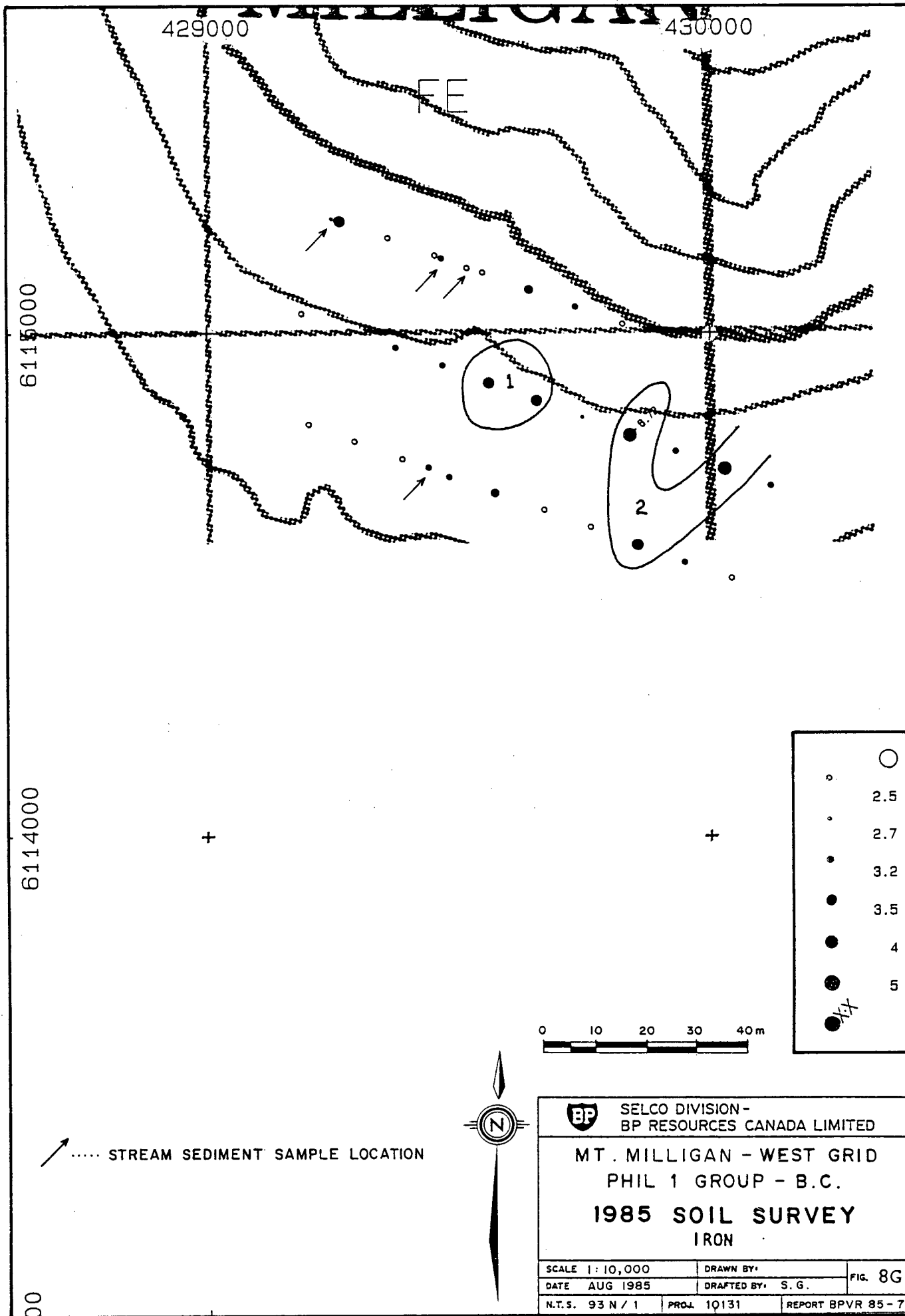


SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

1985 SOIL SURVEY  
MANGANESE

SCALE 1:10,000	DRAWN BY:	FIG. 8F
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 1Q131	REPORT BPVR 85-7



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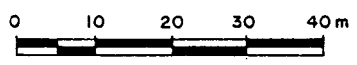
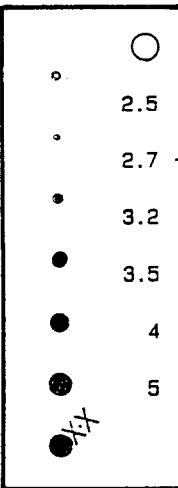
FE

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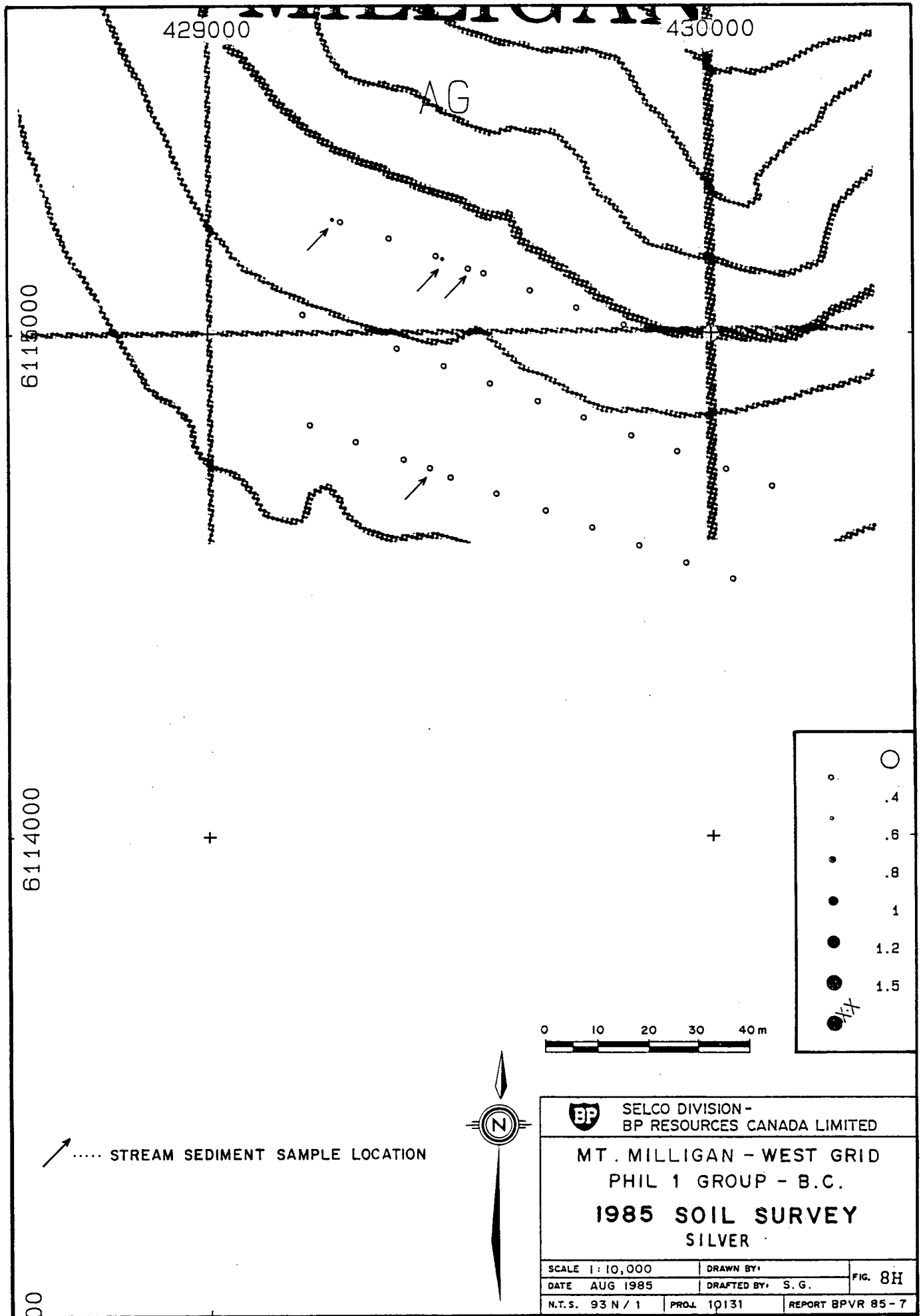
1

2



..... STREAM SEDIMENT SAMPLE LOCATION

SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> <b>IRON</b>		
SCALE 1: 10,000	DRAWN BY:	FIG. 8G
DATE AUG 1985	DRAFTED BY: S.G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85-7



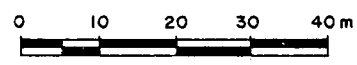
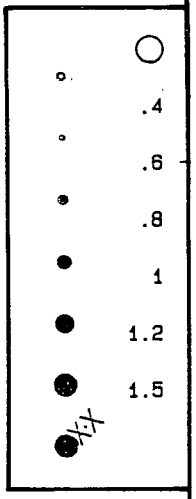
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AG

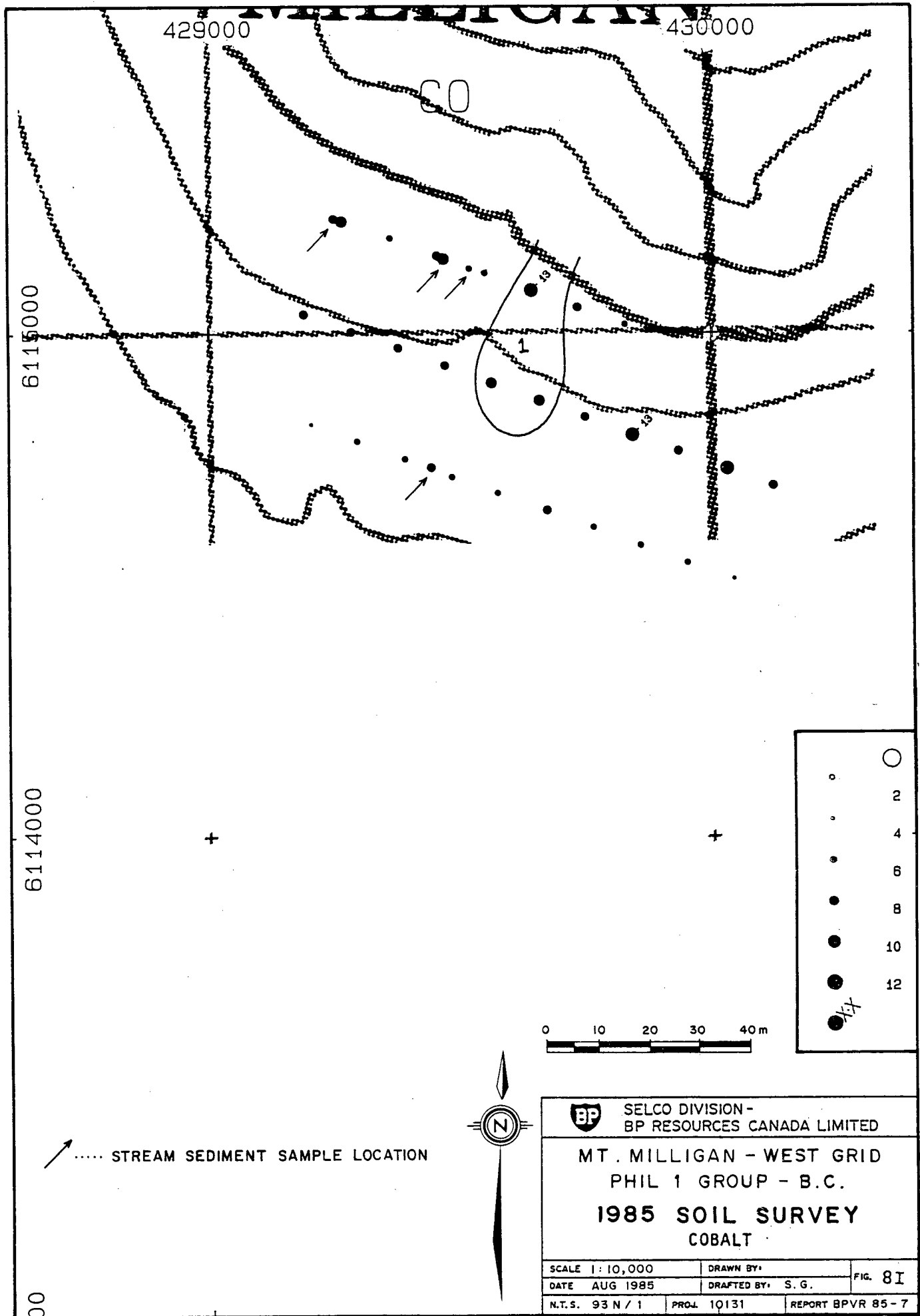
6115000

6114000



..... STREAM SEDIMENT SAMPLE LOCATION

SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> <b>SILVER</b>		
SCALE 1:10,000	DRAWN BY:	FIG. 8H
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85-7



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CO

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○

2

4

6

8

10

12

1/4

0 10 20 30 40 m



..... STREAM SEDIMENT SAMPLE LOCATION



SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

1985 SOIL SURVEY  
COBALT

SCALE 1:10,000

DRAWN BY:

DATE AUG 1985

DRAFTED BY: S. G.

FIG. 8I

N.T.S. 93 N / 1

PROJ. 10131

REPORT BPVR 85 - 7

Co levels are slightly higher in the north.

j) Gold (Figure 8J)

Au values are typically below 10 ppb. Two soil samples contain elevated Au contents of 535 and 270 ppb.

k) Arsenic (Figure 8K)

As levels are higher on the northern line, but none are considered anomalous.

l) Vanadium (Figure 8L)

One V anomaly is outlined in the east.

m) Barium (Figure 8M)

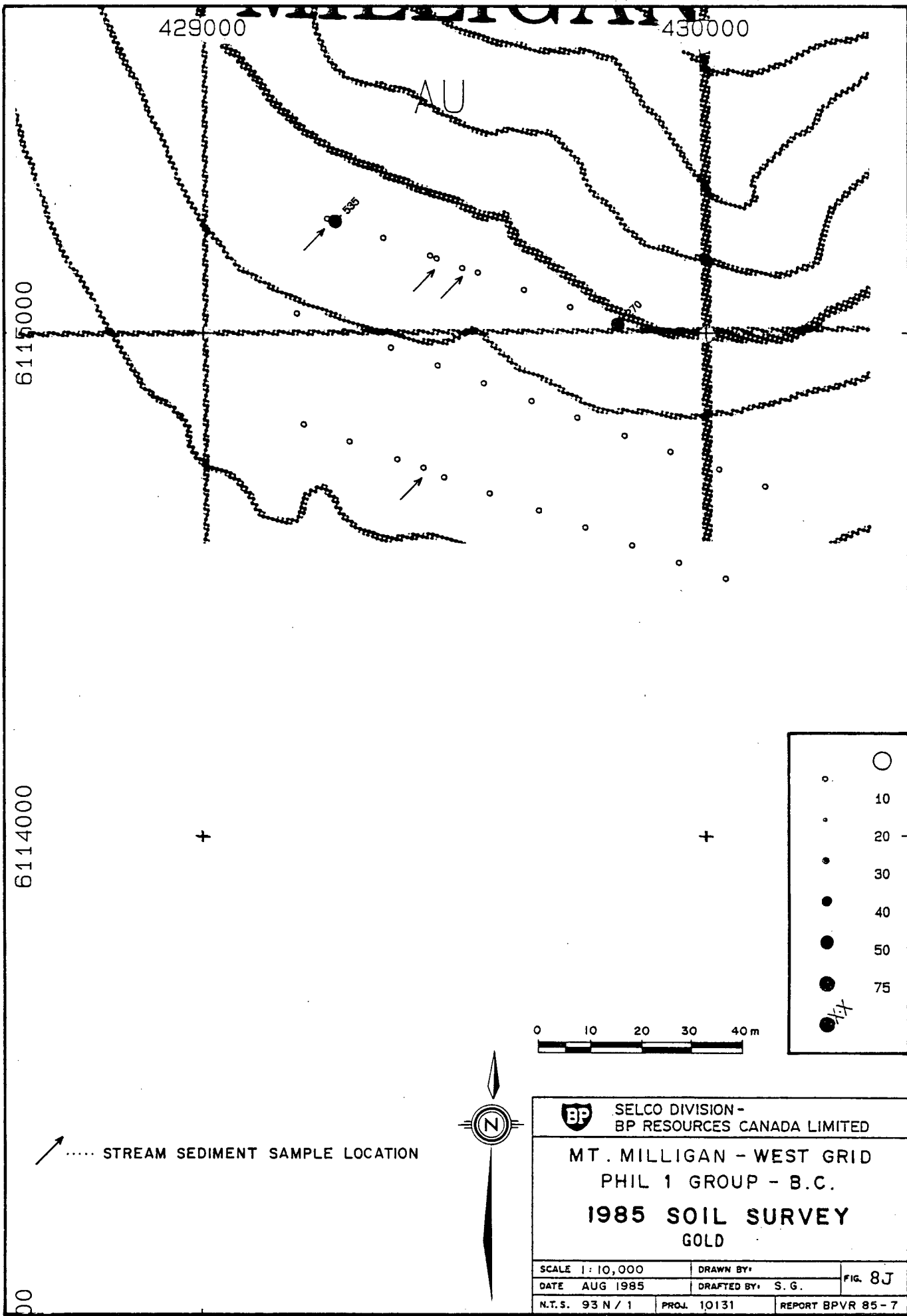
Two weak Ba anomalies are indicated.

n) Strontium (Figure 8N)


Sr contents are high in stream sediments in one soil anomaly.

o) Aluminum (Figure 8O)

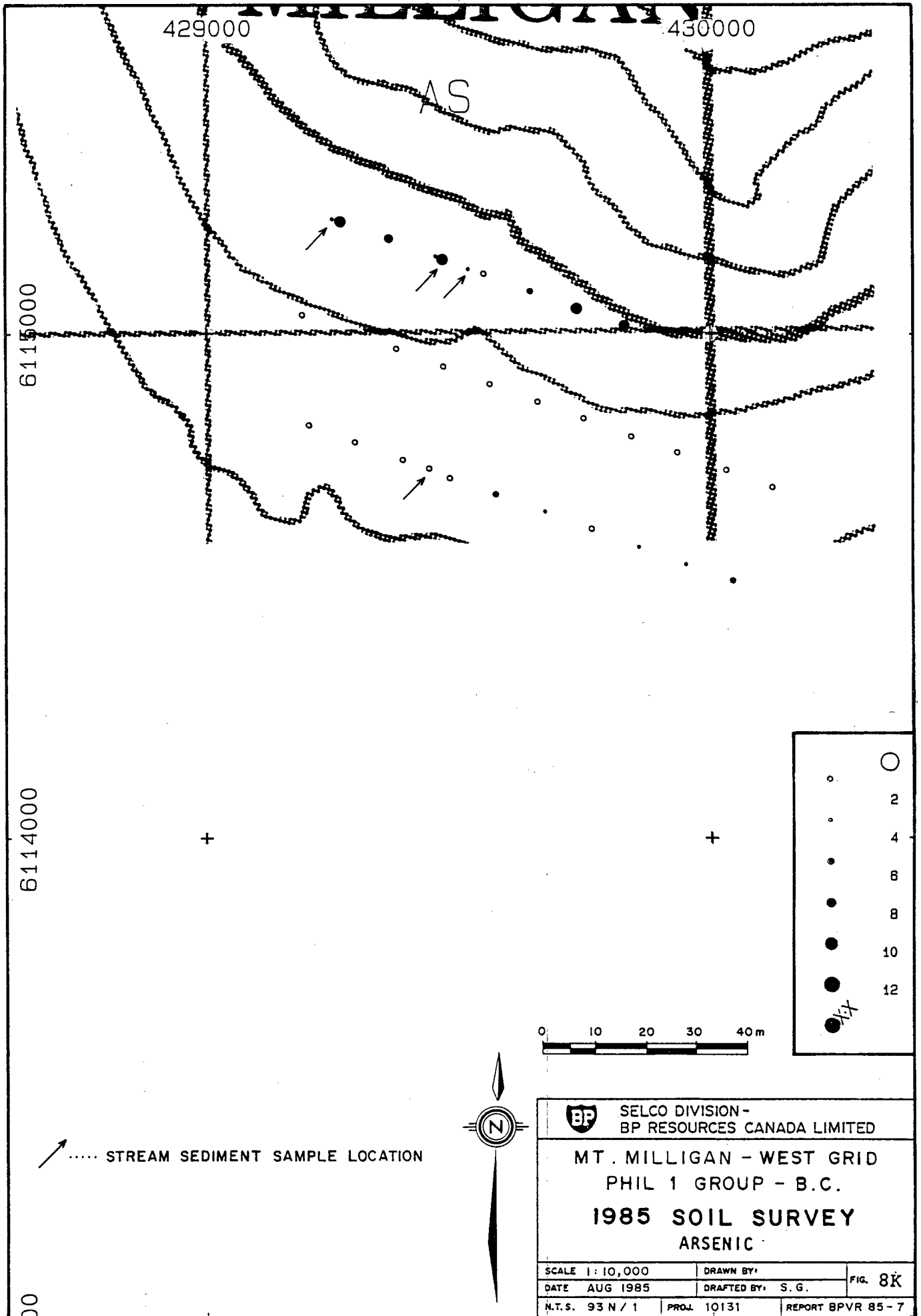
One Al-rich area is outlined.



..... STREAM SEDIMENT SAMPLE LOCATION

 SELCO DIVISION - BP RESOURCES CANADA LIMITED	
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> GOLD	
SCALE 1: 10,000	DRAWN BY:
DATE AUG 1985	DRAFTED BY: S. G.
N.T.S. 93 N / 1	PROJ. 10131
FIG. 8J REPORT BPVR 85 - 7	





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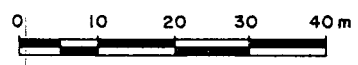
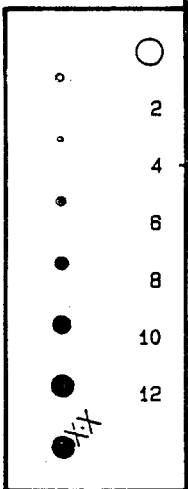
430000


AS

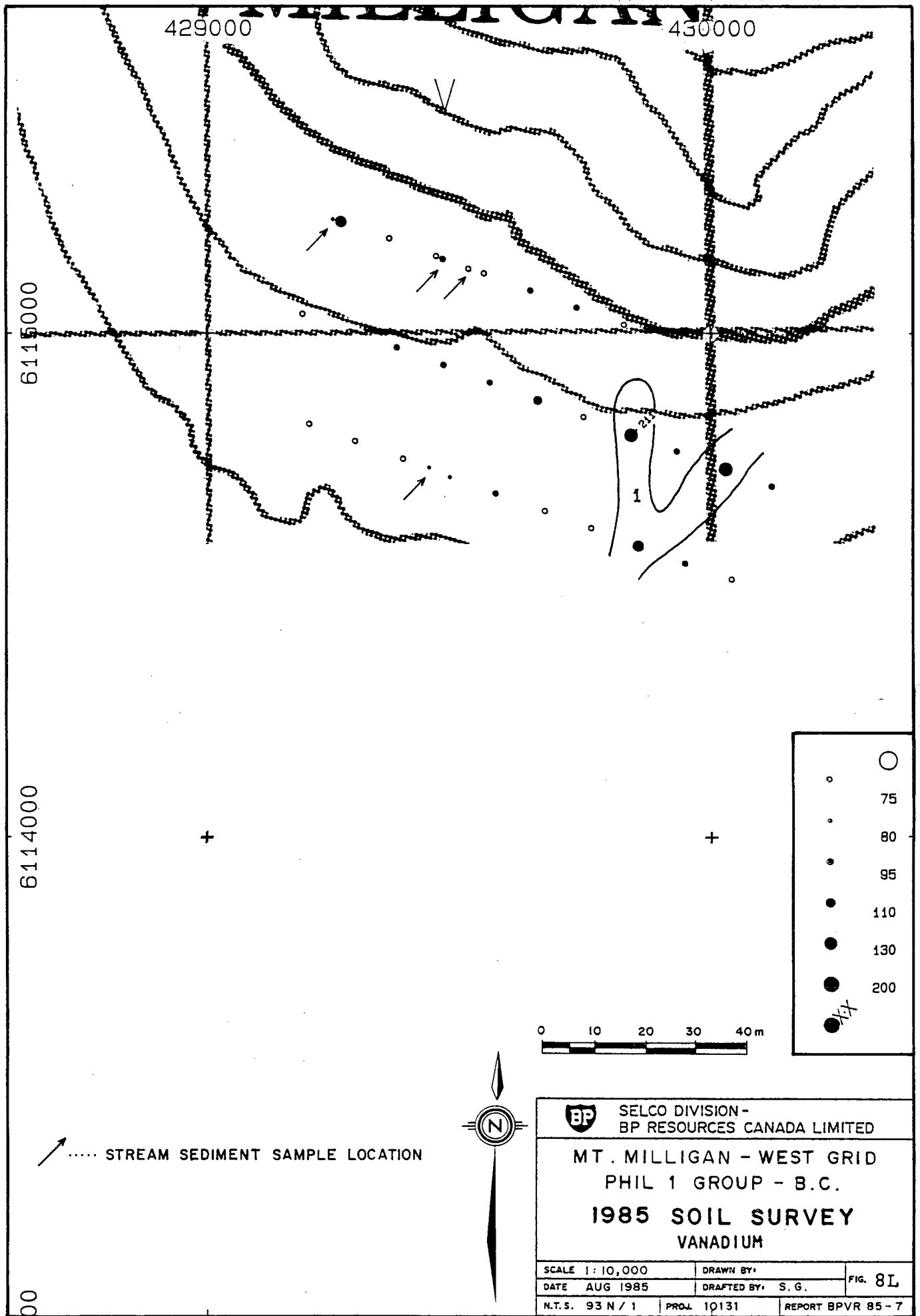
6115000

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..... STREAM SEDIMENT SAMPLE LOCATION



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
<b>MT. MILLIGAN - WEST GRID</b> <b>PHIL 1 GROUP - B.C.</b> <b>1985 SOIL SURVEY</b> <b>ARSENIC</b>		
SCALE 1:10,000	DRAWN BY:	FIG. 8K
DATE AUG 1985	DRAFTED BY: S.G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85-7



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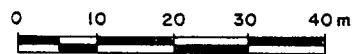
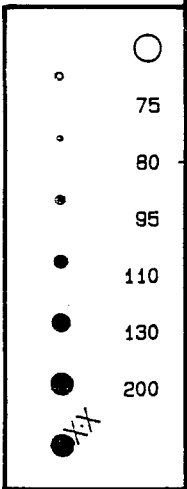
430000


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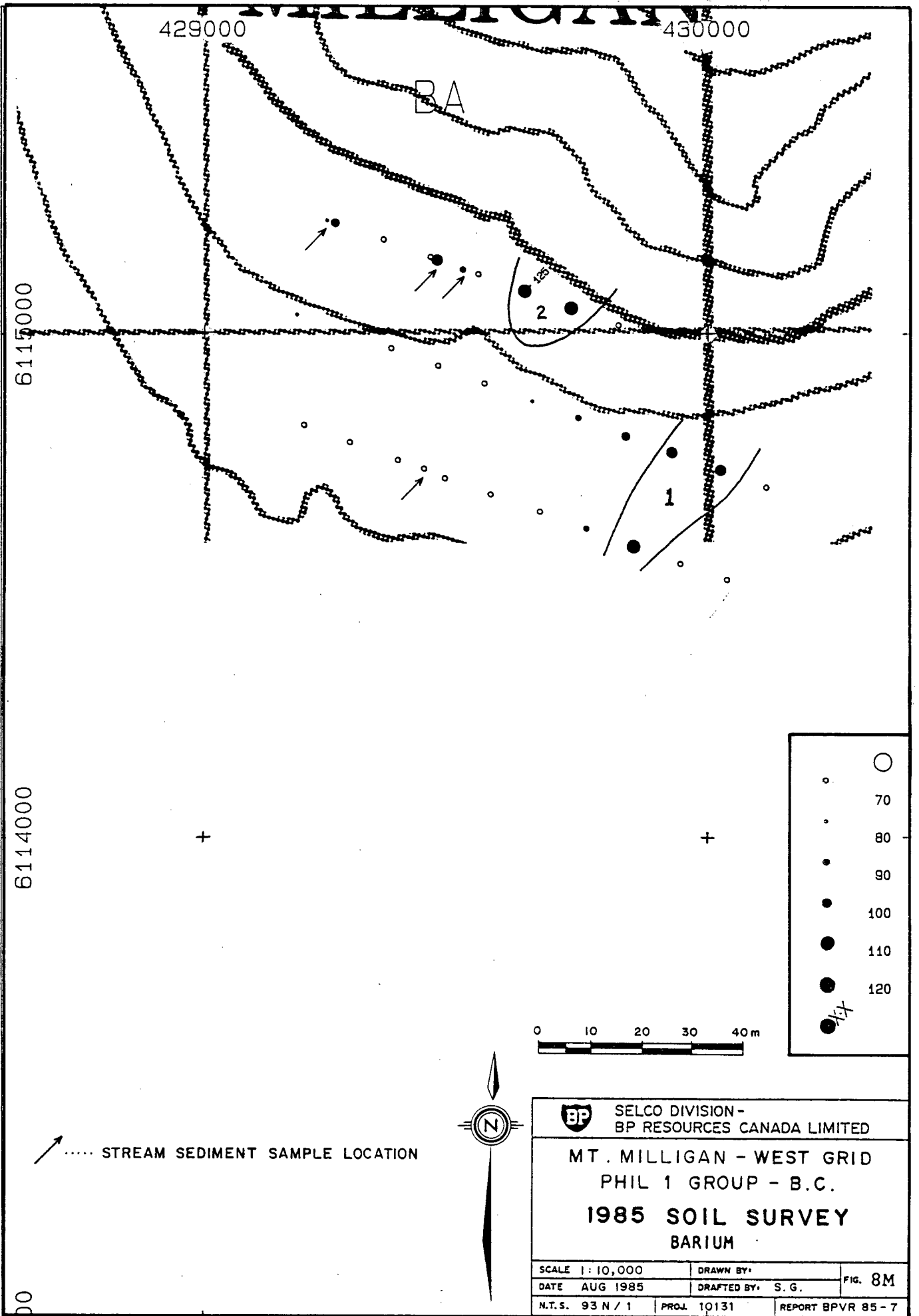
6114000

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..... STREAM SEDIMENT SAMPLE LOCATION



 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY VANADIUM</b>		
SCALE 1:10,000	DRAWN BY:	FIG. 8L
DATE AUG 1985	DRAFTED BY: S.G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7



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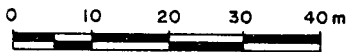
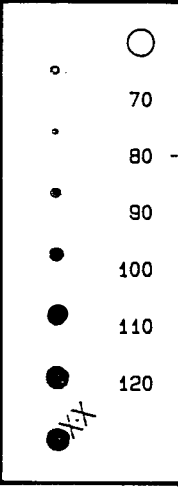
430000


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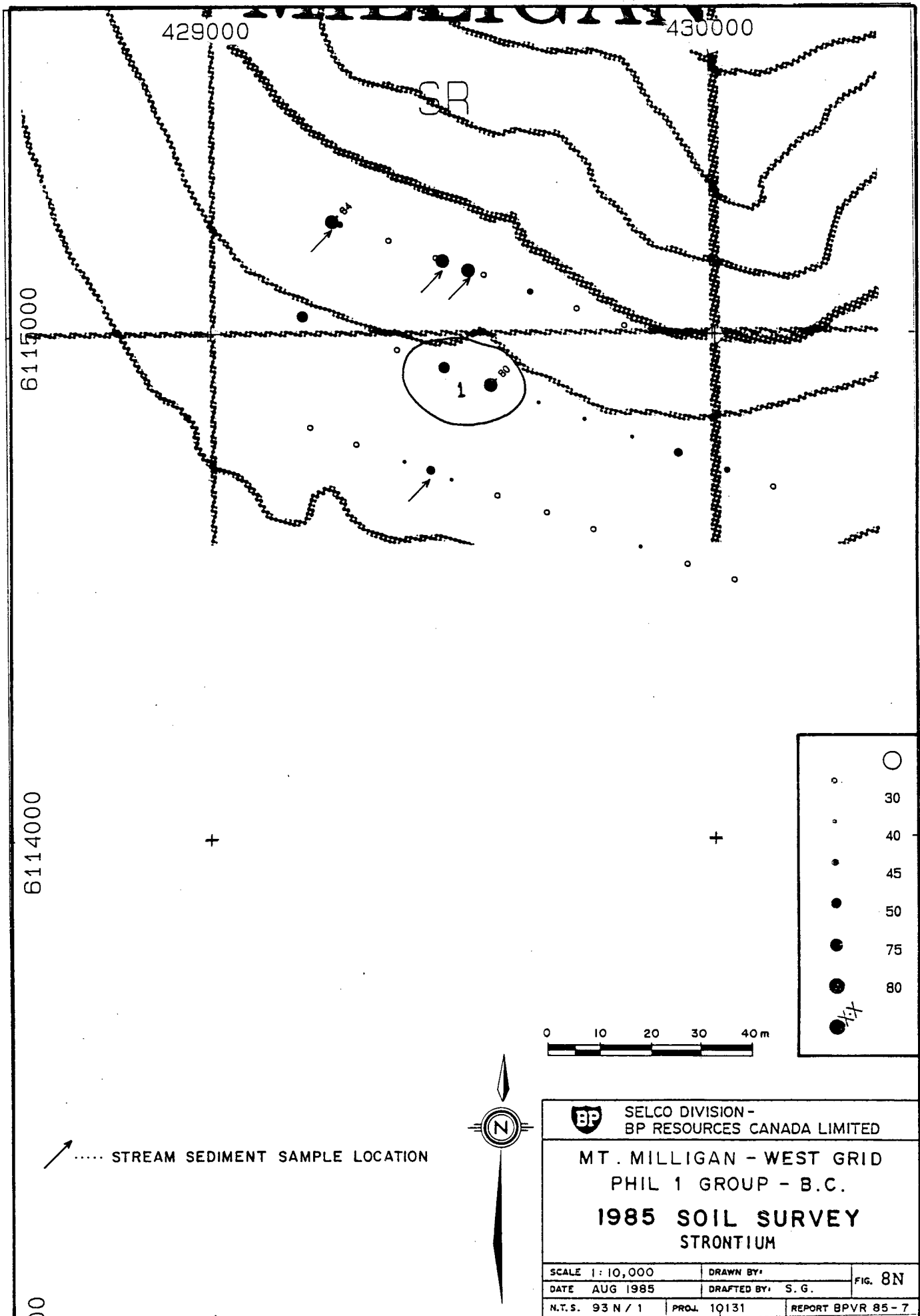
BA

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..... STREAM SEDIMENT SAMPLE LOCATION



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> <b>BARIUM</b>		
SCALE 1: 10,000	DRAWN BY:	FIG. 8M
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7



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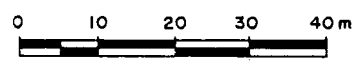
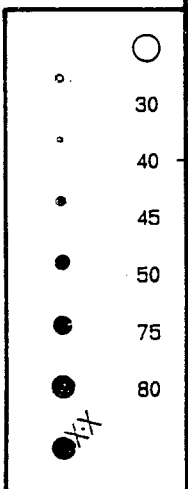
429000

430000

SR

6114000

..... STREAM SEDIMENT SAMPLE LOCATION

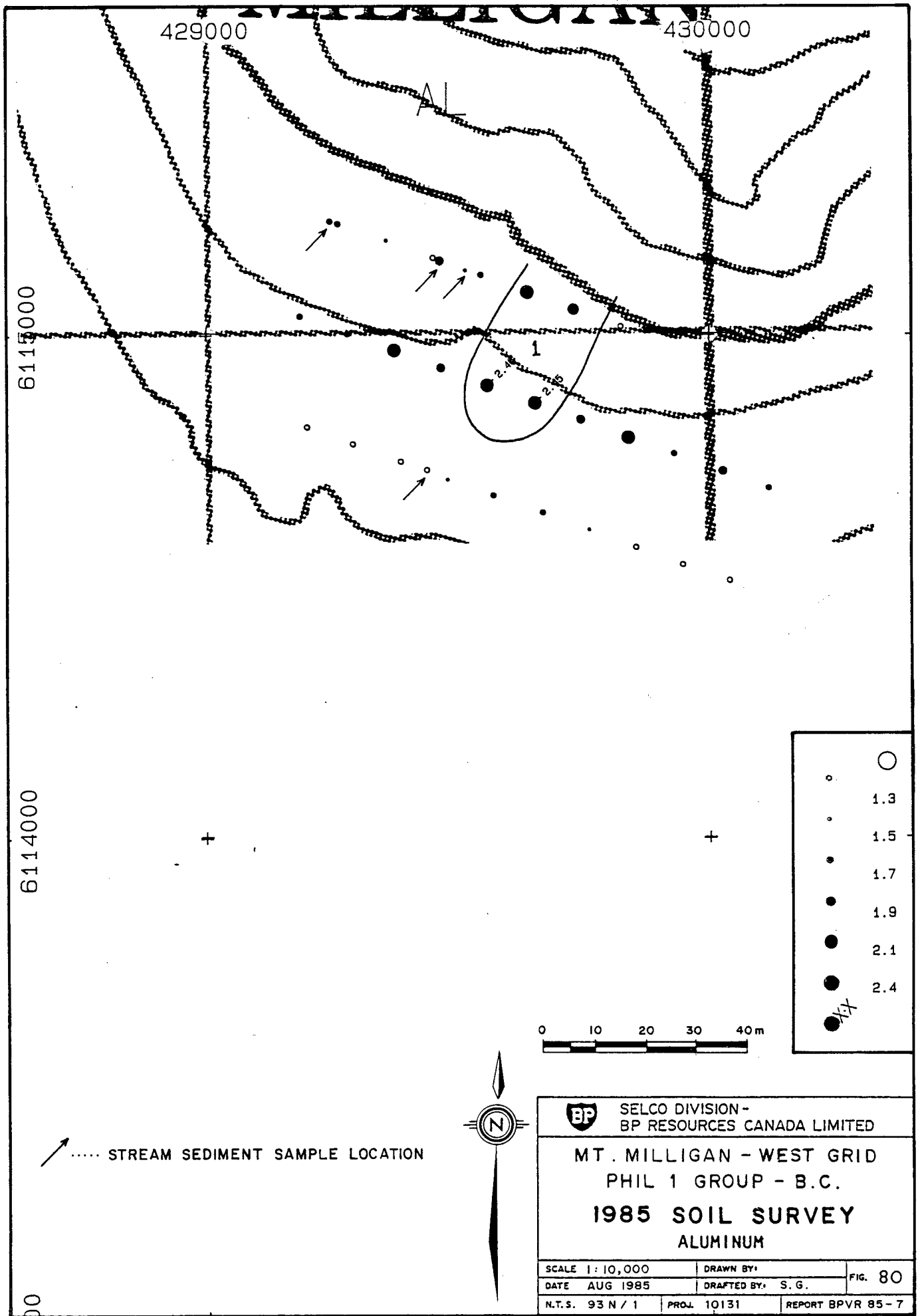


**BP** SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

**1985 SOIL SURVEY  
STRONTIUM**

SCALE 1:10,000	DRAWN BY:	FIG. 8N
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85-7



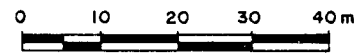
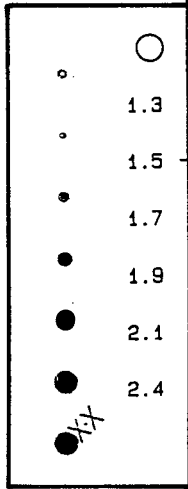
429000

430000


6115000

6114000

AL



..... STREAM SEDIMENT SAMPLE LOCATION

 <b>SELCO DIVISION - BP RESOURCES CANADA LIMITED</b>		
<b>MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. 1985 SOIL SURVEY ALUMINUM</b>		
SCALE 1: 10,000	DRAWN BY:	FIG. 80
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7

p) Calcium (Figure 8P)

Ca follows Sr.

q) Magnesium (Figure 8Q)

One Mg anomaly has been defined.

r) Potassium (Figure 8R)

K varies erratically across the grid.

s) Titanium (Figure 8S)

Two areas of above average Ti contents are indicated.

t) Phosphorus (Figure 8T)

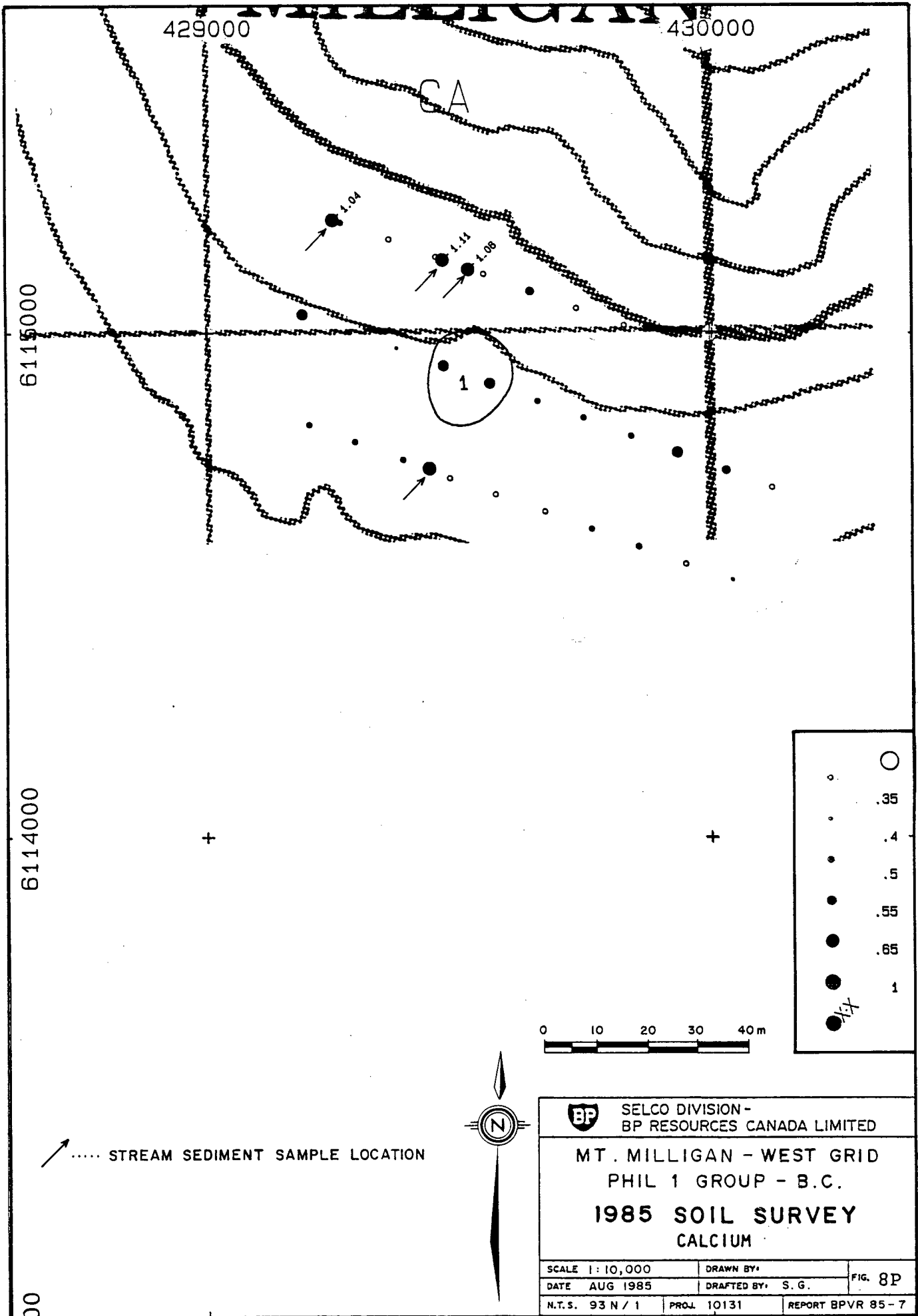
The same two areas show enhanced P content.

u) Lanthanum (Figure 8U)

La levels are high in stream sediments and one area in the south.

v) Chromium (Figure 8V)

Cr levels are generally low; one anomaly is outlined in the east.



6115000

429000

430000

CA

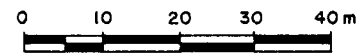
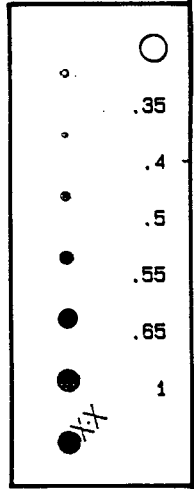
1.04

1.11

1.08

1

6114000



..... STREAM SEDIMENT SAMPLE LOCATION

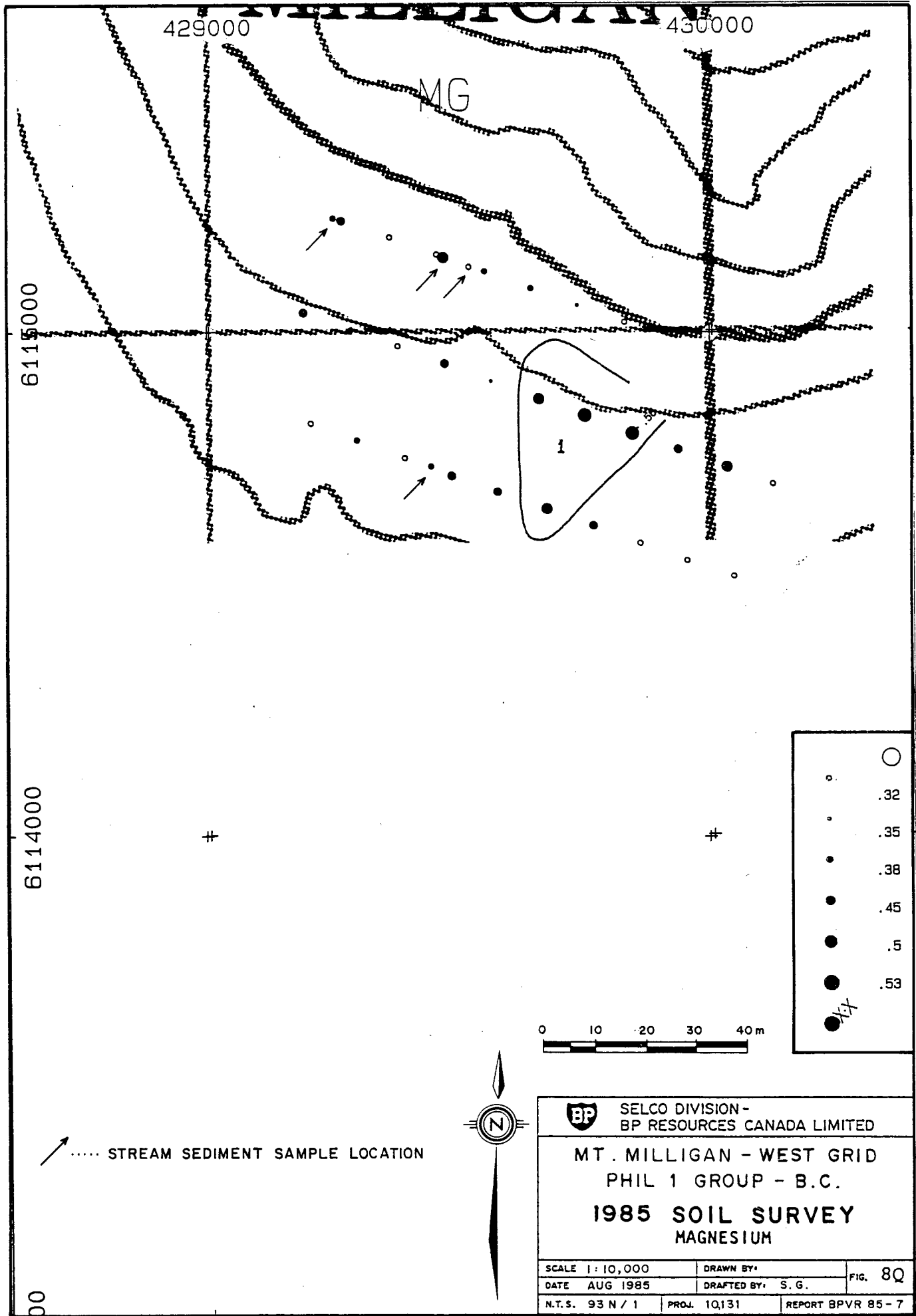


SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

1985 SOIL SURVEY  
CALCIUM

SCALE 1: 10,000	DRAWN BY:	FIG. 8P
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7



429000

430000

MG

6115000

6114000

○

.32

.35

.38

.45

.5

.53

0 10 20 30 40 m

..... STREAM SEDIMENT SAMPLE LOCATION

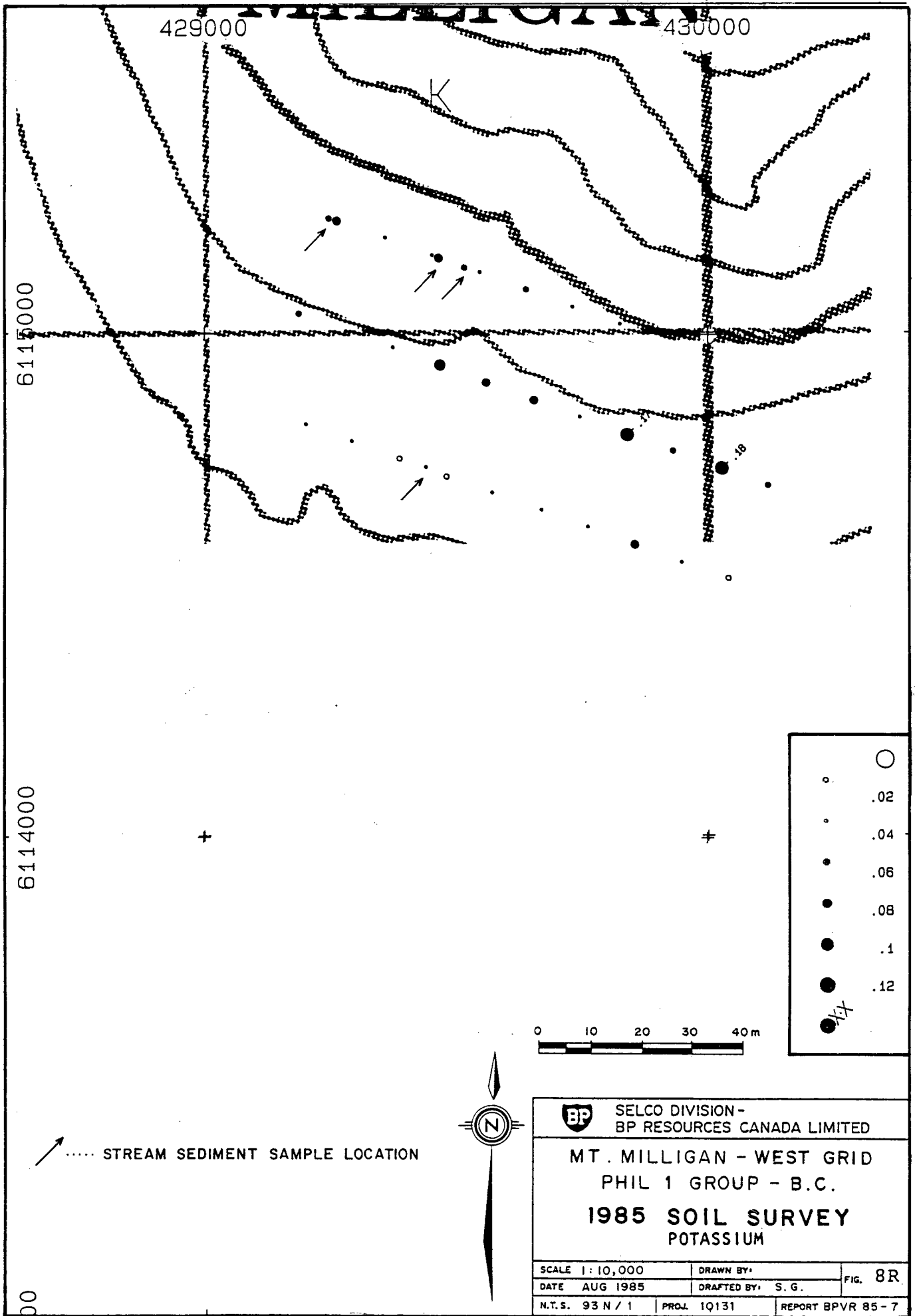
**BP** SELCO DIVISION - BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.

1985 SOIL SURVEY  
MAGNESIUM

SCALE 1: 10,000	DRAWN BY:	FIG. 8Q
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7





429000

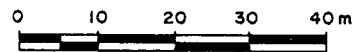
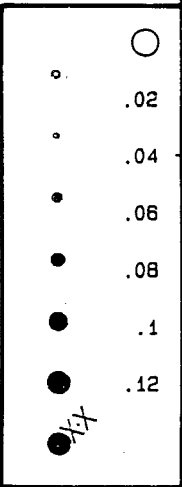
430000

K

6115000

6114000

..... STREAM SEDIMENT SAMPLE LOCATION

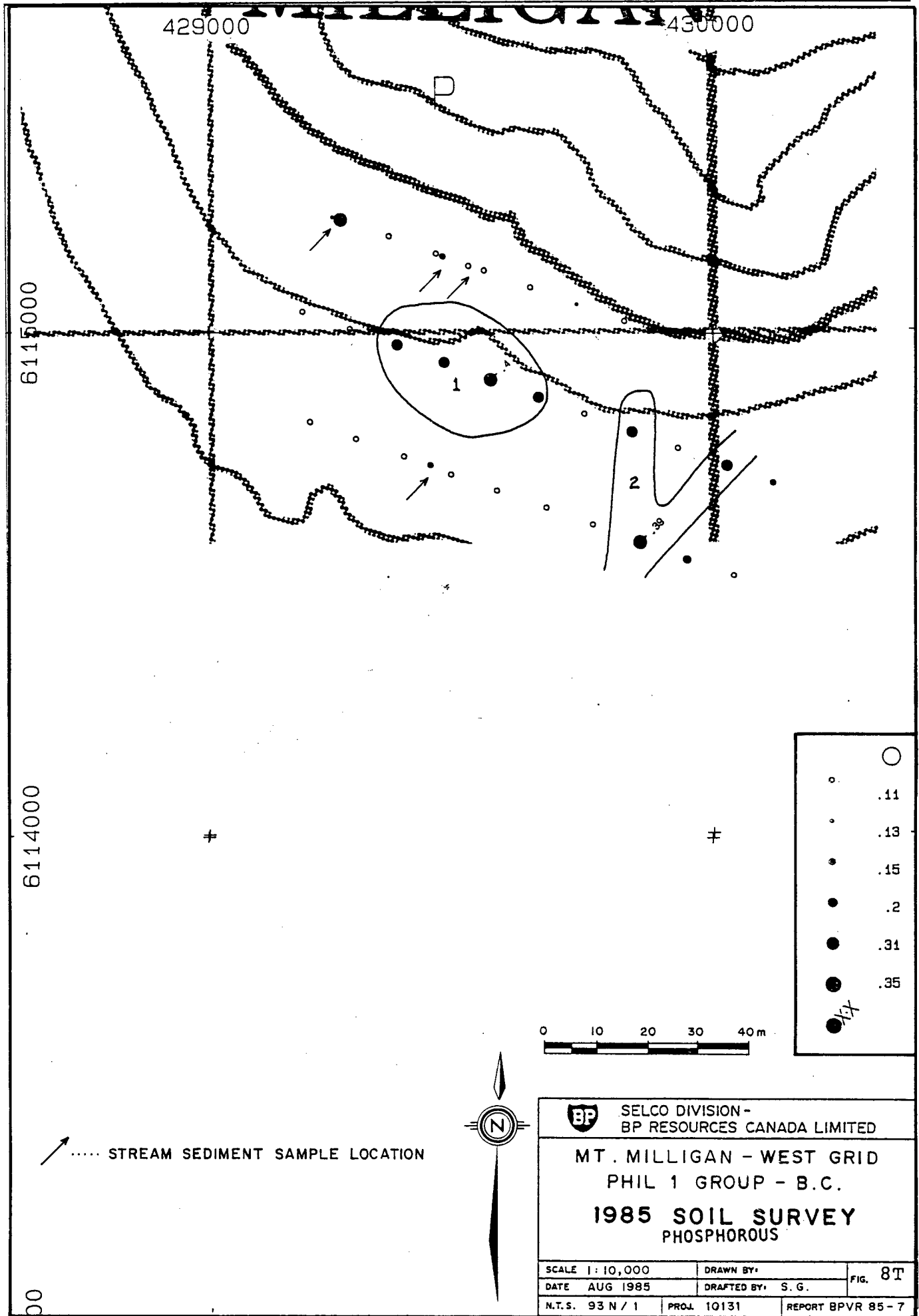


**BP** SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

MT. MILLIGAN - WEST GRID  
PHIL 1 GROUP - B.C.  
1985 SOIL SURVEY  
POTASSIUM

SCALE 1: 10,000	DRAWN BY:	FIG. 8R
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 1Q131	REPORT BPVR 85-7

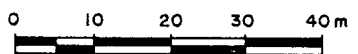





429000 430000  
 6115000  
 6114000  
 00

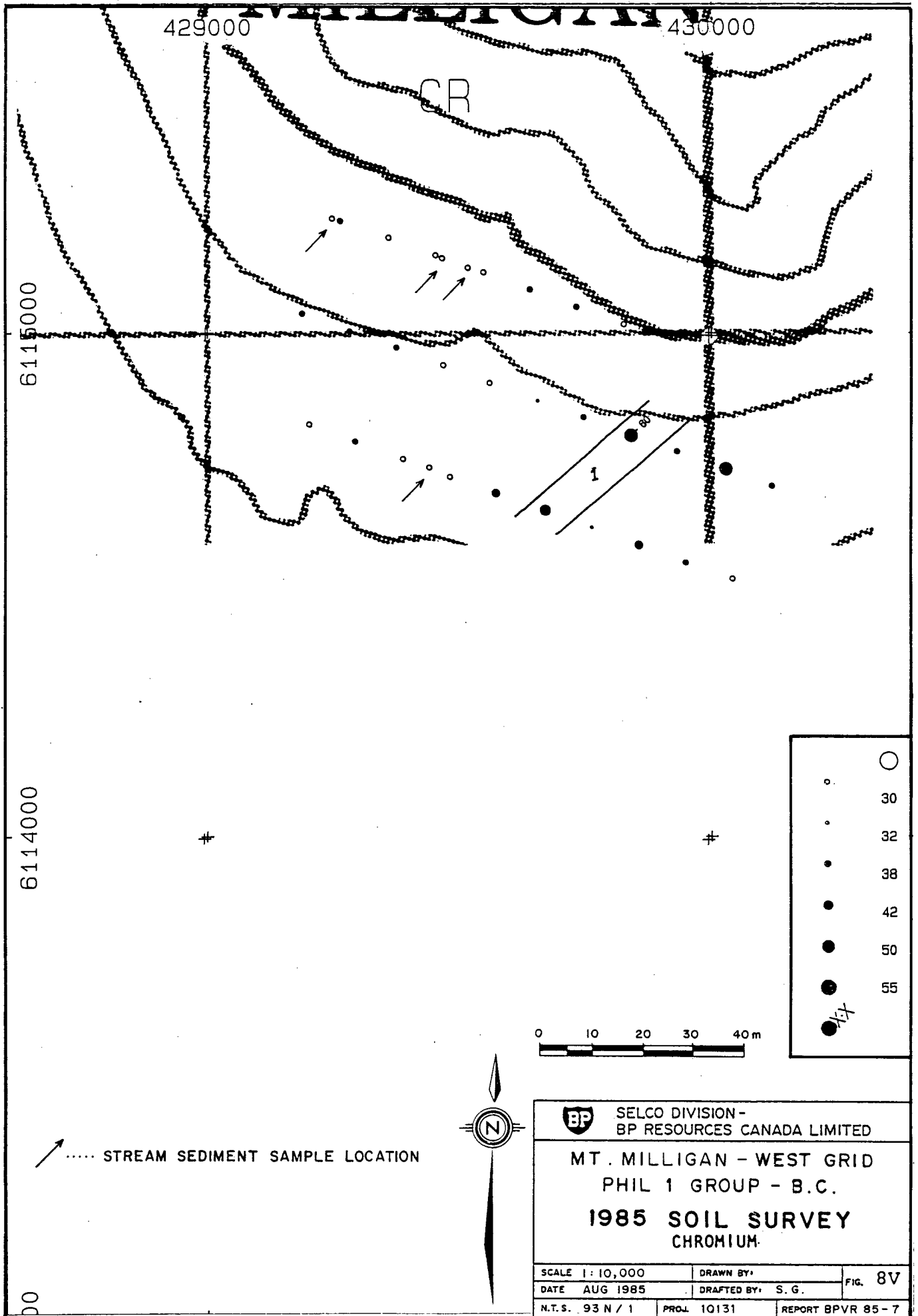
..... STREAM SEDIMENT SAMPLE LOCATION

○	.11
○	.13
●	.15
●	.2
●	.31
●	.35
●	+



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> PHOSPHOROUS		
SCALE 1: 10,000	DRAWN BY:	FIG. 8T
DATE AUG 1985	DRAFTED BY: S. G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85 - 7





429000

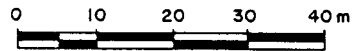
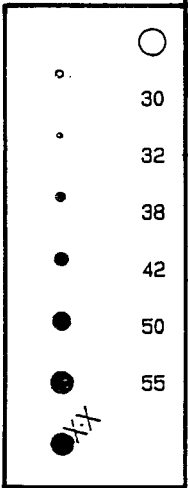
430000


CR

6115000

6114000

..... STREAM SEDIMENT SAMPLE LOCATION



 SELCO DIVISION - BP RESOURCES CANADA LIMITED		
MT. MILLIGAN - WEST GRID PHIL 1 GROUP - B.C. <b>1985 SOIL SURVEY</b> <b>CHROMIUM</b>		
SCALE 1:10,000	DRAWN BY:	FIG. 8V
DATE AUG 1985	DRAFTED BY: S.G.	
N.T.S. 93 N / 1	PROJ. 10131	REPORT BPVR 85-7

Discussion of Results

The West grid is only indicated to be of interest by virtue of two isolated anomalous gold values in soils. Base or pathfinder element anomalies suggestive of mineralization have not been defined.

Conclusions

Barring confirmation of two gold values, significant geochemical anomalies have not been defined and no further work is recommended.

Recommendations

- (1) Check the validity of the two gold values.
  
- (2) If (1) above proves the gold values valid, one day followup involving more detailed sampling at 50 m X 100 m around anomalous sites and to the north is warranted.

APPENDIX 1  
Geochemical Preparation  
and  
Analytical Procedures



## ACME ANALYTICAL LABORATORIES LTD.

Assaying &amp; Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6

Telephone : 253 - 3158

GEOCHEMICAL LABORATORY METHODOLOGY - 1984Sample Preparation

1. Soil samples are dried at 60°C and sieved to -80 mesh.
2. Rock samples are pulverized to -100 mesh.

Geochemical Analysis (AA and ICP)

0.5 gram samples are digested in hot dilute aqua regia in a boiling water bath and diluted to 10 ml with demineralized water. Extracted metals are determined by :

## A. Atomic Absorption (AA)

Ag\*, Bi\*, Cd\*, Co, Cu, Fe, Ga, In, Mn, Mo, Ni, Pb, Sb\*, Tl, V, Zn  
(\* denotes with background correction.)

## B. Inductively Coupled Argon Plasma (ICP)

Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cu, Cr, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Geochemical Analysis for Au\*

10.0 gram samples that have been ignited overnight at 600°C are digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutyl Ketone.

Au is determined in the MIBK extract by Atomic Absorption using background correction (Detection Limit = 5 ppb direct AA and 1 ppb graphite AA.)

Geochemical Analysis for Au\*\*, Pd, Pt, Rh

10.0 - 30.0 gram samples are subjected to Fire Assay preconcentration techniques to produce silver beads.

The silver beads are dissolved and Au, Pd, Pt and Rh are determined in the solution by graphite furnace Atomic Absorption.

Geochemical Analysis for As

0.5 gram samples are digested with hot dilute aqua regia and diluted to 10 ml. As is determined in the solution by Graphite Furnace Atomic Absorption (AA) or by Inductively Coupled Argon Plasma (ICP).

Geochemical Analysis for Barium

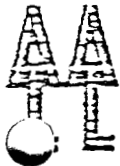
0.1 gram samples are digested with hot NaOH and EDTA solution, and diluted to 10 ml.

Ba is determined in the solution by Atomic Absorption or ICP.

Geochemical Analysis for Tungsten

1.0 gram samples are fused with KCl, KNO<sub>3</sub> and Na<sub>2</sub>CO<sub>3</sub> flux in a test tube, and the fusions are leached with 20 ml water. W in the solution determined by ICP with a detection of 1 ppm.





## ACME ANALYTICAL LABORATORIES LTD.

Assaying &amp; Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6

Telephone : 253 - 3158

Geochemical Analysis for Uranium

0.5 gram samples are digested with hot aqua regia and diluted to 10 ml.

Aliquots of the acid extract are solvent extracted using a salting agent and aliquots of the solvent extract are fused with NaF,  $K_2CO_3$  and  $Na_2CO_3$  flux in a platinum dish.

The fluorescence of the pellet is determined on the Jarrel Ash Fluorometer.

Geochemical Analysis for Fluorine

0.25 gram samples are fused with sodium hydroxide and leached with 10 ml water. The solution is neutralized, buffered, adjusted to pH 7.8 and diluted to 100 ml.

Fluorine is determined by Specific Ion Electrode using an Orion Model 404 meter.

Geochemical Analysis for Tin

1.0 gram samples are fused with ammonium iodide in a test tube. The sublimed iodine is leached with dilute hydrochloric acid.

The solution is extracted with MIBK and tin is determined in the extract by Atomic Absorption.

Geochemical Analysis for Chromium

0.1 gram samples are fused with  $Na_2O_2$ . The melt is leached with HCl and analysed by AA or ICP.

Geochemical Analysis for Hg

0.5 gram samples is digested with aqua regia and diluted with 20% HCl.

Hg in the solution is determined by cold vapour AA using a F & J Scientific Hg assembly. An aliquot of the extract is added to a stannous chloride / hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Geochemical Analysis for Ga & Ge

0.5 gram samples are digested with hot aqua regia with HF in pressure bombs.

Ga and Ge in the solution are determined by graphite furnace AA.

Geochemical Analysis for Tl (Thallium)

0.5 gram samples are digested with 1:1  $HNO_3$ . Tl is determined in the extract by graphite AA.

Geochemical Analysis for Te (Tellurium)

0.5 gram samples are digested with hot aqua regia. The Te extracted in MIBK is analysed by AA graphite furnace.

APPENDIX 2  
List of Analytical Data

## GENERAL

1-2 SAMPLE TYPE

10. Stream sediment
11. Stream water
12. Drainage ditch sediment
18. Heavy mineral concentrate
20. Seepage (spring) sediment
21. Seepage (spring) water
30. Lake sediment - lake center
31. Lake water
32. Lake sediment-near shore
40. Bog-upper 100 cm
41. Bog-stagnant water
42. Bog-below 100 cm
43. Bog-organic material at mineral horizon interface
44. Bog-mineral horizon
50. Soil-top of the B horizon (or top of the C horizon if B horizon absent)

1-2 SAMPLE TYPE Cont.

51. Soil-other horizons (organic-rich samples or when 2 samples taken at same hole)
52. Frost boil or seepage boil
54. Groundwater sample
55. Deep overburden sample
58. Heavy mineral concentrate
60. Talus fines
63. Talus blocks-hand sample
64. Talus blocks-chips
68. Heavy mineral concentrate
70. Biogeochemical sample
75. Radon
80. Bedrock hand specimen
81. Bedrock chips ± hand sample
82. Float hand specimen
83. Float chips ± hand sample
84. Drill core specimens

1-2 SAMPLE TYPE Cont.

85. Channel sample/split core
  86. Drill chips
  87. Drill sludge
  88. Heavy mineral concentrate
  - \*89. High grade sample
  - \*90. Special sample-specify
  99. Standard sample
- \*Clearly label if high grade.

Special Note

For keypunchers benefit, 7's should be crossed 7 and 0's (letter) should be slashed 0

3-4 YEAR5-7 PROJECT NUMBER8 PROJECT IDENTIFICATION

Blank-reconnaissance  
A,B,C, etc. - properties, anomalies, (List 6)

9 DUPLICATE SAMPLES

Label duplicates as 1,2, etc. (collect 1 duplicate pair in 30)

10-12 SAMPLER IDENTIFICATION

(10-11) (List 7)

13-15 SAMPLE NUMBER

(12-15)

19-24 EAST COORDINATE25-31 NORTH COORDINATE34-38 NTS MAP SHEET NUMBER

Example: record 92F/3 as 92F03

## LIST 1

- 1-- INTRUSIVE ROCKS
- 1 QUARTZ RICH
  - 1 Granite
  - 2 Quartz Monzonite
  - 3 Granodiorite
  - 4 Quartz diorite
  - 2 INTERMEDIATE
  - 1 Syenite
  - 2 Monzonite
  - 3 Diorite
  - 4 Gabbro
  - 3 FELDSPATHOID RICH
  - 1 Nepheline Syenite
  - 2 Nepheline Monzonite
  - 4 ULTRABASIC
  - 50 CARBONATITES
  - 6 SPECIAL TYPES
  - 1 Pegmatite
  - 2 Aplite
  - 3 Lamprophyre
  - 4 Trap
  - 5 Felsite
  - 6 Intrusion Breccia
  - 7 Diabase

## LIST 2

- 2-- VOLCANIC ROCKS
- 0 UNDIFFERENTIATED
  - 1 BASALT
  - 2 ANDESITE
  - 3 DACITE
  - 4 RHYOLITE
  - 5 QUARTZ LATITE
  - 6 LATITE
  - 7 TRACHYTE
  - 8 PHONOLITE
  - 9 NEPHELINE LATITE
  - 1 Fine grained flows
  - 2 Prophyritic flows
  - 3 Crystall tuffs
  - 4 Ash tuffs
  - 5 Lapilli tuffs
  - 6 Agglomerate
  - 7 Lapilli breccia
  - 8 Block breccia
  - 9 Turbidite

## LIST 3

- 3-- SEDIMENTARY ROCKS
- 1 ARENACEOUS
  - 1 Siltstone
  - 2 Mudstone
  - 3 Greywacke
  - 4 Sandstone
  - 5 Quartzite
  - 6 Conglomerate
  - 2 ARGILLACEOUS
  - 1 Shale
  - 2 Argillite
  - 3 CALCAREOUS
  - 1 Limestone
  - 2 Dolomite
  - 4 CHEMICAL PRECIPITATE
  - 1 Chert
  - 2 Marble
  - 3 Iron formation

## LIST 4

- 4-- METAMORPHIC ROCKS
- 10 FINE GRAINED CONTACT
  - 2 PHANERITIC
  - 1 Meta quartzite
  - 2 Marble
  - 3 Soapstone
  - 4 Hornfels
  - 5 Serpentine
  - 6 Skarn
  - 7 Amphibolite
  - 8 Eclogite
  - 3 MECHANICAL
  - 1 Mylonite
  - 2 Flaser
  - 3 Augen
  - 4 Ultramylonite
  - 40 SLATE
  - 50 PHYLLITE
  - 60 SCHIST
  - 7 GNEISS \*
  - 8 MIGMATITE \*
  - 1 \*Granite
  - 2 Monzonite
  - 3 Granodiorite
  - 4 Conglomerate
  - 5 Sandstone
  - 6 Augen
  - 7 Granulite
  - 8 Quartz diorite
  - 9 Diorite
  - 10 Amphibolite

## STREAM SEDIMENTS

40 SAMPLE ENVIRONMENT

1. Side of creek
4. Middle of stream
9. Composite across stream
- A. Soil

41 WATER TURBIDITY

Blank-clear

1. Murky (report findings in note section)

42 PRECIPITATE

Blank-none

1. Record colour (report presence of precipitate in immediate vicinity in stream bed. If heavy precipitate, sample separately as sample type 90)

43 OVERBURDEN TRANSPORT

- L. Local M. Mixed local  
E. Extensive & extensive  
U. Unknown

45 OVERBURDEN ORIGIN

1. Till-angular boulders
2. Outwash-sandy, rounded boulders
3. Lake sediment-sand/silt
4. Alluvium-stream deposit
5. Peat-bog
6. Colluvium\*

45 OVERBURDEN ORIGIN Cont.

7. Lake sediment-clay
8. Talus
9. Residual \*use only if C. Boulder field\* former origin
- D. Gravel\* cannot be identified
- E. Soil\*

46 BEDROCK

- M. Mineralized  
P. Present within 100m upslope  
D. Present within 100m down-slope  
B. Underlies sample site  
G. Gossan  
F. Fe surface stains  
R. Radioactivity

47-48 pH49 SAMPLE TEXTURE

- Ø. Organic-decomposed
1. Clay
  2. Silt and fine sand
  3. Sand
  4. Gravel
  6. Cemented
  7. Precipitate
  9. Twigs or undecomposed organic matter

50-52 AVERAGE WIDTH OF STREAM-M

Decimal point in col 51 (or col 52 if stream > 10m wide)

53-55 AVERAGE DEPTH OF STREAM-CM56 STREAM VELOCITY

1. Dry
2. Stagnant
3. Slow
4. Moderate
5. Fast
6. Turbulent

57 INDICATE AS TRIBUTARY

- R. Stream enters on the right looking down main stream  
L. Stream enters on left looking down main stream

58-60 LOCAL BEDROCK COMPOSITION

Estimate-use Lists 1-4

61-66 COLOUR

Munsell notation or abbreviation

67 CONTAMINATION

- Blank - none L - logging  
C - culvert M - mine  
F - farming R - road  
G - garbage T - trench  
H - house Ø - other - spec.  
I - industry

68 ORGANIC FRACTION \*(Complete where sediment composition is unusual)

2. Large amount of undecomposed leaves, twigs, etc.
4. Large amount of well-decomposed vegetation
5. Moss
7. Sediment grains coated in organic matter
8. Lake sediment ooze.

69 MINERAL FRACTION \*(Complete where composition is unusual)

3. Notable content of mafic minerals, resistates
4. Very high content of mafics, resistates

71 SCINTILLOMETER NUMBER72-75 GAMMA COUNT AT SAMPLE DEPTH

(make note if landscape is affecting gamma count)

76 ROCK

\*Star if bedrock is influencing scint count

77-78 APPROXIMATE SLOPE ANGLE79-80 APPROXIMATE SLOPE DIRECTION

## SOILS

40 SITE TOPOGRAPHY

1. Hill top
2. Gentle slope
3. Steep slope > 20°
4. Base of slope
5. Valley floor
6. Depression
7. Level
8. Rolling
9. Bog

41 SAMPLE ENVIRONMENT

1. Tundra-hummocky
2. Tundra-dry
3. Tundra-swampy
4. Grassland, meadows
5. Peat mounds
6. Bog in depression
7. Forest-coniferous
8. Forest-deciduous
9. Forest-mixed
- A. Alder or willows
- B. Cultivated land
- C. Desert, semi-arid
- D. Barren
- E. Talus fan
- F. Bank soil-stream
- G. Bank soil-lake
- H. Road cut

42 SITE DRAINAGE

1. Dry
2. Moist
3. Wet
4. Saturated

43 OVERBURDEN TRANSPORT

- L. Local  
E. Extensive  
U. Unknown  
M. Mixed

44 WATER MOVEMENT

5. Seepage

45 OVERBURDEN ORIGIN

1. Till-angular boulders
  2. Outwash-sandy, rounded boulders
  3. Lake sediment-sand/silt
  4. Alluvium-stream deposit
  5. Peat-bog
  6. Colluvium
  7. Lake sediment-clay
  8. Talus
  9. Residual
  - A. Frost boils\*
  - B. Seepage boils\*
  - C. Boulder field\*
  - D. Gravel\*
- \* Use only if former origin cannot be identified.

46 BEDROCK

- M. Mineralized  
P. Present within 100m upslope  
D. Present within 100m down-slope  
B. Underlies sample site  
G. Gossan  
F. Fe surface stains  
R. Radioactivity

47-48 pH49 SAMPLE TEXTURE

- Ø. Organic muck
1. Fibrous, peaty organic matter
  2. Very sandy
  3. Sandy
  4. Sand-silt
  5. Sand-silt-clay
  6. Silt
  7. Silt-clay
  8. Clay
  9. Gravel

50-51 THICKNESS OF SOIL SAMPLE INTERVAL-CM52-54 BOTTOM OF SOIL SAMPLE INTERVAL-CM55-56 SOIL HORIZON

- LH. Leaf, humus layer, undecomposed vegetation lying on the ground surface (do not sample)  
AH. Dark grey to black, organic-rich mineral horizon usually no deeper than 15cm from the surface (do not sample)  
AE. Grey to white (occasionally brown) leached mineral horizon near ground surface, usually sandy; accompanied by BF or BT horizon at depth (do not sample)  
BH. Black, organic-rich mineral horizon at depths greater than 15cm (do not sample)  
BF. Red-brown, iron-rich horizon  
BT. Brown, clay-rich horizon  
BG. Horizon which is water-saturated most of the year, identified by red brown mottles  
BM. Brown horizon which is only slightly different in appearance from underlying parent material  
CL,C2,C3, etc. Parent material for soil  
CA. White calcium carbonate precipitate in C horizon  
Ø1,Ø2,Ø3, etc. Bog sample at various depths  
TF. Talus fines

57 SOIL TYPE

- C. Chernozem-prairie soil usually under grassland or meadow, thick AH > 10cm, CA horizon at depth  
S. Solonchek-saline soil, high content of NaCl

57 SOIL TYPE Cont.

- L. Luvisol-BT horizon diagnostic  
P. Podzol-BF horizon diagnostic  
B. Brunisol-BM horizon is only B horizon of profile  
R. Reposol-little or no soil development. No B soil horizon, only LH (maybe) and C horizon  
G. Gleysol-BG horizon diagnostic  
Ø. Organic soil-bog vegetation-no mineral matter

58-60 LOCAL BEDROCK COMPOSITION

Estimate-use Lists 1-4

61-66 COLOUR

Munsell notation or abbreviation

67 CONTAMINATION

- Blank - none L - logging  
C - culvert M - mine  
F - farming R - road  
G - garbage T - trench  
H - house Ø - other - spec.  
I - industry

68-69 COARSE FRAGMENTS70 SHAPE OF COARSE FRAGMENTS

- A. Angular  
R. Rounded  
S. Subrounded  
M. Mixed above types

71 SCINTILLOMETER NUMBER72-75 GAMMA COUNT AT SAMPLE SITE

Scint reading at ground level over hole

76 ROCK

\*Star if bedrock is influencing scint counts

77-78 APPROXIMATE SLOPE ANGLE79-80 APPROXIMATE SLOPE DIRECTION

## LAKE SEDIMENTS

<p>40 <u>TOPOGRAPHY-SETTING OF LAKE ON LANDSCAPE</u></p> <ol style="list-style-type: none"> <li>1. Cirque basin</li> <li>2. Gentle slope</li> <li>3. Steep slope &gt; 20°</li> <li>4. Footslope</li> <li>5. Valley floor</li> <li>6.</li> <li>7. Level</li> <li>8. Rolling</li> <li>9. Major bog</li> </ol> <p>41 <u>DRAINAGE BASIN ENVIRONMENT</u></p> <ol style="list-style-type: none"> <li>1. Tundra-arctic</li> <li>2. Tundra-alpine</li> <li>3. Grassland, pasture, meadows</li> <li>4. Bog, swamp</li> <li>5. Forest-coniferous</li> <li>6. Forest-deciduous</li> <li>7. Forest-mixed</li> <li>8. Cultivated land</li> <li>9. Semi arid to desert</li> </ol> <p>42 <u>LAKE TYPE</u></p> <p>L - Oligotrophic E - Eutrophic D - Dystrophic Ø - Other - specify</p> <p>43 <u>OVERBURDEN TRANSPORT</u></p> <p>L. Local E. Extensive-thin T. Extensive-thick</p> <p>44 <u>WATERSHED AREA</u></p> <ol style="list-style-type: none"> <li>1. Low 0-1 km<sup>2</sup></li> <li>2. Moderate 1-3 km<sup>2</sup></li> <li>3. Relatively large 3-10 km<sup>2</sup></li> <li>4. Very large &gt; 10 km<sup>2</sup></li> </ol>	<p>45 <u>PREDOMINANT GLACIAL OVERBURDEN</u></p> <ol style="list-style-type: none"> <li>1. Till</li> <li>2. Outwash sand</li> <li>3. Lacustrine sand</li> <li>4. Alluvium</li> <li>5. Peat</li> <li>6. Colluvium</li> <li>7. Lacustrine clay</li> <li>8. Talus</li> <li>9. Residual</li> <li>U. Unknown</li> </ol> <p>46 <u>FLUSHING RATE</u></p> <ol style="list-style-type: none"> <li>1. None</li> <li>2. Low</li> <li>3. Moderate</li> <li>4. High</li> </ol> <p>47-48 <u>pH</u></p> <p>49 <u>TEXTURE</u></p> <ol style="list-style-type: none"> <li>1. Nearshore sands/gravels</li> <li>2. Deltaic sands/gravels</li> <li>3. Woody</li> <li>4. Well decomposed vegetation (bog)</li> <li>5. Algae</li> <li>6. Ooze</li> <li>7. Clay</li> <li>8. Silt/sand</li> <li>9. Pre-lake deposits</li> </ol> <p>50-52 <u>MAXIMUM LAKE LENGTH IN METRES - 10</u></p> <p>53-55 <u>MAXIMUM LAKE WIDTH IN METRES - 10</u></p> <p>56-57 <u>LAKE DEPTH AT POINT OF SAMPLING-METRES</u></p> <p>58-60 <u>LOCAL BEDROCK COMPOSITION-PRIMARY UNIT</u></p> <p>Estimate - use lists 1-4</p> <p>61-66 <u>COLOUR</u></p> <p>Munsell notation or abbreviation</p>	<p>67 <u>CONTAMINATION</u></p> <p>Blank - none L - logging C - culvert M - mine F - farming R - road G - garbage T - trench H - house Ø - other - spec. I - industry</p> <p>68 <u>LAKESHORE CHARACTER</u></p> <p>B. Boggy S. Sandy R. Rocky M. Mixed boggy and sandy/rocky</p> <p>69 <u>NUMBER OF MAJOR INFLOW STREAMS</u></p> <ol style="list-style-type: none"> <li>Blank - none</li> <li>1. 1</li> <li>2. 2</li> <li>3. 3</li> <li>4. 4-10</li> <li>5. &gt; 10</li> </ol> <p>70 <u>PROXIMITY OF SAMPLE SITE TO MAJOR INFLOW STREAMS</u></p> <ol style="list-style-type: none"> <li>1. 0-50m</li> <li>2. 51-100m</li> <li>3. 101-250m</li> <li>4. 251-500m</li> <li>5. &gt; 500m</li> </ol> <p>71 <u>SAMPLE HOMOGENEITY</u></p> <p>H. Homogenous L. Layered T. Turbidite Ø. Other - specify</p> <p>72 <u>SEDIMENT CONSISTENCY</u></p> <p>S. Soupy F. Firm Ø. Other</p>	<p>73 <u>ISLANDS</u></p> <p>Blank-none 1. Low density 2. Moderate density 3. High density</p> <p>74 <u>PRECIPITATE</u></p> <p>F. Fe oxides-red brown M. Mn oxides-black C. Calcium-carbonate -white Ø. Other - specify</p> <p>75 <u>FEATURE</u></p> <ol style="list-style-type: none"> <li>1. Fe concretions</li> <li>2. Mn concretions</li> <li>3. Fe+Mn concretions</li> <li>4. Shell fragments</li> <li>5. Other - specify</li> </ol> <p>76 <u>SEDIMENT ODOUR</u></p> <p>Blank-none H. Hydrogen sulphide F. Fishy Ø. Other - specify</p> <p>78-80 <u>LOCAL BEDROCK COMPOSITION</u></p> <p>Secondary Unit Estimate-use lists 1-4</p>
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○ INFORMATION RECORDED ON SITE

□ INFORMATION NOTED ON SITE IF UNUSUAL

## ROCK CHIP SAMPLES

<p>32 <u>SELECTIVE LITHOGEOCHEMICAL SAMPLE</u></p> <p>Blank - representative sample</p> <p>A. Altered zone - specify alteration minerals in col 77-80</p> <p>C. Carbonate vein</p> <p>G. Gossan zone</p> <p>I. Iron stained (rusty) zone</p> <p>M. Mineralized zone</p> <p>Q. Quartz vein</p> <p>R. Radioactive zone</p> <p>S. Shear zone</p> <p>Ø. Other - specify</p> <p>40 <u>OUTCROP TOPOGRAPHY</u></p> <ol style="list-style-type: none"> <li>1. Rugged ridge</li> <li>2. Recessive ridge</li> <li>3. Steep slope (&gt; 20°)</li> <li>4. Shallow slope</li> <li>5. Cirque headwall</li> <li>6. Cirque floor</li> <li>7. Valley floor</li> <li>8. Flat land</li> <li>9. Creek-channel</li> <li>A. Nickpoint</li> <li>Ø. Other</li> </ol> <p>41 <u>OUTCROP EXPOSURE</u></p> <ol style="list-style-type: none"> <li>1. Continuous-well</li> <li>2. Continuous-poor</li> <li>3. Intermittent-well</li> <li>4. Intermittent-poor</li> <li>5. Isolated-well</li> <li>6. Isolated-poor</li> <li>7. Float</li> <li>8.</li> </ol> <p>43 <u>WEATHERING</u></p> <ol style="list-style-type: none"> <li>1. Frost heaved</li> <li>2. Mechanical-plants</li> <li>3. Sheeting(exfoliation)</li> <li>4. Chemical disintegration</li> <li>5. Mechanical disintegration (grus)</li> <li>6. Leached</li> <li>Ø. Other</li> </ol> <p>44 <u>CHEMICAL WEATHERING</u></p> <ol style="list-style-type: none"> <li>1. Fresh</li> <li>2. Normal</li> <li>3. Weathered</li> <li>4. Decomposed</li> </ol>	<p>45 <u>SURFACE COATING OR STAINS</u></p> <ol style="list-style-type: none"> <li>1. Gossan-mineralized</li> <li>2. Gossan-barren</li> <li>3. Primary ore minerals</li> <li>4. Secondary ore minerals</li> <li>5. Iron and manganese</li> <li>6. Iron</li> <li>7. Manganese</li> <li>8. Calcium carbonate</li> <li>9. Malachite/azurite</li> <li>Ø. Other</li> </ol> <p>46-48 <u>WEATHERED SURFACE COLOUR</u></p> <p>L.-light M.-medium D.-dark</p> <p>ØR - Orange BR - Brown RE - Red BK - Black YE - yellow GY - Grey PI - Pink WH - White BL - Blue RB - Red Brown PU - Purple ØB - Orange Brown GR - Green</p> <p>49 <u>TEXTURE #1</u></p> <p>A - Aphanitic F - fine grained M - medium grained C - coarse grained E - equigranular P - porphyritic V - vesicular B - brecciated S - massive G - glassy</p> <p>50 <u>TEXTURE #2</u></p> <p>Use same coding as for col. 49</p> <p>51 <u>FRACTURE INTENSITY</u></p> <ol style="list-style-type: none"> <li>1. Massive</li> <li>2. Widely spaced</li> <li>3. Moderately spaced</li> <li>4. Closely spaced</li> <li>5. Shattered</li> </ol> <p>52 <u>VEINING INTENSITY</u></p> <ol style="list-style-type: none"> <li>1. Massive</li> <li>2. Widely spaced</li> <li>3. Moderately spaced</li> <li>4. Closely spaced</li> <li>5. Very closely spaced</li> </ol>	<p>54-56 <u>FRESH SURFACE COLOUR</u></p> <p>- Use same codes as for columns 47-49</p> <p>57 <u>FORMATION NAME</u></p> <p>- Use a list describing local lithological units</p> <p>58-62 <u>LOCAL BEDROCK COMPOSITION</u></p> <p>- Use list 1-4 detailed on the rock coding form</p> <p>64-65 <u>ORE ELEMENT #1</u></p> <p>Use chemical element symbol</p> <p>66-67 <u>ORE ELEMENT #2</u></p> <p>Use chemical element symbol</p> <p>68-69 <u>ORE ELEMENT #3</u></p> <p>Use chemical element symbol</p> <p>70-71 <u>ORE ELEMENT #4</u></p> <p>Use chemical element symbol</p> <p>73 <u>PROMINENT OUTCROP FEATURE #1</u></p> <ol style="list-style-type: none"> <li>1. Bedding</li> <li>2. Banding</li> <li>3. Foliation</li> <li>4. Shearing</li> <li>5. Faulting</li> <li>6. Veining</li> <li>7. Diking</li> <li>8. Contact zone</li> <li>9. Alteration</li> <li>A. Crossbedding</li> <li>B. Fold axis</li> <li>C. Greenschist meta</li> <li>D. Amphibolite meta</li> <li>E. Contact meta</li> </ol>	<p>74 <u>PROMINENT OUTCROP FEATURE #2</u></p> <p>Use same codings as for col 73</p> <p>75 <u>PROMINENT OUTCROP FEATURE #3</u></p> <p>Use same coding as for col 73</p> <p>77 <u>ALTERATION MINERAL #1</u></p> <p>A. Albite/Anorthite B. Secondary biotite C. Carbonate E. Epidote G. Gypsum/anhydrite I. Illite K. Kaolinite L. Chlorite M. Montmorillonite F. Potash feldspar Q. Quartz/silica S. Sericite T. Tourmaline Z. Zeolites Ø. Other-specify in notes</p> <p>78 <u>ALTERATION MINERAL #2</u></p> <p>Use list for col 77</p> <p>79 <u>ALTERATION MINERAL #3</u></p> <p>Use list for col 77</p> <p>80 <u>ALTERATION MINERAL #4</u></p> <p>Use list for col 77</p>
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## SOUTH GRID

SELECTION # 1

## UTM LIMITS

NORTH 6113000 SOUTH 6111000 EAST 431000 WEST 429000

SAMPLE TYPE(S) ALL

BEDROCK TYPE(S) ALL

SOIL HORIZON(S) ALL

SAMPLE TEXTURE(S) ALL

OVERBURDEN ORIGIN(S) ALL

LABORATORY-SIZE FRACTION-EXTRACTION(S) ALL

PAIR STATUS ALL

REC#	SHP#	UTM-E	UTM-N		HO	CO	PB	ZH	HI	U	MM	FE	AG					
468	5085561	515501A8A4305636111644	93N01	1A2U	2B	110	20BTL	30R	01	W1	21	7	54	11	5	170	3.04	.1
469	5085561	515502A8A4304656111646	93N01	1A2U	2B	410	20BTL	20R	02	W1	11	10	55	?	5	248	2.36	.2
470	5085561	515503A8A4303636111645	93N01	2A2U	2B	410	20BTL	20R	04	W1	23	9	60	15	5	215	3.24	.5
471	5085561	515504A8A4302626111645	93N01	2A2U	2B	410	25BTL	20R	04	W1	28	?	75	19	5	218	4.16	.2
472	5085561	515505A8A4301596111646	93N01	2A2U	2B	110	35BTL	20R	04	W1	?	10	66	10	5	375	2.51	.2
473	5085561	515506A8A4300546111645	93N01	2A2U	2B	310	35BEC	20R	05	W2	79	10	106	19	5	383	4.62	.4
474	5085561	515507A8A4299546111644	93N01	2A2U	2B	310	40REC	25R	07	W1	25	8	71	15	5	353	3.34	.3
475	5085561	515508A8A4298536111645	93N01	2A2U	2B	315	10REC	25R	07	W1	11	8	70	10	5	155	2.16	.2
476	5085561	515509A8A4297526111647	93N01	2A2U	2B	315	30BTL	20R	07	W1	22	1	38	16	5	338	2.81	.1
477	5085561	515510A8A4296526111646	93N01	2A2U	2B	315	25BTL	20R	07	W1	28	7	48	10	5	161	1.46	.3
478	5085561	515511A8A4295466111646	93N01	2A2U	2B	310	35BTL	20R	07	W1	17	7	38	13	5	167	2.11	.5
479	5085561	515512A8A4294476111647	93N01	2A2U	2B	310	35BTL	20R	07	W1	16	4	34	10	5	153	1.54	.4
480	5085561	515513A8A4293456111646	93N01	2A2U	2B	310	35BTL	25R	06	W1	31	7	54	17	5	374	1.95	.3
481	5085561	515514A8A4292456111649	93N01	2A2U	2B	310	30BTL	25R	05	W1	17	4	38	11	5	244	1.58	.2
482	5085561	515515A8A4291426111649	93N01	2A2U	2B	310	30BTL	30R	06	W1	27	6	41	16	5	416	2.21	.2
483	5085561	515516A8A4291406111644	93N01	2A2U	2B	315	35BTL	15R	04	W1	11	5	58	10	5	239	2.62	.2
484	5085561	515517A8A4294486111644	93N01	2A2U	2B	315	35BTL	20R	07	W1	22	6	42	10	5	367	1.57	.3
485	5085561	515518A8A4296496111644	93N01	2A2U	2B	315	30BTL	25R	10	W1	27	6	43	17	5	284	2.02	.3
486	5085561	515519A8A4297536111643	93N01	2A2U	2B	310	35BTL	15R	10	W1	52	8	62	23	5	268	2.87	.2
487	5085561	515520A8A4298516111642	93N01	2A2U	2B	310	35BTL	15R	10	W1	31	7	43	21	5	369	2.77	.1
488	5085561	515521A8A4300556111643	93N01	2A2U	2B	310	35BTL	20R	10	W1	32	4	49	17	5	515	2.2	.3
489	5085561	515522A8A4301596111643	93N01	2A2U	2B	310	35BTL	20R	15	W1	11	7	50	?	5	271	2.57	.1
490	5085561	515523A8A4302586111641	93N01	2A2U	2B	310	30BTL	20R	15	W1	23	10	61	14	5	501	3	.1
491	5085561	515524A8A4303616111641	93N01	2A2U	2B	315	30BTL	15R	15	W2	12	11	60	8	5	105	2.03	.4
492	5085561	515525A8A4304656111644	93N01	3A2U	2B	310	30BTL	10R	25	W2	23	16	78	17	5	323	3.35	.2
493	5085561	515526A8A4305636111644	93N01	3A1U	2B	310	15BTL	10R	30	W2	42	12	76	17	5	1140	3.5	.6
494	5085561	515527A8A4306436111644	93N01	3A1U	2B	310	30BTL	10R	30	W1	29	12	58	19	5	260	4.11	.1
495	5085561	515528A8A4306186112432	93N01	372U	2B	310	30BTL	10R	02	E1	28	11	67	16	5	236	3.74	.3
496	5085561	515529A8A4305156112432	93N01	372U	2B	310	20BTL	10R	01	E1	20	4	43	12	5	205	2.2	.1
497	5085561	515530A8A4304156112432	93N01	372U	2B	310	25BTL	15R	02	E1	16	8	66	11	5	250	2.55	.1
498	5085561	515531A8A4303146112434	93N01	372U	2B	310	20BTL	20R	01	E1	38	11	81	18	5	250	5.08	.1
499	5085561	515532A8A4302116112435	93N01	372U	2B	305	20BTL	20R	01	E1	46	7	73	18	5	219	3.94	.2
500	5085561	515533A8A4299056112434	93N01	372U	2B	310	25BTL	20R	01	E2	30	2	37	20	5	734	2.98	.1
501	5085561	515534A8A4298056112434	93N01	372U	2B	310	330BTL	15R	01	E1	56	28	109	19	5	410	2.02	.1
502	5085561	515535A8A4296006112438	93N01	372U	2B	315	30BTL	15R	02	E1	27	7	97	21	5	521	4.13	.1
503	5085561	515536A8A4295006112438	93N01	372U	2B	310	30BTL	20R	03	E1	17	12	55	14	5	225	4.08	.1
504	5085561	515537A8A4293986112437	93N01	372U	2B	310	20BTL	10R	01	E1	16	6	47	14	5	351	3.07	.1
505	5085561	515538A8A4292946112439	93N01	372U	2B	315	20BTL	10R	01	E1	14	6	37	12	5	428	2.7	.2

506	5085561	515539A8A4291956112441	93H01	372U	28	310	208TL	10R	02	E1	46	7	48	24	5	311	3.62	.1
507	5085561	515540A8A4290916112439	93H01	372U	28	310	208TL	15R	01	E1	41	5	47	23	5	215	2.55	.1
508	5085561	515541A8A4291946112636	93H01	372U	28	300	208TL	20R	01	H1	44	8	49	26	5	251	2.59	.1
509	5085561	515542A8A4292946112636	93H01	372U	28	310	208TL	20R	03	H1	24	9	114	22	5	405	4.24	.2
510	5085561	515543A8A4293996112635	93H01	372U	28	310	308TL	10R	04	H1	21	7	90	18	5	581	3.99	.2
511	5085561	515544A8A4296036112636	93H01	372U	28	310	308TL	10R	02	H2	14	5	28	11	5	145	1.67	.1
512	5085561	515545A8A4299036112636	93H01	372U	28	315	258TL	10R	02	H1	9	5	26	6	5	104	.95	.1
513	5085561	515546A8A4299076112635	93H01	372U	28	310	308TL	10R	04	H1	14	6	31	12	5	135	2.48	.1
514	5085561	515547A8A4300076112634	93H01	372U	28	310	308TL	10R	04	H1	26	6	89	25	5	249	3.99	.1
515	5085561	515548A8A4301106112635	93H01	372U	28	310	208TL	10R	05	H1	32	10	118	18	5	230	3.81	.3
516	5085561	515549A8A4302116112631	93H01	372U	28	310	258TL	10R	04	H1	19	10	50	11	5	209	2.17	.1
517	5085561	515550A8A4303136112633	93H01	372U	28	310	258TL	15R	03	H1	37	5	110	22	5	350	3.72	.2
518	5085561	515552A8A4305156112635	93H01	372U	28	310	208TL	10R	09	H1	21	7	49	12	5	271	3.49	.2
520	5085561	515553A8A4306126112634	93H01	372U	28	310	208TL	15R	15	H1	7	8	30	7	5	121	2.66	.1
520	5085561	516401A8A4306626111238	93H01	1A2U	28	310	308TL	20R	01	E1	19	7	40	19	5	190	3.17	.5
521	5085561	516402A8A4304496111238	93H01	1A2U	28	310	308TL	10R	01	E3	80	14	70	17	5	297	3.31	.8
522	5085561	516403A8A4303496111238	93H01	2A2U	28	310	258TL	10R	06	E1	9	7	37	7	5	218	1.47	.5
523	5085561	516404A8A4302516111240	93H01	2A2U	28	310	258TL	10R	06	E2	17	6	71	14	5	300	3.17	.1
524	5085561	516405A8A4301496111240	93H01	2A2U	28	310	308TL	15R	09	E1	17	11	117	15	5	279	3.11	.4
525	5085561	516406A8A4300496111240	93H01	2A2U	28	315	308TL	10R	07	E1	16	9	52	14	5	184	3.51	.6
526	5085561	516407A8A4299496111240	93H01	2A2U	28	310	258TL	10R	07	H1	20	9	35	11	5	241	2.3	.4
527	5085561	516408A8A4298496111239	93H01	2A2U	28	310	208TL	10R	07	H1	41	9	47	16	5	314	2.15	.6
528	5085561	516409A8A4297506111241	93H01	2A2U	28	310	258TL	05R	07	H1	62	8	51	22	6	396	2.01	.7
529	5085561	516410A8A4295476111241	93H01	2A2U	28	310	308TL	10R	07	H1	36	3	57	9	17	264	.22	.3
530	5085561	516411A8A4292496111243	93H01	2A2U	28	310	308TL	15R	05	H1	21	6	14	10	5	312	1.29	.4
531	5085561	516412A8A4291416111343	93H01	1A2U	28	315	308TL	10R	01	E1	36	5	53	10	6	1649	1.49	.3
532	5085561	516413A8A4292436111441	93H01	1A2U	28	315	308TL	15R	03	E1	29	3	47	6	9	110	.56	.2
533	5085561	516414A8A4293436111141	93H01	2A2U	28	310	258TL	15R	06	H2	38	5	56	14	5	1257	1.77	.6
534	5085561	516415A8A4295496111440	93H01	2A2U	28	310	308TL	10R	08	H1	23	6	39	12	5	175	1.89	.5
535	5085561	516416A8A4296506111439	93H01	2A2U	28	310	308TL	10R	06	H1	21	9	40	13	5	183	2.48	.4
536	5085561	516417A8A4297516111438	93H01	2A2U	28	310	308TL	10R	06	H1	16	4	31	11	5	202	2.34	.3
537	5085561	516418A8A4298516111440	93H01	2A2U	28	315	308TL	10R	07	H1	13	4	29	10	5	182	1.82	.5
538	5085561	516419A8A4299526111440	93H01	2A2U	28	315	258TL	15R	05	H2	31	9	46	9	5	161	4.19	.5
539	5085561	516420A8A4301566111440	93H01	2A2U	28	310	258TL	15R	07	H1	35	10	130	30	5	638	4.07	.7
540	5085561	516421A8A4302606111440	93H01	2A2U	28	310	308TL	10R	07	H2	22	9	83	19	5	236	3.91	.6
541	5085561	516422A8A4303616111439	93H01	2A2U	28	310	308TL	15R	09	H1	21	10	86	20	5	228	3.06	.5
542	5085561	516423A8A4304646111439	93H01	2A2U	28	310	308TL	10R	07	H2	32	11	77	21	5	190	4.07	.5
543	5085561	516424A8A4305636111439	93H01	1A2U	28	310	258TL	15R	01	H1	57	13	107	30	5	466	4.52	.3
544	5085561	516425A8A4306416112040	93H01	1A2U	28	310	258TL	15R	01	E2	28	8	75	19	5	249	3.76	.4
545	5085561	516426A8A4304396112038	93H01	572U	28	310	308TL	10R	01	E1	22	9	42	14	5	146	2.67	.4
546	5085561	516427A8A4303376112040	93H01	572U	28	305	258TL	15R	01	E1	16	8	24	10	5	128	2.56	.4
547	5085561	516428A8A4301346112038	93H01	572U	28	305	258TL	10R	01	E2	13	5	23	5	5	84	1.63	.2
548	5085561	516429A8A4300326112040	93H01	572U	28	310	258TL	10R	01	E1	6	3	17	3	5	67	1.07	.3
549	5085561	516430A8A4299296112039	93H01	572U	28	310	258TL	10R	02	E1	14	3	23	8	5	138	2.35	.2
550	5085561	516431A8A4298286112038	93H01	572U	28	310	308TL	15R	03	E1	9	7	27	6	5	183	2.36	.1
551	5085561	516432A8A4295266112039	93H01	572U	28	305	258TL	10R	02	E1	25	2	66	13	5	335	4.06	.2
552	5085561	516433A8A4294236112040	93H01	572U	28	310	308TL	10R	02	E1	16	6	67	8	5	156	2.97	.2
553	5085561	516434A8A4293196112040	93H01	572U	28	310	308TL	10R	01	E1	12	2	34	13	5	184	1.85	.2
554	5085561	516435A8A4292186112039	93H01	572U	28	310	308TL	10R	02	E1	7	5	21	4	5	85	1.62	.2
555	5085561	516436A8A4292186112240	93H01	572U	28	310	308TL	10R	01	E1	12	2	44	9	5	273	3.94	.4
556	5085561	516437A8A4294226112240	93H01	572U	28	310	308TL	10R	01	E1	26	7	70	14	5	262	3.53	.2
557	5085561	516438A8A4296266112240	93H01	572U	28	310	258TL	10R	02	E1	11	2	49	7	5	422	2.73	.1
558	5085561	516439A8A4306266112239	93H01	572U	28	310	258TL	10R	01	E1	29	5	50	16	5	191	2.88	.1

REC#	SMPL#	CO	AU	AU7	AS	HG	SB	SH	H	F	TH	CD	BI	V	BA	SR	BT	AL	CA	HG	HA	K	AE1	AE2	TI
468	515501	4	3	.33	22		2	1	1		1	1	2	88	56	39	.02	1.03	.31	.32	.01	.05			.09
469	515502	3	2	.45	17		2	1	1		3	1	2	70	41	29	.02	.81	.37	.27	.01	.05			.1
470	515503	3	2	.78	27		2	1	1		2	1	2	80	58	27	.02	1.46	.31	.43	.01	.05			.09
471	515504	5	3	.37	28		5	1	1		4	1	1	84	47	24	.02	1.36	.31	.43	.01	.05			.09
472	515505	4	5	.01	26		3	1	1		2	1	2	76	60	24	.02	.84	.3	.24	.01	.04			.09
473	515506	9	3	.93	4		2	1	1		2	1	2	110	82	21	.02	2.18	.35	1.06	.01	.17			.22
474	515507	8	3	.34	9		3	1	1		3	1	2	95	75	41	.02	1.46	.63	.74	.01	.07			.11
475	515508	3	4	.62	6		3	1	1		2	1	4	81	62	31	.02	.86	.36	.19	.01	.03			.1
476	515509	5	3	.38	8		2	1	1		3	1	2	81	75	41	.02	1.3	.56	.41	.02	.04			.1
477	515510	4	4	.21	6		2	1	1		3	1	2	47	93	56	.02	1.18	.77	.32	.01	.04			.04
478	515511	4	5	.56	5		2	1	1		2	1	2	64	68	35	.02	1.2	.46	.36	.01	.05			.1
479	515512	3	1	.35	7		2	1	1		2	1	3	49	70	36	.02	.99	.46	.31	.01	.04			.08
480	515513	5	485	.35	8		2	1	1		1	1	2	56	100	53	.02	1.43	.82	.52	.02	.05			.07
481	515514	4	2	.49	5		3	1	1		3	1	2	52	68	46	.02	1	.76	.45	.01	.03			.09
482	515515	6	2	.16	6		2	1	1		2	1	2	67	50	47	.02	1.26	.81	.48	.01	.03			.07
483	515516	3	2	.01	6		2	1	1		3	1	2	80	87	27	.02	.9	.35	.23	.01	.03			.08
484	515517	4	3	.42	6		3	1	1		2	1	2	49	77	49	.02	.93	.83	.35	.01	.04			.05
485	515518	6	1	.77	3		2	1	1		2	1	2	61	75	44	.02	1.16	.66	.45	.01	.04			.07
486	515519	7	4	.01	9		2	1	1		2	1	2	77	107	55	.02	1.59	.9	.51	.01	.05			.07
487	515520	7	3	.53	10		2	1	1		2	1	2	77	84	50	.02	1.24	.67	.44	.02	.04			.09
488	515521	5	1	.2	5		2	1	1		2	1	2	63	83	74	.02	1.13	1.64	.33	.02	.04			.05
489	515522	3	1	.01	6		2	1	2		2	1	2	79	61	28	.02	1.04	.31	.21	.01	.04			.1
490	515523	4	2	.01	10		2	1	1		1	1	3	81	83	32	.02	.96	.35	.35	.01	.04			.06
491	515524	2	2	.01	22		3	1	1		1	1	2	53	57	28	.02	.8	.33	.17	.01	.04			.04
492	515525	4	7	.14	30		5	1	1		2	1	4	59	66	30	.02	1.1	.35	.37	.01	.06			.04
493	515526	9	2	.01	12		2	1	1		2	1	2	80	111	44	.02	1.68	.59	.72	.02	.06			.09
494	515527	6	24	.4	20		2	1	1		3	1	3	102	53	29	.01	1.33	.36	.5	.01	.05			.09
495	515528	6	2	.08	7		3	1	1		2	1	3	105	72	49	.02	1.78	.34	.5	.02	.06			.13
496	515529	4	2	.02	2		2	1	1		1	1	3	76	77	95	.01	1.09	.5	.52	.02	.05			.16
497	515530	6	1	.01	3		2	1	1		2	1	2	82	67	45	.02	1.41	.41	.46	.02	.06			.18
498	515531	7	2	.01	7		2	1	1		3	1	2	141	83	55	.01	1.99	.53	.66	.02	.09			.19
499	515532	7	2	.01	4		2	1	1		2	1	2	127	116	77	.02	1.84	1.05	.7	.03	.11			.23
500	515533	6	3	.01	12		2	1	1		2	1	2	85	104	48	.01	1.04	.77	.53	.03	.04			.1
501	515534	6	4	.05	5		3	1	1		1	1	2	50	170	73	.02	1.19	1.14	.42	.02	.07			.06
502	515535	8	11	.4	10		2	1	1		3	1	5	112	83	25	.05	2.37	.5	.45	.02	.04			.08
503	515536	5	1	.01	5		2	1	1		3	1	3	134	52	30	.02	1.37	.36	.37	.01	.04			.1
504	515537	5	2	.01	6		2	1	1		2	1	2	93	69	25	.02	1.69	.33	.29	.01	.03			.07
505	515538	4	18	.01	4		2	1	1		2	1	2	88	73	26	.01	1.03	.27	.25	.01	.02			.1
506	515539	7	2	.25	11		2	1	1		2	1	2	115	98	46	.02	1.84	.64	.61	.02	.03			.11
507	515540	6	9	.01	4		2	1	1		3	1	3	77	70	30	.03	1.6	.36	.43	.01	.03			.06
508	515541	8	7	.01	3		4	1	1		3	1	2	77	75	31	.03	1.65	.37	.45	.01	.04			.09
509	515542	7	50	.21	9		2	1	1		3	1	5	88	75	23	.08	2.94	.26	.47	.01	.04			.08
510	515543	6	2	.01	3		2	1	1		4	1	3	106	59	21	.02	2.03	.25	.1	.01	.04			.08
511	515544	3	5	.01	3		4	1	1		1	1	2	77	53	30	.01	.95	.36	.3	.01	.03			.12
512	515545	1	4	.01	2		2	1	1		1	1	2	34	46	43	.01	.69	.41	.21	.01	.04			.07
513	515546	3	1	.19	6		2	1	1		2	1	2	90	57	33	.01	1.95	.4	.27	.01	.03			.12
514	515547	9	2	.02	10		2	1	1		3	1	3	114	108	59	.03	1.82	.39	.53	.02	.05			.12
515	515548	7	2	.09	10		2	1	1		3	1	3	102	100	44	.02	2.11	.35	.59	.02	.07			.15

516	515549	4	2	.01	3	2	1	1	1	1	2	69	66	61	.01	1.06	.47	.4	.02	.06	.19
517	515550	7	2	.21	4	2	1	1	2	1	2	79	65	56	.01	1.34	.45	.77	.02	.07	.12
519	515552	5	7	.01	6	2	1	1	2	1	2	99	59	43	.01	1.38	.36	.41	.02	.05	.12
520	515553	2	4	.01	2	2	1	1	2	1	2	90	45	30	.01	1.01	.39	.19	.01	.03	.09
570	516401	5	11	.28	9	2	1	2	2	1	2	66	55	26	.03	1.56	.36	.4	.01	.02	.1
571	516402	7	3	.14	30	2	1	1	5	1	2	67	68	53	.02	1.15	.8	.3	.01	.01	.05
572	516403	1	1	.31	3	3	1	2	4	1	2	43	42	25	.02	.5	.33	.09	.01	.04	.05
573	516404	4	2	.01	20	3	1	1	4	1	4	71	44	23	.01	1.18	.31	.33	.01	.05	.07
574	516405	5	1	.27	5	2	1	1	4	1	5	77	70	44	.01	1.43	.32	.36	.01	.04	.09
575	516406	4	4	.59	4	2	1	1	4	1	2	106	55	29	.01	1.11	.38	.27	.01	.04	.12
576	516407	5	1	.01	5	2	1	2	3	1	3	75	90	41	.01	1.42	.46	.43	.01	.03	.1
577	516408	3	1	.38	5	2	1	2	3	1	2	74	109	37	.02	1.11	.46	.34	.01	.04	.06
578	516409	5	6	.57	2	2	1	1	4	1	2	52	148	75	.01	1.43	1.31	.4	.01	.05	.05
579	516410	1	1	.22	2	2	1	1	4	1	2	9	98	109	.01	.21	5.42	.09	.01	.01	.01
580	516411	3	3	.08	3	3	1	1	3	1	2	35	81	64	.01	.87	2.01	.34	.01	.02	.05
581	516412	6	2	.11	2	2	1	1	2	1	2	43	37	63	.01	.74	2.01	.29	.01	.01	.02
582	516413	1	1	.01	2	2	1	2	2	1	2	7	60	104	.01	.44	2.81	.17	.01	.01	.01
583	516414	6	2	.01	2	2	1	1	3	1	2	42	115	113	.01	1.15	2.91	.37	.01	.01	.02
584	516415	7	4	.01	2	2	1	1	2	1	2	60	91	57	.01	1.12	.9	.42	.02	.02	.05
585	516416	4	3	.01	6	2	1	1	4	1	2	70	67	35	.01	1.44	.46	.34	.01	.02	.09
586	516417	4	9	.47	5	2	1	1	3	1	3	70	64	32	.01	1.08	.41	.38	.01	.03	.12
587	516418	3	2	.39	3	2	1	1	3	1	2	53	58	35	.01	.75	.45	.29	.01	.05	.05
588	516419	4	5	.01	27	2	1	1	3	1	2	64	66	22	.02	1.02	.25	.12	.01	.06	.04
589	516420	8	1	.08	43	2	1	1	5	1	2	76	65	22	.01	1.34	.3	.55	.01	.03	.07
590	516421	4	4	.01	26	2	1	1	3	1	4	78	45	22	.01	1.16	.3	.38	.01	.03	.06
591	516422	7	6	.28	16	2	1	1	4	1	2	70	67	20	.03	1.53	.29	.35	.01	.07	.08
592	516423	5	5	.03	29	2	1	1	2	1	2	71	56	32	.01	1.48	.25	.41	.01	.03	.06
593	516424	11	6	.06	33	2	1	1	5	1	2	73	125	51	.01	1.38	.41	.7	.01	.08	.09
594	516425	6	2	.06	20	2	1	1	3	1	4	75	68	32	.02	1.35	.34	.44	.01	.04	.06
595	516426	4	5	.37	7	2	1	2	4	1	3	63	54	23	.03	1.54	.19	.31	.01	.01	.09
596	516427	3	3	.04	2	2	1	1	3	1	3	90	43	22	.01	.68	.34	.22	.01	.01	.1
597	516428	2	10	.01	2	3	1	1	2	1	2	55	61	29	.02	.66	.23	.09	.01	.03	.08
598	516429	1	8	.01	3	3	2	1	1	1	2	48	70	43	.02	.62	.57	.09	.01	.02	.12
599	516430	2	2	.01	4	1	1	1	2	1	2	104	42	24	.01	.83	.3	.25	.01	.03	.14
600	516431	2	100	.01	5	3	1	1	2	1	2	97	48	20	.01	.79	.19	.15	.01	.02	.11
601	516432	5	6	.01	6	2	1	1	1	1	3	97	68	21	.04	2.18	.26	.34	.01	.03	.08
602	516433	3	4	.01	5	2	1	1	2	1	2	79	82	19	.02	1.79	.24	.26	.01	.03	.08
603	516434	3	5	.01	7	3	1	1	1	1	3	55	66	27	.01	.98	.38	.43	.01	.03	.09
604	516435	1	36	.01	1	2	1	1	1	1	5	56	58	28	.02	.89	.21	.15	.01	.03	.11
605	516436	3	9	.01	7	2	1	1	1	1	4	120	41	20	.02	1.36	.27	.29	.01	.03	.09
606	516437	6	295	.01	5	2	1	1	2	1	2	101	91	68	.01	1.53	.43	.55	.02	.06	.17
607	516438	3	4	.01	7	2	1	1	1	1	2	83	52	21	.02	1.34	.24	.21	.01	.02	.07
608	516439	5	6	.01	9	2	1	1	3	1	2	77	66	25	.02	1.78	.24	.38	.01	.03	.09



REC#	SNPL#	P	LN	HE3	B	CR	HE5	HE6	GRIDE	GRIGN
468	515501	.05	5		3	28			8700E11800H	
469	515502	.11	6		4	24			8800E11800H	
470	515503	.11	5		2	33			8700E11800H	
471	515504	.24	6		6	40			8800E11800H	
472	515505	.07	6		3	26			8500E11800H	
473	515506	.17	3		2	41			8400E11800H	
474	515507	.17	7		6	33			8200E11800H	
475	515508	.07	4		4	27			8200E11800H	
476	515509	.08	6		1	29			8100E11800H	
477	515510	.08	8		2	23			8000E11800H	
478	515511	.09	5		3	24			7800E11800H	
479	515512	.05	6		2	20			7800E11800H	
480	515513	.08	7		2	28			7700E11800H	
481	515514	.06	6		2	22			7600E11800H	
482	515515	.08	6		3	29			7500E11800H	
483	515516	.11	5		2	31			7500E12000H	
484	515517	.09	6		2	20			7800E12000H	
485	515518	.1	7		2	27			8000E12000H	
486	515519	.09	9		3	36			8100E12000H	
487	515520	.05	7		4	37			8200E12000H	
488	515521	.11	6		4	37			8400E12000H	
489	515522	.12	4		4	27			8500E12000H	
490	515523	.14	4		1	32			8600E12000H	
491	515524	.04	8		3	17			8700E12000H	
492	515525	.26	9		5	26			8800E12000H	
493	515526	.08	7		4	46			8900E12000H	
494	515527	.17	5		4	41			9000E12000H	
495	515528	.19	6		5	37			9000E12400H	
496	515529	.02	4		3	29			8900E12400H	
497	515530	.08	5		6	29			8800E12400H	
498	515531	.21	2		2	41			8700E12400H	
499	515532	.09	2		2	34			8600E12400H	
500	515533	.16	10		4	42			8500E12400H	
501	515534	.1	18		4	22			8200E12400H	
502	515535	.29	4		5	44			8000E12400H	
503	515536	.15	4		4	40			7800E12400H	
504	515537	.24	5		5	37			7800E12400H	
505	515538	.05	2		4	36			7700E12400H	
506	515539	.1	7		3	48			7600E12400H	
507	515540	.17	5		3	35			7500E12400H	
508	515541	.16	5		3	41			7400E12800H	
509	515542	.38	4		5	40			7300E12800H	
510	515543	.24	4		3	43			7800E12800H	
511	515544	.03	4		3	24			8000E12800H	
512	515545	.02	5		2	18			8200E12800H	
513	515546	.03	5		3	31			8300E12800H	
514	515547	.1	5		4	52			8400E12800H	
515	515548	.27	6		3	41			8500E12800H	
516	515549	.08	6		2	26			8600E12800H	
517	515550	.28	7		3	35			8700E12800H	
518	515552	.23	4		3	31			8900E12800H	
520	515553	.12	4		2	30			9000E12800H	
570	516401	.06	6		2	41			11500E11400H	
571	516402	.06	17		2	33			11300E11400H	
572	516403	.01	8		3	20			11200E11400H	
573	516404	.12	9		2	30			11100E11400H	
574	516405	.15	8		3	37			11000E11400H	
575	516406	.07	3		2	34			10900E11400H	

576	516407	.04	7	2	29	10800E11400H
577	516408	.07	9	2	32	10700E11400H
578	516409	.13	11	2	29	10600E11400H
579	516410	.13	2	8	6	10500E11400H
580	516411	.09	3	4	27	10400E11400H
581	516412	.11	7	2	19	10000E11500H
582	516413	.07	6	3	7	10100E11600H
583	516414	.19	6	3	23	10200E11600H
584	516415	.07	5	16	25	10400E11600H
585	516416	.1	7	2	33	10500E11600H
586	516417	.05	6	3	31	10600E11600H
587	516418	.04	5	3	27	10700E11600H
588	516419	.08	8	2	19	10800E11600H
589	516420	.2	3	2	36	11000E11600H
590	516421	.23	5	2	38	11100E11600H
591	516422	.13	8	2	38	11200E11600H
592	516423	.13	6	2	37	11300E11600H
593	516424	.16	7	2	29	11400E11600H
594	516425	.27	4	2	32	11500E11600H
595	516426	.09	6	2	43	11400E12200H
596	516427	.05	4	2	31	11300E12200H
597	516428	.04	8	2	22	11200E12200H
598	516429	.01	6	2	19	11000E12200H
599	516430	.02	6	2	28	10700E12200H
600	516431	.05	8	2	21	10800E12200H
601	516432	.39	8	2	37	10700E12200H
602	516433	.19	10	2	21	10400E12200H
603	516434	.07	10	6	27	10300E12200H
604	516435	.09	8	4	19	10300E12200H
605	516436	.33	9	10	38	10100E12200H
606	516437	.21	7	2	37	10300E12400H
607	516438	.11	10	2	25	10500E12400H
608	516439	.14	9	2	38	10700E12400H

## EAST GRID

## SELECTION # 1

## UTM LIMITS

NORTH 6116000 SOUTH 6114000 EAST 434500 WEST 432000

SAMPLE TYPE(S) ALL

BEDROCK TYPE(S) ALL

SOIL HORIZON(S) ALL

SAMPLE TEXTURE(S) ALL

OVERBURDEN ORIGIN(S) ALL

LABORATORY-SIZE FRACTION-EXTRACTION(S) ALL

PAIR STATUS ALL

REC#	SAMPL#	UTM-E	UTM-N		NO	CU	PB	ZH	HI	U	WH	FE	MO					
417	5085561	514501A8A4332856114097	93N01	271N	2B	410	30BTL	10R	09NE1	11	2	19	7	5	98	1.76	.2	
418	5085561	514502A8A4333866114098	93N01	2A2U	2B	405	35BTL	15R	10NE2	54	9	130	9	5	2725	1.18	.7	
419	5085561	514503A8A4333886114201	93N01	2A2U	2B	405	35BTL	10R	15NE1	10	6	26	7	6	240	2.77	.1	
420	5085561	514504A8A4333906114402	93N01	2A2U	2B	410	40BTL	10R	10 E1	13	7	31	10	5	201	2.82	.1	
421	5085561	514505A8A4333916114605	93N01	2A2U	2B	410	30BTL	15R	09 E1	11	3	19	10	5	167	2.79	.1	
422	5085561	514506A8A4334886114604	93N01	2A2U	2B	410	30BTL	20R	10NE1	37	6	62	24	5	297	5.08	.1	
423	5085561	514507A8A4335866114601	93N01	2A2U	2B	410	30BTL	20R	10NE1	29	9	63	16	5	277	4.01	.2	
424	5085561	514508A8A4335866114505	93N01	2A2U	2B	405	35BTL	15R	05 E1	13	2	24	8	5	118	2.4	.1	
425	5085561	514509A8A4335866114403	93N01	272U	2B	410	20BTL	20R	10NE1	13	2	29	5	5	86	2.19	.3	
426	5085561	514510A8A4335866114302	93N01	272U	2B	410	20BTL	15R	10NE1	10	3	27	16	5	196	1.61	.1	
427	5085561	514511A8A4335866114199	93N01	2A2U	2B	410	40BTL	20R	13NE1	12	4	53	12	5	165	3.11	.1	
428	5085561	514512A8A4335866114098	93N01	2A2U	2B	405	30BTL	20R	15NE1	23	6	58	16	5	211	3.97	.1	
429	5085561	514513A8A4336906114098	93N01	2A2U	2B	405	30BTL	25R	10NE1	25	5	67	14	5	376	3.84	.1	
430	5085561	514514A8A4337896114200	93N01	272U	2B	410	30BTL	20R	06 E1	14	5	26	9	5	110	3.23	.1	
431		514515A8A4337896114302								1	52	9	52	13	5	201	4.09	.1
432	5085561	514516A8A4337896114106	93N01	272U	2B	410	30BTL	20R	10NE1	19	6	56	15	5	212	2.99	.1	
433	5085561	514517A8A4337916114505	93N01	272U	2B	410	35BTL	15R	10NE1	17	7	49	10	5	131	4.26	.1	
434	5085561	514518A8A4337926114603	93N01	2A2U	2B	410	40BTL	20R	15 E1	20	2	45	12	5	390	5.11	.1	
435	5085561	514519A8A4338946114601	93N01	2A2U	2B	410	40BTL	20R	05 E1	20	7	53	15	5	167	3.81	.1	
436	5085561	514520A8A4339936114601	93N01	1A2U	2B	410	NEC	15R	01NE1	15	2	29	8	5	165	1.26	.1	
437	5085561	514521A8A4339926114303	93N01	1A2U	2B	410	40NEC	20R	01NE1	7	2	14	2	5	31	.66	.2	
438	5085561	514522A8A4339886114101	93N01	272U	2B	410	30BTL	15R	06 E2	13	3	19	8	5	80	2.28	.1	
439	5085561	514523A8A4324906114098	93N01	272U	2B	405	25BTL	10R	04NE1	22	4	34	6	5	72	1.31	.3	
440	5085561	514524A8A4323916114102	93N01	272U	2B	405	30BTL	20R	10NE1	72	5	32	12	5	161	2	.3	
441	5085561	514525A8A4323936114203	93N01	272U	2B	410	30BTL	15R	05NE1	19	6	41	12	5	155	3.17	.1	
442	5085561	514526A8A4323936114303	93N01	272U	2B	410	25BTL	20R	06NE2	45	6	64	18	5	1592	4.04	.2	
443	5085561	514527A8A4323946114402	93N01	272U	2B	410	30BTL	10R	07NE6	313	8	106	28	6	2728	4.57	.1	
444	5085561	514528A8A4323926114503	93N01	272U	2B	410	30BTL	10R	10NE1	14	7	24	4	5	68	1.29	.1	
445	5085561	514529A8A4323946114602	93N01	272U	2B	410	30BTL	10R	10NE1	20	7	48	14	5	160	4.25	.1	
446	5085561	514530A8A4323966114703	93N01	272U	2B	410	25BTL	15R	05NE1	15	10	36	8	5	131	2.15	.1	
447	5085561	514531A8A4323966114802	93N01	272U	2B	405	25BTL	10R	10NE1	26	8	51	13	5	235	3.36	.1	
448	5085561	514532A8A4323966114902	93N01	272U	2B	405	20BTL	15R	10NE1	18	4	52	9	5	839	2.47	.3	
449	5085561	514533A8A4323976115002	93N01	272U	2B	410	25BTL	20R	15NE1	18	4	37	9	5	155	1.35	.1	
450	5085561	514534A8A4323996115102	93N01	272U	2B	410	30BTL	20R	15NE1	34	5	35	23	5	213	2.97	.1	
451	5085561	514535A8A4323996115202	93N01	272U	2B	405	20BTL	15R	10NE1	12	4	36	9	5	106	3.07	.1	
452	5085561	514536A8A4323996115301	93N01	272U	2B	405	20BTL	20R	10 E1	15	7	45	9	5	134	2.89	.1	
453	5085561	514537A8A4324006115399	93N01	272U	2B	410	30BTL	20R	15NE1	154	5	33	14	5	198	3.09	.7	

454	5085561	51453888A4324996115608	93H01	272U	2B	410	308TL	10R	06HE1	82	10	69	23	5	775	4.95	.4	
455	5085561	51453988A4325996115503	93H01	272U	2B	410	258TL	15R	07HE1	56	6	70	24	5	668	3.28	.1	
456	5085561	51454088A4325976115399	93H01	272U	2B	410	308TL	15R	10HE1	18	4	35	9	5	182	2.71	.2	
457	5085561	51454188A4325976115298	93H01	272U	2B	405	208TL	10R	10 E1	24	8	42	11	5	186	3.02	.1	
458	5085561	51454288A4325976115200	93H01	272U	2B	410	258TL	15R	07HE1	26	9	41	6	5	181	3.38	.1	
459	5085561	51454388A4325966115105	93H01	272U	2B	410	258TL	10R	07HE1	21	4	53	14	5	161	3.1	.2	
460	5085561	51454488A4325956115000	93H01	272U	2B	410	258TL	20R	06HE2	48	11	69	17	5	1112	3.72	.7	
461	5085561	51454588A4325916114903	93H01	272U	2B	405	308TL	20R	08HE1	17	7	40	11	5	251	2.31	.4	
462	5085561	51454688A4325916114801	93H01	272U	2B	410	258TL	10R	10 E1	37	6	37	18	5	246	2.11	.1	
463	5085561	51454788A4325926114702	93H01	272U	2B	405	308TL	10R	10HE1	32	6	48	17	5	204	2.13	.2	
464	5085561	51454888A4325926114601	93H01	272U	2B	410	308TL	10R	05HE1	35	7	59	18	5	503	4.7	.1	
465	5085561	51454988A4325916114500	93H01	272U	2B	410	208TL	10R	07HE1	21	6	25	10	5	102	2.53	.2	
466	5085561	51455088A4325906114201	93H01	272U	2B	405	358TL	15R	10HE1	21	8	36	14	5	151	2.55	.2	
519	5085561	51655188A4325906114101	93H01	272U	2B	310	208TL	10R	06SW1	15	2	47	24	5	307	3.39	.1	
521	5085561	51630188A4331886114099	93H01	2A2U	2B	410	308TL	10R	10HE1	50	5	12	23	5	169	2.75	.2	
522	5085561	51630288A4331876114201	93H01	2A2U	2B	410	258TL	10R	10HE1	24	9	64	17	5	185	3.01	.1	
523	5085561	51630388A4331876114302	93H01	2A2U	2B	410	258TL	10R	09HE1	20	5	67	19	5	212	3.77	.1	
524	5085561	51630488A4331886114405	93H01	2A2U	2B	410	258TL	15R	05HE1	20	5	49	15	5	172	3.75	.1	
525	5085561	51630588A4331886114507	93H01	2A2U	2B	410	258TL	15R	05HE1	31	7	49	17	5	203	3.86	.1	
526	5085561	51630688A4331886114606	93H01	2A2U	2B	410	308TL	10R	08HE1	29	3	39	18	5	211	3.18	.1	
527	5085561	51630788A4331876114707	93H01	2A2U	2B	405	258TL	10R	08HE1	27	8	68	18	5	189	2.55	.2	
528	5085561	51630888A4331886114805	93H01	2A2U	2B	405	308TL	10R	06HE1	13	4	60	15	5	305	4.07	.1	
529	5085561	51630988A4331906114911	93H01	2A2U	2B	405	308TL	10R	07HE1	22	5	44	11	5	168	2.16	.1	
530	5085561	51631088A4331896115012	93H01	2A2U	2B	405	308TL	15R	10HE1	37	6	74	16	7	272	4.93	.1	
531	5085561	51631188A4331906115114	93H01	2A2U	2B	410	308TL	15R	05HE1	23	6	65	17	7	269	8.25	.1	
532	5085561	51631288A4331896115215	93H01	2A2U	2B	410	308TL	10R	10HE1	25	7	48	15	7	325	5.48	.1	
533	5085561	51631388A4331886115316	93H01	2A2U	2B	410	258TL	10R	10HE1	53	3	35	15	5	971	3.51	.1	
534	5085561	51631488A4331896115416	93H01	2A2U	2B	410	308TL	10R	12HE1	17	5	58	10	5	217	4.57	.1	
535	5085561	51631588A4331886115519	93H01	2A2U	2B	405	208TL	15R	15HE1	23	5	93	15	8	474	4.71	.3	
536	5085561	51631688A4331896115612	93H01	2A2U	2B	410	308TL	15R	10HE1	17	2	32	11	5	163	3.15	.1	
537	5085561	51631788A4330946115611	93H01	2A2U	2B	410	308TL	15R	10HE1	27	2	34	15	6	323	3.83	.1	
538	5085561	51631888A4329976115612	93H01	2A2U	2B	410	308TL	10R	10HE1	131	6	44	22	5	530	3.41	.1	
539	5085561	51631988A4329966115513	93H01	2A2U	2B	410	308TL	10R	12HE1	77	9	67	21	5	705	3.45	.1	
540	5085561	51632088A4329956115414	93H01	2A2U	2B	405	208TL	15R	10HE1	26	8	71	14	5	237	7.17	.1	
541	5085561	51632188A4329956115315	93H01	2A2U	2B	410	258TL	10R	10HE1	24	4	56	14	6	198	4.4	.1	
542	5085561	51632288A4329936114099	93H01	2A2U	2B	410	258TL	10R	15HE1	43	3	36	11	5	212	3.61	.3	
543	5085561	51632388A4328906114099	93H01	2A2U	2B	405	308TL	15R	10HE1	30	4	49	17	5	247	3.76	.1	
544	5085561	51632488A4327916114100	93H01	2A2U	2B	410	358TL	10R	15HE1	33	6	46	21	5	239	3.98	.1	
545	5085561	51632588A4327916114200	93H01	2A2U	2B	405	358TL	10R	10HE2	36	4	47	10	5	146	2.35	.4	
546		51632688A4327706114302								1	23	4	35	10	5	147	2.03	.1
547		51632788A4327606114406								1	63	2	54	12	5	732	2.12	.1
548		51632888A4327516114505								1	60	7	45	16	5	507	2.76	.3
549		51632988A4327426114606								1	16	4	28	4	5	105	1.21	.5
550		51633088A4327316114707								1	43	3	41	12	5	205	2.28	.4
551	5085561	51633188A4327216114807	93H01	271U	2B	410	308TL	10R	15HE1	75	2	65	18	5	1115	3.4	.3	
552	5085561	51633288A4327126114909	93H01	2A2U	2B	405	308TL	10R	10HE1	14	2	50	9	5	195	2.74	.2	
553	5085561	51633388A4327036115011	93H01	271U	2B	405	308TL	10R	10HE1	24	2	66	14	5	302	3.32	.1	
554	5085561	51633488A4326926115117	93H01	271U	2B	410	208TL	10R	10HE1	20	2	63	10	5	193	2.81	.4	
555	5085561	51633588A4326826115217	93H01	271U	2B	410	208TL	10R	12HE1	21	4	36	11	5	151	2.74	.3	
556	5085561	51633688A4326716115320	93H01	271U	2B	405	208TL	15R	13HE1	16	7	63	11	5	197	3.31	.2	
557	5085561	51633788A4326626115420	93H01	271U	2B	405	308TL	10R	10HE1	34	9	53	8	7	137	4.79	.1	

558	5085561	516338A8A4329536115517	93H01	271U	2B	405	208TL	15R	10HE1	46	6	67	17	5	528	2.22	.3
559	5085561	516339A8A4329456115611	93H01	271U	2B	410	258TL	15R	15HE1	17	3	72	9	5	260	2.82	.1
560	5085561	516340A8A4329656115610	93H01	272U	2B	405	258TL	10R	06HE1	19	3	43	13	5	312	3.16	.1
561	5085561	516341A8A4329756115614	93H01	282U	2B	405	358TL	15R	15HE1	9	9	13	1	5	53	.67	.3
562	5085561	516342A8A4329856115613	93H01	282U	2B	405	358TL	20R	10HE1	19	13	46	9	5	139	2.14	.6
563	5085561	516343A8A4329916115611	93H01	282U	2B	410	308TL	20R	10HE3	164	12	60	23	5	1263	1.9	.7
564	5085561	516344A8A4329916114908	93H01	272U	2B	410	308TL	20R	12HE1	55	5	56	19	5	370	3.04	.6
565	5085561	516345A8A4329936114806	93H01	271U	2B	410	308TL	15R	12HE1	27	11	46	29	5	207	1.3	.6
566	5085561	516346A8A4329936114796	93H01	271U	2B	405	208TL	15R	10HE1	19	9	33	15	5	154	2.94	.5
567	5085561	516347A8A4329936114606	93H01	271U	2B	410	308TL	15R	12HE1	31	4	38	16	5	193	2.18	.5
568	5085561	516348A8A4329926114505	93H01	271U	2B	410	258TL	15R	10HE1	24	8	42	14	5	199	2.22	.5
569	5085561	516349A8A4329936114405	93H01	271U	2B	410	258TL	15R	10HE1	169	19	54	11	5	2434	5.23	1.2

REC#	EMPL#	CO	AM	AUG	AS	HO	SS	SN	H	F	TH	CS	BT	U	BA	GR	ST	AL	CA	MG	MA	K	AEL	AEL	TT
417	514501	2	2	.24	2		2	1	1		3	1	3	64	42	29	.01	.68	.25	.18	.01	.02			.07
418	514502	3	1	.3	2		2	1	1		1	1	3	36	231	90	.01	.48	1.01	.1	.01	.06			.02
419	514503	3	7	.27	2		2	1	1		3	1	3	83	49	31	.01	.95	.29	.18	.02	.04			.08
420	514504	4	2	.45	2		2	1	1		1	1	2	96	40	34	.01	.66	.4	.3	.01	.05			.08
421	514505	4	2	.01	2		2	1	1		2	1	2	89	48	32	.01	.85	.33	.26	.01	.06			.09
422	514506	10	1	.4	8		2	1	1		3	1	2	154	61	37	.01	1.59	.44	.72	.01	.04			.14
423	514507	7	1	.79	2		2	1	1		2	1	2	118	94	35	.01	1.31	.33	.42	.01	.08			.11
424	514508	3	6	.24	2		2	1	1		1	1	3	87	40	30	.01	.64	.29	.25	.01	.01			.13
425	514509	2	1	.25	5		2	1	1		1	1	2	83	51	30	.02	.29	.28	.06	.01	.04			.05
426	514510	3	2	.24	2		2	1	1		1	1	2	56	44	16	.01	.59	.28	.33	.01	.06			.17
427	514511	4	1	.06	3		2	1	1		3	1	2	124	55	44	.01	.8	.48	.31	.01	.04			.15
428	514512	7	2	.15	12		2	1	1		3	1	2	119	54	23	.04	1.69	.32	.42	.01	.03			.1
429	514513	6	55	.24	2		3	1	1		3	1	2	114	64	23	.02	1.89	.33	.34	.01	.03			.09
430	514514	3	2	.22	7		2	1	1		3	1	2	109	47	33	.02	1.19	.3	.27	.01	.01			.11
431	514515	7	1	.33	2		2	1	1		4	1	2	139	46	53	.01	1.38	.66	.64	.02	.04			.19
432	514516	5	1	.01	10		2	1	1		1	1	2	77	61	30	.01	1.25	.3	.38	.01	.04			.1
433	514517	4	2	.21	8		2	1	1		3	1	3	123	66	35	.02	1.32	.26	.23	.01	.03			.08
434	514518	7	1	.28	6		2	1	1		3	1	3	164	61	46	.02	1.35	.39	.35	.01	.04			.06
435	514519	6	3	.05	5		2	1	1		2	1	2	126	49	32	.02	1.61	.38	.46	.01	.02			.09
436	514520	2	8	.22	2		2	1	1		2	1	2	64	41	45	.01	.83	.62	.22	.01	.02			.15
437	514521	1	6	.03	2		2	1	1		1	1	3	26	45	31	.01	.42	.19	.05	.01	.02			.02
438	514522	2	9	.28	5		2	1	1		1	1	2	111	42	30	.01	.76	.25	.23	.01	.01			.14
439	514523	2	38	.15	2		2	1	1		1	1	3	43	58	32	.01	.57	.31	.11	.01	.04			.03
440	514524	3	5	.14	7		2	1	1		2	1	2	62	43	50	.01	.79	.71	.32	.02	.04			.11
441	514525	4	3	.25	7		2	1	1		2	1	2	107	57	37	.01	1.08	.43	.37	.01	.04			.12
442	514526	14	2	.24	3		2	1	1		2	1	2	131	82	63	.01	1.45	.9	.51	.01	.05			.09
443	514527	14	6	.41	17		2	1	1		3	1	2	126	81	120	.02	1.76	1.41	.58	.02	.03			.06
444	514528	1	2	.01	2		2	1	1		1	1	2	75	54	35	.02	.61	.26	.09	.01	.02			.14
445	514529	5	5	.34	6		2	1	1		3	1	2	122	51	31	.01	1.6	.3	.38	.02	.04			.12
446	514530	3	32	.4	11		2	1	1		2	1	2	72	46	34	.01	.88	.3	.26	.01	.01			.11
447	514531	5	2	.34	3		2	1	1		3	1	2	112	59	39	.01	1.08	.41	.45	.01	.06			.13
448	514532	5	2	.19	7		2	1	1		1	1	2	86	72	34	.01	.76	.35	.23	.01	.04			.1
449	514533	4	3	.34	3		2	1	1		1	1	2	43	75	43	.01	1.24	.43	.35	.02	.02			.1
450	514534	7	31	.37	7		2	1	1		3	1	1	87	69	36	.01	1.44	.43	.48	.02	.03			.1
451	514535	3	10	.22	7		2	1	1		1	1	2	112	52	29	.01	1.08	.3	.23	.01	.02			.1
452	514536	3	4	.07	8		2	1	2		2	1	2	92	38	28	.01	1.14	.25	.27	.01	.01			.08
453	514537	4	3	.13	4		2	1	1		3	1	2	83	38	31	.02	1.25	.3	.3	.01	.03			.1
454	514538	10	4	.15	11		2	1	1		4	1	2	113	106	49	.01	1.85	.53	.56	.01	.05			.09
455	514539	3	3	.41	9		2	1	1		2	1	2	94	109	69	.01	1.68	.68	.68	.01	.07			.08
456	514540	3	2	.01	3		3	1	1		3	1	2	94	52	34	.01	.83	.31	.24	.01	.02			.1
457	514541	5	3	.58	2		2	1	1		3	1	2	92	69	70	.01	1.21	.4	.43	.01	.03			.13
458	514542	3	2	.37	2		2	1	1		4	1	2	111	35	89	.02	1.31	.4	.32	.01	.03			.14
459	514543	4	3	.35	6		2	1	1		3	1	2	63	46	24	.01	1.34	.31	.31	.01	.04			.08
460	514544	7	2	.49	3		2	1	1		3	1	2	99	127	64	.02	1.6	.47	.39	.01	.06			.09
461	514545	4	1	.47	5		2	1	1		3	1	3	69	59	38	.02	1.92	.37	.32	.01	.04			.1
462	514546	6	4	.64	7		2	1	1		3	1	3	72	93	69	.02	1.46	.63	.52	.02	.03			.11
463	514547	6	4	.42	2		2	1	1		3	1	2	63	62	39	.02	1.31	.41	.47	.01	.04			.09
464	514548	7	3	.44	9		4	1	1		3	1	2	147	77	52	.02	1.27	.42	.5	.01	.06			.13
465	514549	3	2	.01	4		2	1	1		2	1	3	91	56	41	.01	.63	.39	.19	.01	.04			.1
466	514550	4	4	.37	3		2	1	1		2	1	2	105	55	35	.01	1.02	.38	.38	.02	.04			.14
518	515551	9	2	.01	5		2	1	1		2	1	2	96	97	60	.01	1.76	.59	.67	.02	.06			.14
521	516301	7	5	.24	5		2	1	1		2	1	2	81	76	57	.01	1.47	.65	.63	.02	.05			.1
522	516302	5	3	.02	3		2	1	1		4	1	2	69	63	45	.01	1.53	.45	.44	.01	.04			.1
523	516303	7	2	.07	8		2	1	1		3	1	2	101	79	28	.02	1.73	.32	.41	.01	.04			.09
524	516304	5	2	.12	2		2	1	1		4	1	2	107	68	31	.02	1.46	.3	.32	.01	.04			.09
525	516305	7	12	.08	2		2	1	1		3	1	2	109	69	42	.05	1.96	.47	.42	.02	.04			.1
526	516306	7	3	.11	7		2	1	1		2	1	3	91	74	37	.02	1.42	.46	.47	.01	.05			.1
527	516307	5	1	.01	4		2	1	1		2	1	2	96	83	48	.01	1.43	.47	.56	.02	.06			.15
529	516308	7	1	.06	6		1	1	1		3	1	2	127	68	59	.01	1.37	.45	.58	.02	.07			.13
529	516309	3	1	.35	5		2	1	1		3	1	3	78	61	39	.01	1.02	.37	.39	.01	.05			.11
530	516310	3	2	.1	6		2	1	1		3	1	4	142	81	38	.01	1.56	.44	.61	.01	.09			.16

559	516339	4	1	.01	2	2	1	1	1	1	2	88	90	47	.01	.99	.5	.31	.01	.07	.12
560	516340	4	1	.01	2	2	1	1	2	1	3	106	63	45	.01	1.16	.51	.37	.01	.06	.11
561	516341	1	6	.01	2	2	1	1	3	1	5	27	33	31	.02	.64	.2	.04	.01	.01	.1
562	516342	3	4	.74	2	2	1	2	6	1	2	76	74	37	.02	.7	.35	.2	.01	.04	.11
563	516343	9	3	.09	13	2	1	1	6	1	2	151	98	94	.01	1.68	1.29	.51	.01	.03	.05
564	516344	6	2	.51	6	2	1	2	4	1	3	91	109	60	.02	1.48	.49	.56	.01	.09	.1
565	516345	6	6	.11	6	2	1	1	4	1	2	130	51	38	.01	1.4	.42	.49	.01	.04	.12
566	516346	4	3	.23	2	2	1	1	1	1	2	97	50	44	.01	1.13	.42	.34	.01	.03	.13
567	516347	5	1	.18	2	2	1	2	4	1	2	73	76	47	.02	1.26	.46	.48	.01	.01	.09
568	516348	4	1	.01	5	2	1	2	4	1	2	64	51	36	.01	1.3	.33	.46	.01	.02	.11
569	516349	11	2	.06	9	2	1	1	11	1	2	108	181	91	.02	3.91	1.15	.77	.02	.07	.08
571	516311	9	8	.28	2	2	1	1	4	1	2	288	89	46	.01	1.3	.46	.49	.02	.06	.17
572	516312	7	1	.01	7	2	1	1	1	1	2	176	67	41	.02	1.46	.44	.45	.01	.05	.11
573	516313	11	9	.01	9	3	1	1	2	1	2	116	65	60	.01	1.3	.54	.52	.02	.01	.09
574	516314	5	1	.06	3	3	1	1	3	1	2	138	80	29	.02	1.37	.29	.29	.01	.04	.1
575	516315	10	1	.26	8	2	1	1	3	1	3	121	104	31	.02	2.02	.32	.41	.01	.06	.09
576	516316	4	1	.01	5	2	1	1	1	1	2	104	45	45	.01	.95	.49	.34	.01	.03	.08
577	516317	6	10	.01	3	2	1	1	2	1	2	134	43	53	.02	.91	.69	.44	.02	.03	.09
578	516318	9	4	.12	5	2	1	1	3	1	3	96	74	55	.01	1.16	.61	.55	.02	.05	.08
579	516319	10	1	.17	3	2	1	1	2	1	4	100	89	61	.01	1.71	.57	.62	.01	.06	.11
580	516320	6	1	.01	5	2	1	1	3	1	5	204	63	30	.06	2.96	.33	.37	.01	.04	.13
581	516321	5	2	.33	4	2	1	1	3	1	3	127	75	39	.01	1.41	.34	.43	.01	.05	.11
582	516322	4	8	.03	2	2	1	1	2	1	3	99	58	38	.01	1.33	.46	.41	.01	.06	.13
583	516323	6	1	.32	2	3	1	1	2	1	2	102	55	48	.01	1.79	.47	.67	.02	.06	.13
584	516324	7	1	.01	5	4	1	1	1	1	3	109	58	33	.01	1.58	.41	.58	.01	.05	.13
585	516325	3	1	.08	3	2	1	1	1	1	2	71	81	118	.03	1.32	1.27	.18	.01	.03	.06
586	516326	3	1	.01	2	1	1	1	1	1	2	64	60	62	.01	.97	.48	.32	.01	.04	.09
587	516327	5	2	.04	2	2	1	1	1	1	2	66	76	125	.01	1.3	1.71	.31	.02	.04	.04
588	516328	7	15	.01	2	3	1	1	2	1	3	89	83	66	.01	1.43	.81	.49	.02	.05	.06
589	516329	1	13	.01	2	2	1	1	1	1	3	47	63	63	.01	.63	.56	.2	.01	.05	.09
590	516330	5	3	.01	2	2	1	1	1	1	2	75	76	73	.01	1.13	.8	.43	.02	.06	.1
591	516331	13	3	.01	5	2	1	1	2	1	3	97	88	52	.01	1.55	.58	.47	.01	.06	.11
592	516332	3	1	.01	2	3	1	1	2	1	3	80	55	29	.01	1.19	.33	.27	.01	.05	.11
593	516333	3	1	.2	9	2	1	1	1	1	2	98	66	42	.01	1.33	.46	.47	.01	.07	.12
594	516334	3	1	.01	2	2	1	1	3	1	2	76	45	36	.02	1.45	.31	.31	.01	.05	.09
595	516335	3	2	.01	2	2	1	1	2	1	2	79	46	29	.01	1.65	.31	.29	.01	.04	.1
596	516336	3	5	.01	3	3	1	1	2	1	5	84	57	29	.01	1.38	.27	.32	.01	.06	.1
597	516337	3	4	.39	6	2	1	1	1	1	4	168	64	41	.01	1.88	.29	.35	.01	.04	.12
598	516338	7	2	.01	2	1	1	1	1	1	2	59	163	78	.01	1.51	.66	.46	.02	.08	.06

REC#	ENFL#	P	LN	AGE	B	CR	AGE	AGE	ORIDE	ORIDE
417	514501	.04	4		4	23			02700E00000H	
418	514502	.09	8		3	16			02800E00000H	
419	514503	.16	6		3	23			02800E00100H	
420	514504	.12	5		3	29			02800E00300H	
421	514505	.13	6		3	30			02800E00500H	
422	514506	.18	7		3	59			02900E00500H	
423	514507	.18	6		4	40			03000E00500H	
424	514508	.06	5		2	30			03000E00400H	
425	514509	.02	4		2	26			03000E00300H	
426	514510	.04	3		2	42			03000E00200H	
427	514511	.03	4		3	42			03000E00100H	
428	514512	.29	5		2	16			03000E00000H	
429	514513	.25	5		2	43			03100E00000H	
430	514514	.06	5		2	32			03200E00100H	
431	514515	.22	10		2	28				
432	514516	.17	7		2	31			03200E00300H	
433	514517	.32	6		2	36			03200E00400H	
434	514518	.34	4		2	44			03200E00500H	
435	514519	.17	7		2	46			03300E00500H	
436	514520	.02	5		2	20			03400E00500H	
437	514521	.03	4		2	13			03400E00200H	
438	514522	.04	4		2	26			03300E00000H	
439	514523	.04	4		2	20			01900E00000H	
440	514524	.04	5		2	26			01800E00000H	
441	514525	.17	6		2	33			01800E00100H	
442	514526	.09	7		2	45			01800E00200H	
443	514527	.2	37		6	17			01800E00300H	
444	514528	.02	4		2	16			01800E00400H	
445	514529	.21	6		6	50			01800E00500H	
446	514530	.05	6		3	27			01800E00600H	
447	514531	.13	7		7	33			01800E00700H	
448	514532	.07	6		4	29			01800E00800H	
449	514533	.05	5		2	22			01800E00900H	
450	514534	.14	7		8	40			01800E01000H	
451	514535	.07	6		6	36			01800E01100H	
452	514536	.18	6		4	30			01800E01200H	
453	514537	.12	6		2	38			01800E01300H	
454	514538	.16	13		3	41			01800E01500H	
455	514539	.09	10		4	41			02000E01400H	



456	514540	.06	5	2	26	02000E01300H
457	514541	.13	7	3	28	02000E01200H
458	514542	.16	5	2	20	02000E01100H
459	514543	.21	6	4	36	02000E01000H
460	514544	.09	13	3	36	02000E00900H
461	514545	.13	7	2	29	02000E00800H
462	514546	.06	7	4	27	02000E00700H
463	514547	.05	8	2	28	02000E00600H
464	514548	.18	3	4	51	02000E00500H
465	514549	.03	4	2	30	02000E00200H
466	514550	.04	4	3	34	02000E00100H
516	516551	.09	3	2	37	8800E12800H
521	516301	.1	8	2	44	2600E 00000H
522	516302	.15	6	3	37	2600E 00100H
523	516303	.21	9	4	37	2600E 00200H
524	516304	.2	7	2	38	2600E 00300H
525	516305	.25	5	7	39	2600E 00400H
526	516306	.25	6	2	36	2600E 00500H
527	516307	.08	4	2	37	2600E 00600H
528	516308	.16	6	5	43	2600E 00700H
529	516309	.06	5	3	38	2600E 00800H
530	516310	.4	4	2	41	2600E 00900H
531	516311	.21	4	2	67	2600E 01000H
532	516312	.3	2	2	47	2600E 01100H
533	516313	.11	12	4	36	2600E 01200H
534	516314	.45	4	2	40	2600E 01300H
535	516315	.46	5	2	42	2600E 01400H
536	516316	.08	4	2	31	2600E 01500H
537	516317	.21	8	4	40	2600E 01500H
538	516318	.12	14	3	49	2400E 01500H
539	516319	.07	14	7	45	2400E 01400H
540	516320	.85	3	2	56	2400E 01300H
541	516321	.14	4	2	42	2400E 01200H
542	516322	.33	4	2	40	2400E 00000H
543	516323	.14	4	4	48	2300E 00000H
544	516324	.12	3	2	47	2200E 00000H
545	516325	.1	4	2	27	2200E 00100H
546	516326	.05	7	2	27	
547	516327	.15	8	2	27	
548	516328	.14	5	2	35	
549	516329	.04	4	2	21	
550	516330	.08	5	2	25	
551	516331	.1	4	2	34	2200E 00700H
552	516332	.11	5	2	31	02200E00800H
553	516333	.15	5	3	36	02200E00900H
554	516334	.23	4	2	32	02200E01000H
555	516335	.12	2	2	33	02200E01100H
556	516336	.2	4	2	33	02200E01200H
557	516337	.4	4	2	34	02200E01300H
558	516338	.09	6	2	33	02200E01400H
559	516339	.17	1	2	29	02200E01500H

560	516340	.26	3	2	35	02300E01500H
561	516341	.02	10	2	8	02400E01100H
562	516342	.11	6	1	28	02400E01000H
563	516343	.21	19	2	54	02400E00900H
564	516344	.08	7	2	37	02400E00800H
565	516345	.2	6	2	51	02400E00700H
566	516346	.1	7	2	41	02400E00600H
567	516347	.13	11	2	36	02400E00500H
568	516348	.08	8	3	31	02400E00400H
569	516349	.19	33	2	72	02400E00300H

## WEST GRID

SELECTION # 1

## UTM LIMITS

NORTH 6115000 SOUTH 6114000 EAST 430500 WEST 429000

SAMPLE TYPE(S) ALL  
 BEDROCK TYPE(S) ALL  
 SOIL HORIZON(S) ALL  
 SAMPLE TEXTURE(S) ALL  
 OVERBURDEN ORIGIN(S) ALL  
 LABORATORY-SIZE FRACTION-EXTRACTION(S) ALL  
 PAIR STATUS ALL

REC#	SAMPLE#	UTM-E	UTM-N	MO	CM	PD	ZN	HI	H	HM	FE	NR
619	5084561A 823025	4292646	6115221	1	28	11	43	17	2	221	3.66	.1
620	5084561A 823026	4292486	6115226	2	37	6	36	15	2	1185	2.55	.3
621	5084561A 823027	4293606	6115189	1	22	5	37	12	2	219	2.25	.1
622	5084561A 823028	4294536	6115153	1	15	6	37	12	2	305	2.21	.3
623	5084561A 823027	4294666	6115147	1	76	7	37	18	2	719	2.97	.5
624	5084561A 823030	4295176	6115128	1	19	3	35	12	2	340	1.69	.2
625	5084561A 823031	4295486	6115119	1	21	5	55	11	2	299	2.34	.1
626	5084561A 823032	4295486	6115119	1	20	2	62	13	2	218	2.45	.2
627	5084561A 823033	4296406	6115095	1	66	13	58	18	2	1275	3.21	.4
628	5084561A 823034	4297326	6115051	1	52	10	39	22	2	193	2.95	.1
629	5084561A 823035	4298266	6115017	1	16	5	37	9	3	142	2.04	.1
630	5084561A 823030	4291386	6115038	1	39	4	38	16	3	375	2.2	.1
631	5084561A 823031	4292826	6115003	2	26	6	30	17	2	170	2.34	.1
632	5084561A 823032	4293756	6114971	1	20	2	30	17	2	168	3.05	.1
633	5084561A 823033	4294686	6114936	1	22	2	44	9	2	249	3.14	.1
634	5084561A 823034	4295606	6114901	1	45	3	65	9	2	239	3.52	.1
635	5084561A 823035	4296536	6114866	2	79	3	48	15	2	177	3.66	.1
636	5084561A 823036	4297466	6114833	2	35	3	42	19	2	242	2.56	.1
637	5084561A 823037	4298406	6114797	2	59	3	53	25	2	284	6.72	.1
638	5084561A 823038	4299316	6114765	2	33	5	35	17	2	171	2.81	.1
639	5084561A 823039	4300266	6114730	1	49	2	40	21	2	301	4.3	.1
640	5084561A 823040	4301196	6114696	1	19	1	35	16	2	137	2.84	.1
641	5084561A 822538	4292026	6114817	1	18	7	28	11	2	142	1.67	.1
642	5084561A 822539	4292956	6114785	1	26	4	23	13	2	293	2.17	.1
643	5084561A 822540	4293886	6114750	1	30	5	23	12	2	162	1.44	.1
644	5084561A 822541	4294806	6114733	1	35	5	33	11	2	495	2.96	.1
645	5084561A 822542	4294916	6114714	1	26	6	47	9	2	195	2.93	.1
646	5084561A 822543	4295726	6114682	1	26	2	39	17	2	154	3.29	.1
647	5084561A 822544	4296706	6114648	1	33	8	45	15	2	345	2.43	.1
648	5084561A 822545	4297626	6114614	1	28	5	34	19	2	314	1.94	.1
649	5084561A 822546	4298556	6114579	1	18	6	41	11	2	304	3.94	.1
650	5084561A 822547	4299486	6114544	2	14	10	43	8	2	226	2.95	.1
651	5084561A 822548	4300416	6114511	2	16	2	18	12	2	116	2.38	.1

SEC#	SHPL#	CO	AU	AUT	AS	HB	SB	SH	H	F	TH	CB	BI	V	DA	SR	SI	AL	CA	HG	MA	K	AE1	AE2	TI
619	823025	9	535	1	9		2	2	2		2	1	2	112	97	43	.06	1.68	.42	.44	.01	.07			.06
620	823026	8	5	1	3		2	2	2		2	1	2	79	73	84	.06	1.68	1.04	.38	.02	.06			.03
621	823027	6	5	1	8		2	2	2		2	1	2	65	52	21	.07	1.31	.25	.28	.01	.03			.06
622	823028	7	5	1	3		2	2	2		2	1	2	68	65	24	.07	1.1	.29	.25	.01	.03			.05
623	823029	9	5	1	9		2	2	2		2	1	2	95	108	76	.04	1.77	1.11	.49	.02	.06			.06
624	823030	5	5	1	4		2	2	2		2	1	2	47	86	76	.05	1.5	1.06	.28	.01	.05			.04
625	823031	5	5	1	2		2	2	2		2	1	2	66	56	24	.04	1.53	.3	.33	.01	.04			.06
626	823032	5	5	1	2		2	2	2		2	1	2	70	53	24	.07	1.61	.31	.31	.01	.03			.09
627	823033	13	5	1	6		2	2	2		2	2	2	92	125	44	.07	2.16	.53	.37	.01	.05			.07
628	823034	8	5	1	9		2	2	2		3	1	2	89	119	23	.07	2.08	.26	.33	.01	.03			.06
629	823035	5	270	1	10		2	2	2		2	1	2	66	37	21	.06	.84	.31	.24	.01	.03			.06
630	823036	7	5	1	2		2	2	2		2	1	2	66	71	52	.06	1.56	.35	.45	.02	.05			.07
631	823037	7	5	1	2		2	2	2		3	1	2	71	75	33	.06	1.54	.41	.37	.02	.04			.1
632	823038	8	5	1	2		2	2	2		3	1	2	91	70	25	.26	2.25	.36	.31	.02	.04			.09
633	823039	7	5	1	2		2	2	2		3	1	2	90	61	55	.04	1.88	.62	.4	.03	.09			.09
634	823040	10	5	1	2		2	2	2		3	1	2	89	62	80	.07	2.46	.61	.34	.03	.09			.1
635	823041	9	5	1	2		2	2	2		4	1	2	96	72	40	.06	2.45	.47	.47	.02	.06			.06
636	823042	8	5	1	2		2	2	2		3	1	2	74	65	39	.03	1.73	.44	.52	.02	.04			.11
637	823043	13	5	1	2		2	2	2		5	2	2	211	95	38	.06	2.28	.49	.56	.02	.17			.08
638	823044	7	5	1	2		2	2	2		3	1	2	83	108	47	.06	1.64	.57	.39	.02	.05			.09
639	823045	11	5	1	2		2	2	2		3	1	2	137	107	42	.06	1.76	.52	.49	.02	.18			.1
640	823046	8	5	1	2		2	2	2		3	1	2	83	62	24	.1	1.54	.33	.31	.01	.06			.08
641	823047	4	5	1	2		2	2	2		2	1	2	52	65	26	.01	1.07	.41	.32	.01	.03			.06
642	823048	6	5	1	2		2	2	2		2	1	2	67	67	30	.01	1.01	.48	.37	.02	.03			.06
643	823049	5	5	1	2		2	2	2		2	1	3	48	57	33	.01	1.11	.45	.31	.01	.02			.06
644	823050	7	5	1	2		2	2	2		2	1	2	79	60	49	.01	1.28	.58	.37	.01	.04			.04
645	823051	6	5	1	2		2	2	2		2	1	2	80	53	36	.01	1.41	.35	.4	.01	.02			.06
646	823052	8	5	1	5		2	2	2		2	1	2	90	54	22	.01	1.54	.33	.44	.01	.03			.07
647	823053	6	5	1	4		2	2	2		2	1	2	63	55	27	.01	1.55	.32	.48	.01	.03			.05
648	823054	6	5	1	2		2	2	2		2	1	3	63	81	30	.01	1.32	.41	.4	.01	.03			.04
649	823055	6	5	1	4		2	2	2		2	1	2	113	117	34	.01	1.23	.49	.31	.01	.07			.06
650	823056	5	5	1	3		2	2	2		2	1	2	85	63	16	.01	1.15	.25	.22	.01	.03			.06
651	823057	4	5	1	5		2	2	2		2	1	2	73	65	29	.01	1.22	.37	.29	.01	.02			.08

REC#	SNPL#	P	LA	AES	B	CR	AES	AES	GRIDE	GRIGH
619	823025	.33	5		11	38				
620	823026	.12	12		9	27				
621	823027	.08	4		5	25				
622	823028	.1	5		7	27				
623	823029	.14	12		8	30				
624	823030	.11	11		6	25				
625	823031	.08	6		7	29				
626	823032	.07	5		5	28				
627	823033	.07	7		9	36				
628	823034	.13	4		8	36				
629	823035	.1	4		6	23				
630	823530	.08	7		5	33				
631	823531	.11	7		6	33				
632	823532	.3	4		6	34				
633	823533	.28	7		5	19				
634	823534	.4	7		2	18				
635	823535	.23	9		5	32				
636	823536	.06	8		6	36				
637	823537	.28	6		2	60				
638	823538	.11	6		5	37				
639	823539	.3	3		5	53				
640	822540	.14	5		7	37				
641	822539	.05	6		2	24				
642	822538	.1	10		3	33				
643	822540	.05	7		2	29				
644	822541	.15	16		2	25				
645	822542	.06	10		3	30				
646	822543	.11	9		2	11				
647	822544	.06	6		4	13				
648	822545	.07	8		2	31				
649	822546	.39	6		2	12				
650	822547	.16	5		2	33				
651	822548	.05	5		3	29				

APPENDIX 3

Method of Histogram Interpretation

Rules for choice of size coding or contouring intervals

- (1) Examine both arithmetic and logarithmic histograms for each type of survey data. Choose the histogram which most closely approximates a normal (or lognormal) distribution. If there are several populations exhibited on the histogram, subjectively divide the data into a series of normal or lognormal distributions. Avoid interpreting histograms which are strongly skewed. Portions of the arithmetic or logarithmic histograms may be chosen for data interpretation over specific metal concentration intervals, if this allows for the best portrayal of the data in graphical form.
- (2) Choose, as two of the coding intervals, points which represent between 90% and 95%, and 95% and 97.5% of the data, two different numbers. These choices highlight 1 in 10 and 1 in 20 samples which are considered slightly anomalous and definitely anomalous, respectively. These limits are optimistic in that the two categories are defined to be anomalous regardless of the distribution of values on the remainder of the histogram. A rigorous statistical approach would suggest that only the 97.5% value be considered the anomaly threshold.
- (3) Divide the remaining portion of the histogram into recognizable populations. The dividing point of each of these populations is chosen as a coding interval. Minimums caused by the failure of a laboratory to record specific concentration values are ignored. These artificial breaks in the histogram can be recognized by scanning the laboratory reports.
- (4) For each population, choose one or two numbers which correspond to the 90% and 95% cumulative frequencies for that population (1 in 10 and 1 in 20 samples for that population respectively). These will also be used to represent anomalous conditions for each population.
- (5) A maximum of six numbers can be chosen to plot symbol maps. This number is dictated by the ability to present data in graphical form with sufficiently different symbol sizes to be easily distinguishable, particularly if maps are to be reduced. The seven defined concentration classes are normally sufficient to represent geochemical data on a map. More intervals can be chosen if data are to be contoured. Avoid choosing arithmetic intervals without considering rules (1) and (4).
- (6) Maps plotted using the preceding instructions might result in two areas being distinguished from each other by a relatively uniform density of symbol sizes, yet only poor contrast anomalies are indicated. Differences between the two areas, A and B, might be due to underlying geology, overburden character, soils etc. Whatever the cause, the data are not well displayed. If the underlying control distinguishing A and B can be recognized, the data must be divided and re-interpreted following steps (1) to

(5). Two sets of maps can be drawn, or both sets of interpreted data can be plotted on a single map. For such superimposed geochemical maps the symbol sizes lose their absolute meaning but assume a more important stance, that of reflecting anomalous conditions regardless of the underlying control. To illustrate, consider the case where A and B are areas underlain by very different geology. Anomalous conditions for low background rock types might be concentrations which are much lower than average values for the high background rock types. Nevertheless, anomalies defined in each area are to be considered significant. Reliance on absolute concentrations can be misleading in such cases.



APPENDIX 4  
Statement of Costs

Statement of Costs

Mount Milligan Costs

Field Labour Costs:

Geologist	July 14 - 17	\$142 X 4 =	\$568.00	Meyers
Assistant	July 14 - 16	\$50 X 3 =	\$150.00	Diment
Assistant	July 14 - 16	\$100 X 3 =	\$300.00	S. Cooke
Assistant	July 14 - 16	\$100 X 3 =	\$300.00	D. Rajaler
Senior Geologist	July 15 - 16	\$200 X 2 =	\$400.00	C. M. Rebagliati
			TOTAL:	\$1,718.00

Vehicle Operation:

4 days @ \$100/day \$400.00

Camp Costs (incl. Room & Board in field)

15 man days @ \$60.00 \$900.00

Helicopter Charters:

6.2 hours @ (\$450 + 49.45 fuel)/hr \$3,096.59

Analytical Costs:

192 Soil samples @ 13.00	\$2,496.00
8 whole rock sample analyses @ 14.00	\$112.00
Computer costs @ 2.00/sample	\$400.00
Interpretation - Geochemist 1 day @ 300.00	\$300.00
Shipping Costs	\$100.00
	-----
TOTAL:	\$3,408.00

Maps and Report Preparation:

Geologist 2 days @ \$142.00	\$284.00
Drafting 10 hrs @ \$18.00	\$180.00
Airphotos 50 @ \$2.25	\$112.50
Maps and Materials	\$100.00
	-----
TOTAL:	\$676.50

Travel Expenses:

3 airfares Vancouver-Prince George Rtn	
@ \$282.00	\$846.00
3 hotel rooms @ \$40.00	\$120.00
	-----

TOTAL COSTS: \$11,165.09

APPENDIX 5  
List of Qualifications

List of Qualifications - S. J. Hoffman

- BSc 1969 - McGill University (Hons., Geology and Chemistry)  
 MSc 1972 - The University of British Columbia (Geochemistry)  
 PhD 1976 - The University of British Columbia (Geochemistry)

List of Publications (to August, 1984)

1. Hoffman, S. J., 1972  
 Geochemical dispersion in bedrock and glacial overburden around a copper property in south central British Columbia. MSc thesis, unpublished, U.B.C., 209 pp.
2. Hoffman, S. J. and Fletcher, W.K., 1972  
 Distribution of copper at the Dansey-Rayfield River property, south central British Columbia. J. Geoch. Expl. 1, 163-180.
3. Hoffman, S. J. and Waskett-Meyers, M. J., 1974  
 Determination of molybdenum in soils and sediments with a modified zinc dithiol procedure. J. Geoch. Expl. 3, 61-66.
4. Hoffman, S. J., 1974  
 Pebble cards - A record of the coarse fraction of stream sediments for geochemical exploration. J. Geoch. Expl. 3, 387-388.
5. Hoffman, S. J. and Fletcher, W. K., 1976  
 Reconnaissance geochemistry on the Nechako Plateau, B.C., using lake sediments. J. Geoch. Expl. 5, 101-114.
6. Hoffman, S. J., 1976  
 Mineral Exploration of the Nechako Plateau, central British Columbia, using lake sediment geochemistry. PhD thesis, unpublished, U.B.C., 347 pp.
7. Hoffman, S. J., 1977  
 Talus fine sampling as a regional geochemical exploration technique in mountainous regions. J. Geoch. Expl. 7, 349-360.

8. Hoffman, S. J. and Fletcher, W. K., 1979  
 Sequential extraction of copper, zinc, iron, manganese and molybdenum from soils and sediments.  
 In Geochemical Exploration 1978, Proceedings of the Seventh International Geochemical Exploration Symposium, Golden, Colorado, 289-299.
9. Hoffman, S. J. and Fletcher, W. K., 1981  
 Detailed lake sediment sampling of anomalous lakes on the Nechako Plateau, central British Columbia - Comparison of trace metal distributions in Capoose and Fish Lakes.  
 J. Geoch. Expl. 14, 221-224.
10. Hoffman, S. J. and Fletcher, W. K., 1981  
 Organic matter scavenging of copper, zinc, molybdenum, iron, and manganese, estimated by a sodium hypochlorite extraction (pH 9.5).  
 J. Geoch. Expl. 15, 549-562.
11. Hoffman, S. J., 1983  
 Geochemical exploration for unconformity-type uranium deposits in permafrost terrain - Hornby Bay Basin, Northwest Territories, Canada.  
 J. Geoch. Expl. 19, 11-32.
12. Hoffman, S. J., Arnold, P. M. and Zink, E. W., 1984  
 Rapid field determination of copper by anodic stripping voltammetry (ASV).
13. Hoffman, S. J., 1984  
 Lake sediment geochemistry.  
 In press, Encyclopedia of Earth Sciences.
14. Hoffman, S. J., and Mitchell, G. G., 1984  
 Microcomputers in geochemical exploration. Presented, Helsinki, August, 1983, and Reno, March, 1984.  
 In press, J. Geoch. Expl.

#### List of Memberships

1. Geological Association of Canada, since 1967.
2. Canadian Institute of Mining and Metallurgy, since 1973.
3. Association of Exploration Geochemists, since 1973.

CERTIFICATE

I, C.M. Rebagliati, of Vancouver, in the Province of British Columbia, hereby certify the following:

1. That I am a registered Professional Engineer in the Province of British Columbia.
2. That I have practised my profession since graduation from the Haileybury School of Mines of Ontario in 1966 and from the Michigan Technological University in 1969 with a B.Sc. degree in Geological Engineering.
3. That I am presently employed by Selco Division - BP Resources Canada Limited in Vancouver as Senior Geologist.
4. That I personally examined the property to confirm and evaluate the exploration program.

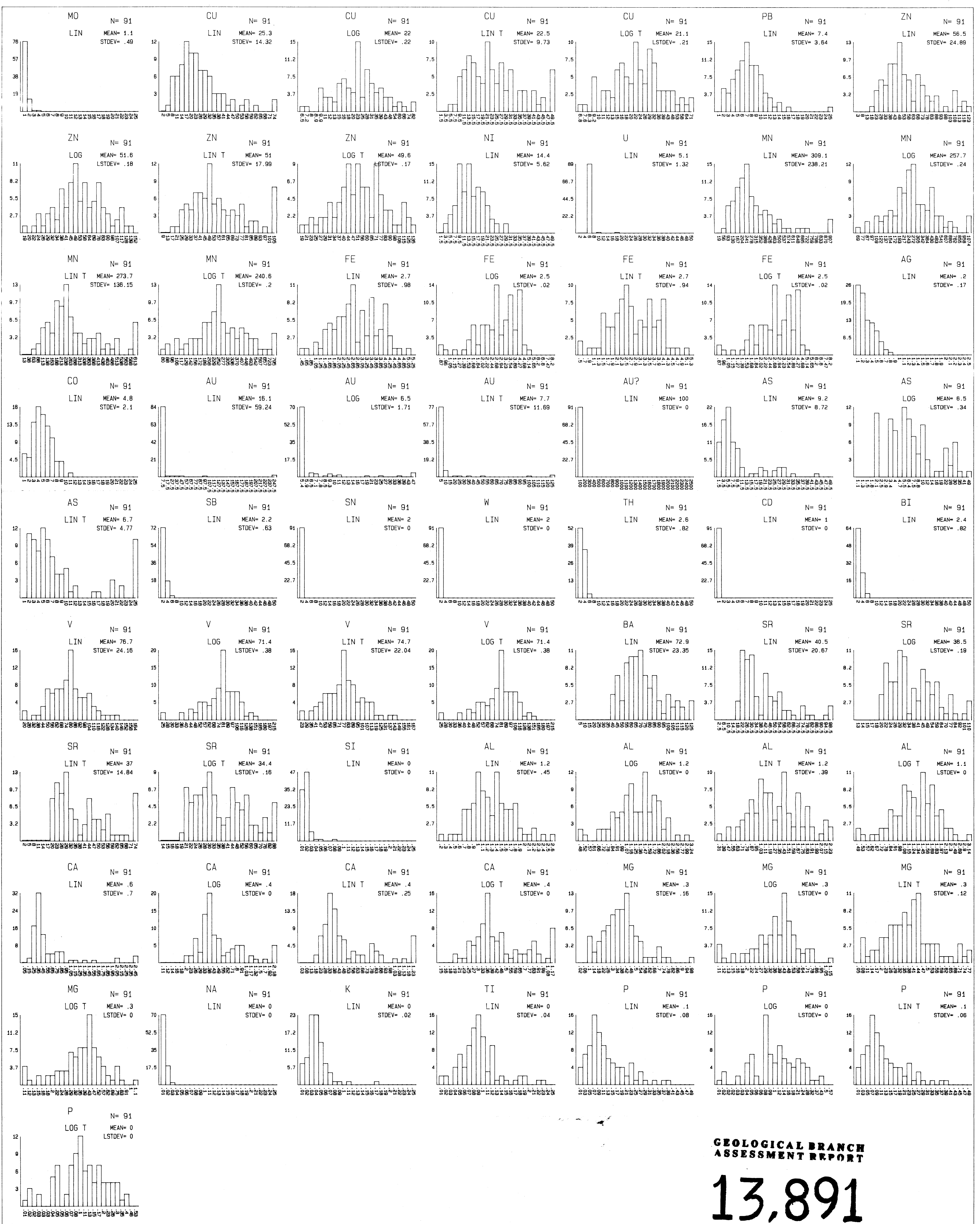
Respectfully submitted,

C.M. Rebagliati, P.Eng.

Vancouver, B.C.  
August, 1985







**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**13,891**

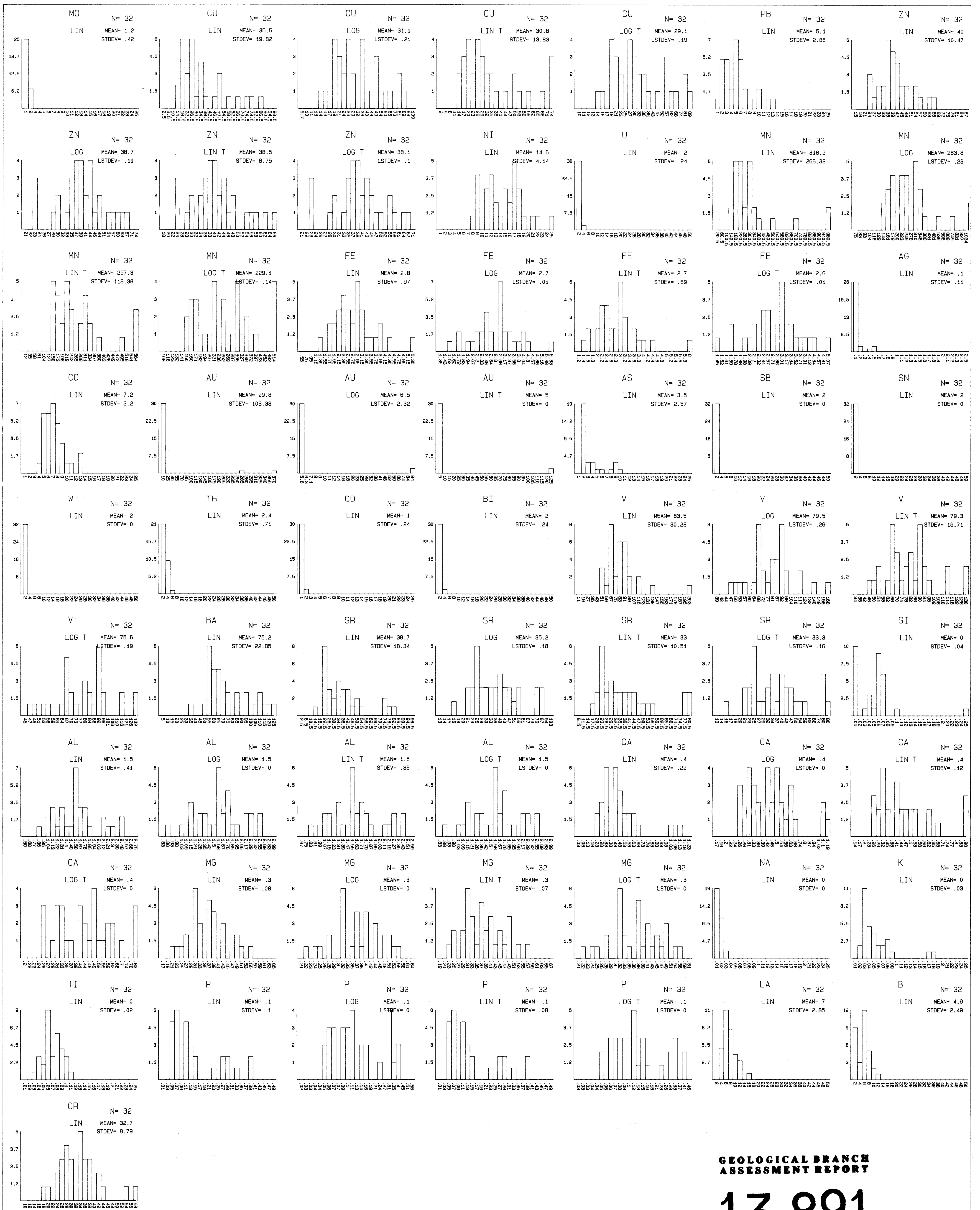
**SAMPLE SELECTION CRITERIA**

PROPERTY CODE B  
 SAMPLE TYPE (S) ALL  
 BEDROCK TYPE (S) ALL  
 SOIL HORIZON (S) ALL  
 SAMPLE TEXTURE (S) ALL  
 OVERBURDEN ORIGIN (S) ALL  
 LAB-SIZE FR-ACTION (S) ALL

**LEGEND**

LIN = LINEAR  
 LOG = LOGARITHMIC  
 LIN T = TRUNCATED LINEAR  
 LOG T = TRUNCATED LOGARITHMIC

SELCO DIVISION - BP RESOURCES CANADA LIMITED	
Mt. MILLIGAN GROUP - South Grid PHIL 1 & HEIDI CLAIMS - B.C. 1985 SOIL GEOCHEMICAL SURVEY HISTOGRAMS	
DWG. NO.	DATE AUG/1985 PROJECT 561/10131
REPORT NO.	NTS 93N01
TO ACCOMPANY REPORT:	BPVR - 85 - 7



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**13,891**

**SAMPLE SELECTION CRITERIA**

PROPERTY CODE ALL  
 SAMPLE TYPE (S) ALL  
 BEDROCK TYPE (S) ALL  
 SOIL HORIZON (S) ALL  
 SAMPLE TEXTURE (S) ALL  
 OVERBURDEN ORIGIN (S) ALL  
 LAB-SIZE FR-EXTRACTION (S) ALL

**LEGEND**

LIN = LINEAR  
 LOG = LOGARITHMIC  
 LIN T = TRUNCATED LINEAR  
 LOG T = TRUNCATED LOGARITHMIC

SELCO DIVISION - BP RESOURCES CANADA LIMITED	
Mt. MILLIGAN GROUP - West Grid PHIL 1 GROUP - B.C. 1985 SOIL GEOCHEMICAL SURVEY HISTOGRAMS	
DWG NO. REPORT NO. TO ACCOMPANY REPORT	DATE AUG/1985 PROJECT 561/10131 NTS 93N01 BPVR - 85 - 7
<b>FIG. 5C</b>	