9924234

GEOLOGICAL & GEOCHEMICAL ASSESSMENT REPORT

on the

TOPPERGOLD PROPERTY
Crooked Lake Area, Cariboo Mining Division

CLAIMS: Tip, Top, Topper, Topper #1-9, Jolly Jack

NTS: 93A/7
Latitude: 52° 18' North
Longitude: 120° 43' West

on behalf of

GRAND NATIONAL RESOURCES INC.
905-626 West Pender Street
Vancouver, B.C., V6B 1V9

by

D.F. SYMONDS, B.Sc., F.G.A.C.

Burton Consulting Inc.
901-626 West Pender Street
Vancouver, B.C., V6B 1V9

September 14, 1989

BURTON CONSULTING INC.

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Province of British Columbia

Ministry of Energy Mines and Petroleum Resources

ASSESSMENT REPORT

TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
GEOLOGICAL, GEOCHEMICAL	$30,479.00

AUTHOR(S) Douglas F. Symonds B.Sc., F.G.A.C. SIGNATURE(S)

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED Aug.10/89 Oct. 5/89 YEAR OF WORK 1989

PROPERTY NAME(S) TOPPERGOLD

COMMODITIES PRESENT gold, silver, lead, zinc, copper

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN

MINING DIVISION CARIBOO NTS 93A / 7

LATITUDE 52° 18' North LONGITUDE 120° 43' West

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property (Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)).

Tip(8 units),Top(4 units),Jolly Jack(20 units),Topper(16 units),Topper #1 (20 units),Topper #2(12 units),Topper #3(6 units),Topper #4(18 units), Topper #5(16 units),Topper #6(8 units),Topper #7(18 units),Topper #8(18 units),Topper #9(6 units).

OWNER(S)

(1) Grand National Resources Inc. (2)

MAILING ADDRESS

#905-626 West Pender Street
Vancouver, B.C., V6B 1V9.

OPERATOR(S) (that is, Company paying for the work)

(1) as above (2)

MAILING ADDRESS

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

The property is underlain by Upper Triassic rocks of the Quesnel R. Group (phyllites,argillites,schists).Mineralization consists of trace values of gold and silver in quartz sweats and veins within the sediments.Galena and sphalerite have been reported within the quartz.Significant multielement (gold,silver,lead zinc, copper) soil geochemical anomalies occur on the property.

REFERENCES TO PREVIOUS WORK Kregosky, R.,"Geochemical Report on the Topper Group" Assessment Report, Sept. 6,1985.
Symonds, D.F.,"Geochemical Report on the Toppergold Property", Assessment Report, Nov. 8, 1988.
"Geochemical Report on the Toppergold Property", Assessment Report, May 25, 1989.

(over)

TYPE OF WORK THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground	1:2500 & 1:5000	(Top, Topper 2, Topper 4, Topper 5, Topper 6 & Topper 8 & 9)	
Photo			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for ....)			
Soil	409	as above	
Silt			
Rock			
Other Heavy Sed	9	Topper, Topper 7	See detailed breakdown in report.
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL	(sed) 9 samples (Au, Cu, Pb, Zn, Ag)		
Sampling/assaying	(Soil) 409 samples (Au, Cu, Pb, Zn, Ag)	as above.	
Petrographic	2 samples		
Mineralogic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)			
Topographic (scale, area)			
Photogrammetric (scale, area)			
Line/grid (kilometres)	grid establishment	10.5 km. as above	
Road, local access (kilometres)			
Trench (metres)			
Underground (metres)			
		TOTAL COST	30,479.00

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEB	CREDIT	REMARKS
Value work done (from report)				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted Date	Repr. No.			Information Circ.

1.0 INTRODUCTION

This report has been written on behalf of Grand National Resources Inc., of Vancouver, B.C. It describes field work, including geological mapping, reconnaissance and detailed soil geochemical surveying and stream suction sampling, which was carried out on the **Toppergold** property, located in the Cariboo area near Crooked Lake, B.C. This work was carried out during August of 1989 under the direct supervision of the author.

A statement of costs incurred directly as a result of the 1989 work program is included. This cost statement was prepared by a representative of Grand National Resources Inc. and supplied to Burton Consulting Inc.

Recommendations are made for further work on the property.

2.0 SUMMARY & CONCLUSIONS

The **Toppergold** property, consisting of 13 metric claims totalling 170 units is located near Crooked Lake in the Cariboo area of British Columbia. The property is held by Grand National Resources Inc., of Vancouver, B.C. Access to the property is by road from 100 Mile House, B.C. northeasterly via the Canim Lake/Hendrix Lake/M^{C}Kusky Creek road network, a total distance of approximately 140.0 kilometres.

Mineralization on the property consists mainly of trace values of gold and silver in quartz sweats and veins occurring within sedimentary rocks of the Upper Triassic Quesnel River Group. Galena and sphalerite mineralization has been reported within the quartz material.

Immediately to the east of the **Toppergold** property, on the southwesterly-dippping limb of the Eureka Syncline, gold mineralization occurs in stratiform quartz sweats within a "Knotted" phyllite unit on the **Frasergold** property. The same rock unit is present on the west side of "Spin" Creek, where new claims have been staked and added to the **Toppergold** property. The latest reported reserves on the **Frasergold** property are open-pittable gold reserves of 20 million tons grading 0.8 oz./ton and higher grade underground gold reserves of 2.0 million tons grading 0.40 oz./ton.

Prior to 1984 there does not appear to have been any work recorded on the claim area. In 1984 and 1985, geochemical soil sampling, rock chip sampling and geological mapping was carried out on a portion of the property. Three zones of geochemically anomalous copper, zinc and silver with accessory lead and gold values were outlined with an "apparent regional extent inferred to be greater than 3 kilometres". These zones were interpreted as reflecting a mineralized stratigraphic horizon within black (graphitic) phyllites of the Upper Triassic Quesnel River Group.

During the 1988 field season, soil profile studies and stream suction sampling were carried out. Results indicated that subsequent analyses on soil samples should be carried out on the total sample ground to -150 mesh. A total of 20 heavy mineral samples were taken from creeks draining the claim area. Several of the fine fraction samples were highly anomalous in gold, indicating the potential for lode gold deposits in the claim area.

During May of the 1989 field season, a total of 17 suction sediment samples were taken on the **Jolly Jack** claim

area. The purpose of this sampling was to improve sampling coverage and to follow up a high gold value obtained from 1988 work.

The field work carried out in August of 1989 consisted of further suction sediment sampling and geochemical soil sampling. A total of 9 suction sediment samples were taken on Cosmosky Creek and "Spin" Creek in an attempt to improve sampling coverage. Two anomalous gold values were detected in the -140 mesh fraction of the suction sediment samples taken. These values were 910 ppb (Sample #Cos 89-10) and 660 ppb (Sample #Spin 89-20).

Geochemical soil sampling was carried out in five areas on the claims. A total of 409 samples were taken and analysed for gold, copper, lead, zinc and silver. Each sample was totally ground to -150 mesh before analysis. Statistical analysis was carried out on the data to provide meaningful thresholds and contour intervals. Anomalies worthy of follow-up were detected on four of the five grids.

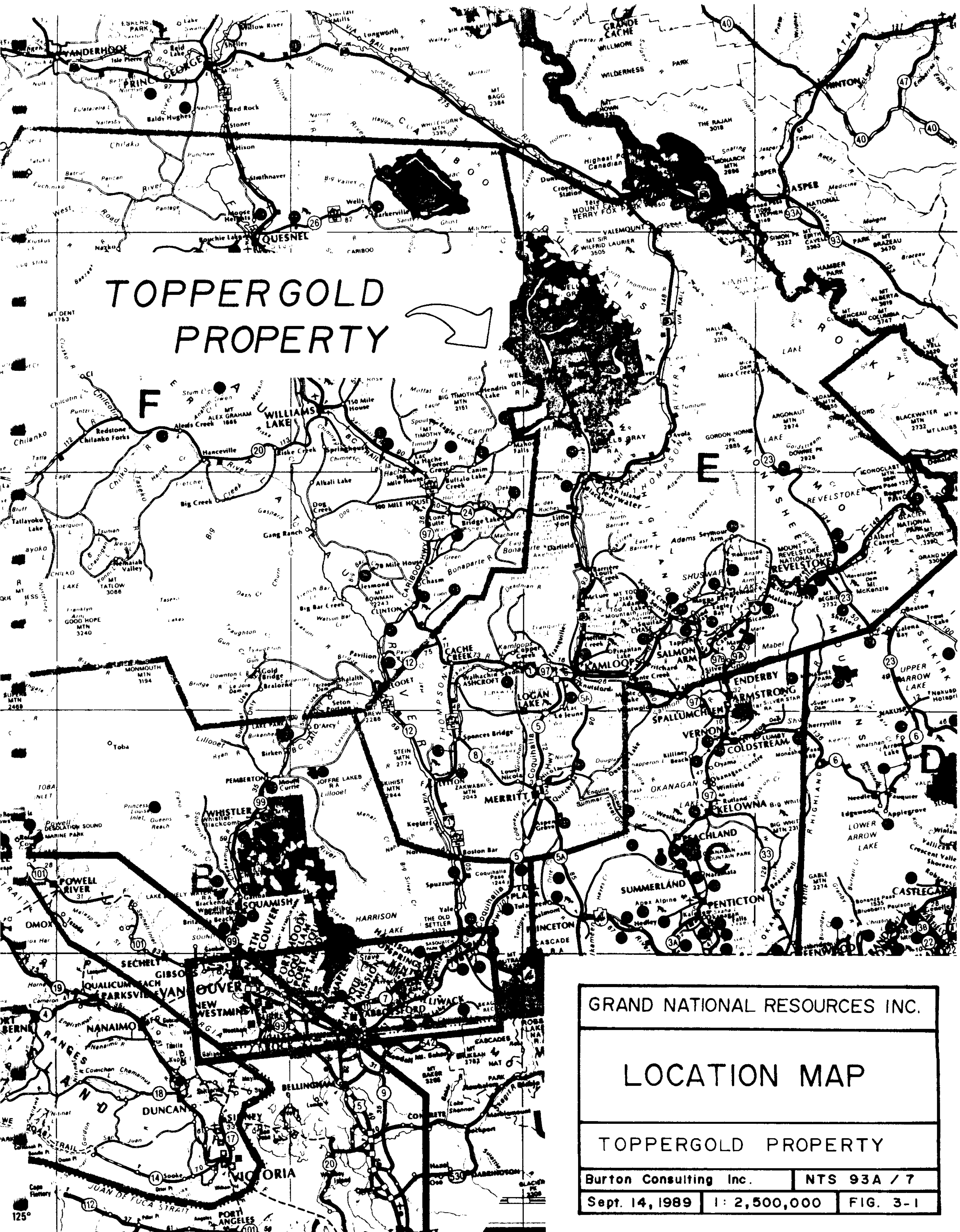
Recommendations are made for further suction sediment sampling to complete the coverage on the claims. Difficult access to the remaining areas on the property would likely entail the use of a helicopter-supported sampling program. Anomalous areas detected by the geochemical soil surveys should be exposed using an excavator, mapped and sampled.

Petrographic studies on rocks from the **Frasergold** gold deposit and on rocks from the **Toppergold** property show that the two rocks are similar and strongly suggest that they are part of the same stratigraphic unit.

3.0 LOCATION & ACCESS

The **Toppergold** property is located immediately north and east of Crooked Lake, a small lake roughly 10.0 kilometres in length which drains into the Horsefly River and eventually into the Quesnel River/Fraser River drainage(see Figure 3-1).

Access to the property is by road from 100 Mile House on Highway 97. The turnoff to Canim Lake is taken easterly to Eagle Creek on the north side of Canim Lake, a distance of approximately 60.0 kilometres. At Eagle Creek, the turnoff to the Boss Mountain Mine area near Hendrix Lake is taken northerly for a distance of approximately 75.0 kilometres along the Canim Lake/Hendrix Lake road and the McKusky Creek road to the west end of Crooked Lake. Access to the western end of the property can be gained by using logging road "K", which leaves the McKusky Creek forest road approximately 7.0 kilometres northwest of Crooked Lake. An old fire access road provides seasonal access to the Tip claim and to the northern end of the Topper 1 to 4 claims.



GRAND NATIONAL RESOURCES INC.

LOCATION MAP

TOPPERGOLD PROPERTY

Burton Consulting Inc.	NTS 93A / 7

Sept. 14, 1989	1: 2,500,000	FIG. 3-1

4.0 CLAIM INFORMATION

The **Toppergold** property is located in the Cariboo Mining Division of British Columbia. The property is comprised of 13 metric claims totalling 170 units. The Topper Group consists of 8 mineral claims totalling 100 units. Claim information is as follows:

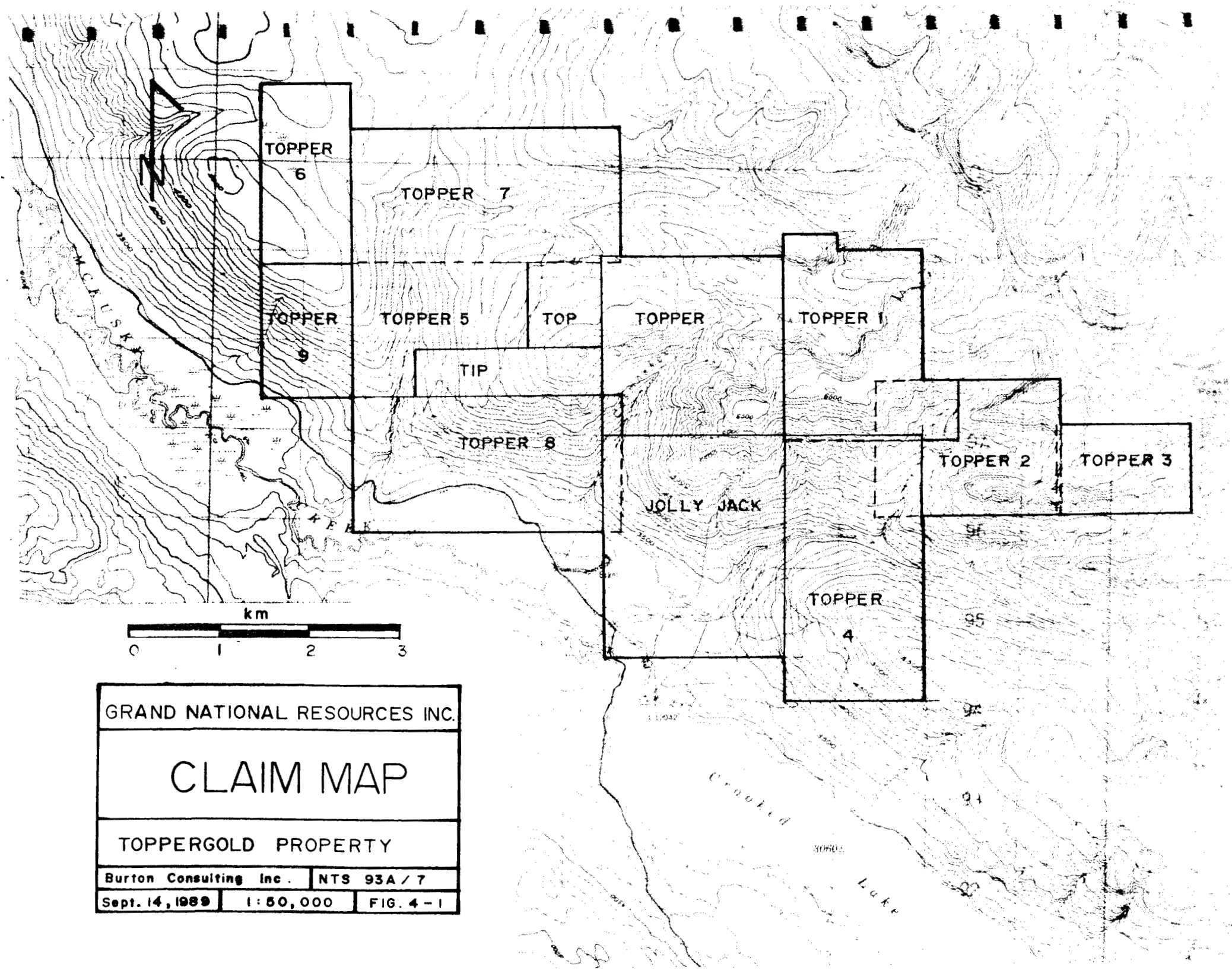
Topper Group

Claim Name	(# units)	Record #	Record Date	Expiry Date
Topper	(16)	4803	22AUG83	22AUG90
Topper #1	(20)	5097	22AUG83	22AUG90
Topper #2	(12)	5098	22AUG83	22AUG90**
Topper #3	(6)	5099	22AUG83	22AUG91**
Topper #4	(18)	7095	15AUG85	15AUG90**
Topper #5	(16)	7229	28NOV85	28NOV91**
Tip	(8)	6001	19APR84	19APR91**
Top	(4)	6774	18MAR84	18MAR92**
TOTAL	100 units			

Ungrouped

Jolly Jack	(20)	4803	03MAY83	03MAY92
Topper 6	(8)	9291	10AUG88	10AUG92**
Topper 7	(18)	9314	22AUG88	22AUG92**
Topper 8	(18)	9935	07AUG89	07AUG93**
Topper 9	(6)	9936	09AUG89	09AUG93**

**Claim information and location is shown in Figure 4-1.


TOPPER 6
TOPPER 7
TOPPER 9
TOPPER 5
TOP
TOPPER
TOPPER 1
TIP
TOPPER 8
JOLLY JACK
TOPPER 2
TOPPER 3
TOPPER 4
km
0
1
2
3
GRAND NATIONAL RESOURCES INC.
CLAIM MAP
TOPPERGOLD PROPERTY
Burton Consulting Inc.
NTS 93A/7
Sept. 14, 1989
1:50,000
FIG. 4-1

5.0 HISTORY & PREVIOUS WORK

Prior to the exploration programs carried out by Grand National Resources Inc. and World Cement Industries Inc. during 1984, there does not appear to have been any recorded work carried out on the claim area. During the 1984 and 1985 field seasons, geochemical surveys including "B" horizon soil sampling and rock chip sampling were carried out. Geological mapping at a scale of 1:25,000 was carried out. Three zones of geochemically anomalous copper, zinc, silver and accessory lead and gold values were outlined, with an "apparent regional extent inferred to be greater than 3 kilometres".

During 1984, a VLF-EM survey conducted on the Jolly Jack claim detected a number of anomalies. These anomalies were interpreted as relating to the graphitic nature of the phyllitic rocks in the area.

During 1985, geochemical surveys on the Topper Group were successful in extending and outlining a number of anomalous zones. Three broad zones have been located which have been called the West, Central and South anomalies. These zones are "defined by strongly anomalous geochemical silver, zinc and copper values with an accessory gold and lead association. The geochemical signature suggests a particular mineralized stratigraphic horizon within the underlying black phyllites. This would give the Topper property the potential to host a low-grade bulk-tonnage silver/base metal/gold deposit"[1].

Immediately to the east of the Toppergold property, work on the Frasergold property has resulted in the announcement of potential large tonnage, open-pittable gold reserves of 20 million tons grading 0.08 oz./ton gold and higher grade underground reserves of 2.0 million tons grading 0.40 oz./ton gold. The Toppergold property is in a geologic environment similar to the Frasergold property.

During 1986, geological mapping was carried out along road cuts and prominent ridges(1:2,500). Rock chip sampling of quartz sweats, veins and stockwork and all pyritic rocks along with further geochemical soil sampling and heavy mineral concentrate sampling at five localities was completed. Anomalous levels of silver and gold were found at several sites thought to be underlain by "knotty" phyllitic rocks. The "West" zone as outlined during the 1985 sampling program was confirmed and extended for 500 metres to the northwest. This "West" zone is on the **Top** and **Topper #5** claims.

In 1988, soil profile studies and heavy mineral sampling were carried out. A total of 5 sites were selected as representing the centre of a major anomalous area from the 1985 gold soil geochemistry. Samples were taken down the profile and were analysed using two techniques. Part of the sample was ring-ground to -150 mesh and analysed (as a rock sample would be treated) and the other part was screened to -80 mesh and treated as a normal geochemical sample. Results indicated that the bulk of the gold found in the soil in this particular area is in the coarser fraction and that the total grind to -150 mesh and subsequent analysis technique should be employed in future work.

A total of 20 heavy mineral samples were taken during 1988 on creeks draining the claim area. These samples were taken using a portable suction dredge/sluice box set-up. The samples were split into coarse and fine fractions and analysed separately. Several of the fine fraction samples were highly anomalous in gold, indicating the potential for lode gold deposits in the claim area.

In 1989, a total of 17 heavy mineral samples were taken from "No Name" Creek draining the **Jolly Jack** claim area, in an attempt to follow up a high gold value (4350 ppb) obtained from 1988 work. One of these follow up samples was anomalous in the fine fraction (1140 ppb).

6.0 GEOLOGY

The Toppergold property has been mapped geologically at a scale of 1:25,000 (Kregosky, 1984-85). The Upper Triassic formation of the Quesnel River Group is shown as four distinct units on the property(see Figure 6-1). These four units (not differentiated by age) are:

1) Phyllites
2) Calcareous argillites and argillites
3) Phyllites, slaty argillites and schist
4) Chlorite sericite schist

A dioritic intrusive of possible Triassic/Jurassic age has also been mapped on the property. These intrusive rocks are of interest as they are found to be associated with gold mineralization further north within the Quesnel Trough. The "QR" deposit of Dome Mines Ltd. contains over one million tons of ore grading 0.2 oz/ton gold. This ore occurs at the contact of an intensely propylitized package of basaltic calcareous fragmental volcanics and overlying sediments. A quartz-poor diorite stock which outcrops nearby is thought to be the heat source for fluids responsible for remobilizing the gold.

At several locations on the property a "knotty" or "knobby" phyllitic unit has been observed. A sample of this rock unit was compared with the mineralized phyllitic unit present on the **Frasergold** property to the east. Polished sections of both rocks were studied petrographically by Dr. J.F. Harris of Vancouver Petrographics Ltd. Dr. Harris states in his report (see Appendix IV) that "the petrographic evidence strongly suggests that these two rocks come from the same stratigraphic unit".

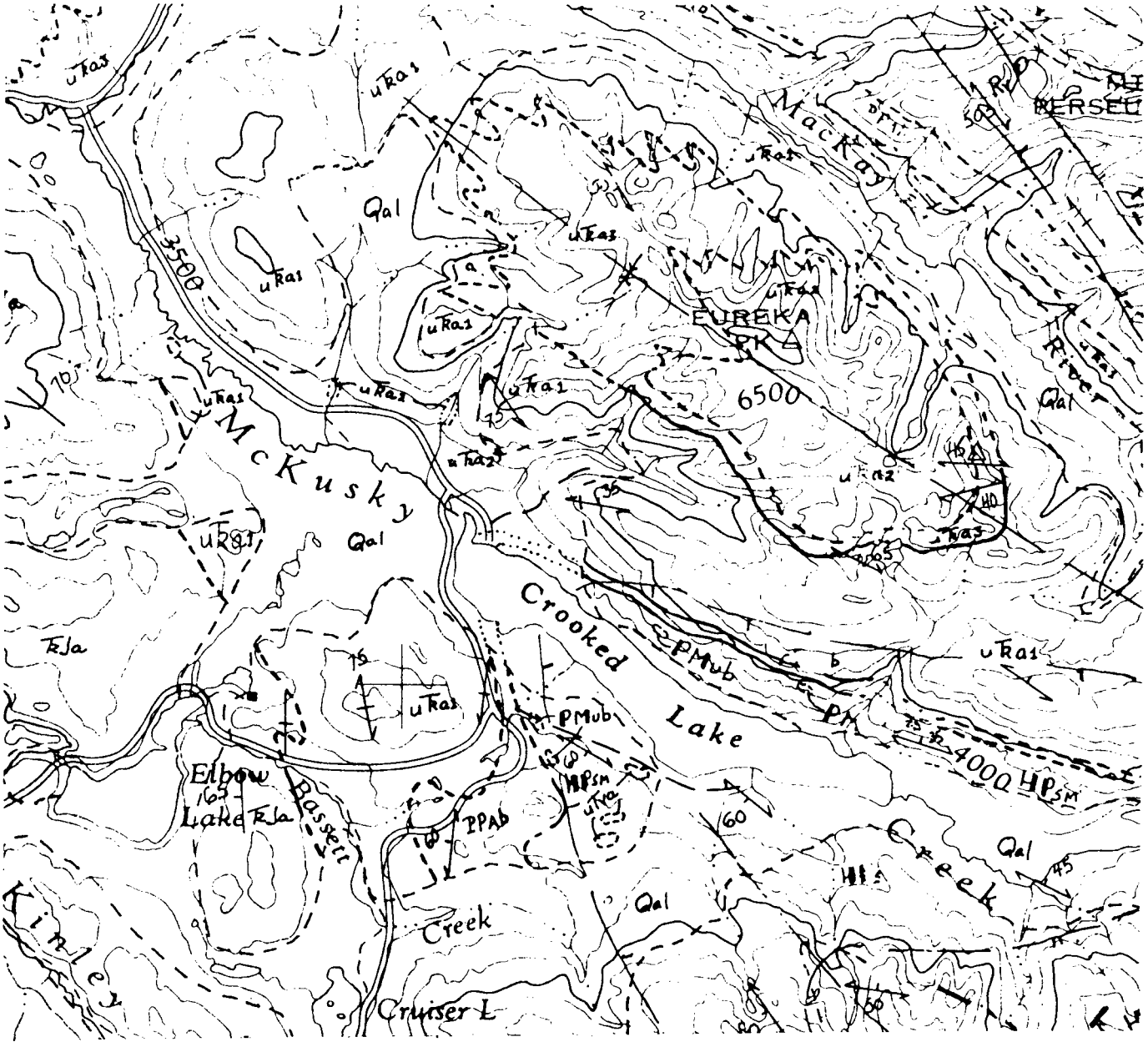
Volcanic rock units on the property were observed both interbedded as thin beds with the sediments and as massive beds. Extreme alteration makes the identification of original rock types difficult. The massive volcanic beds observed at the bottom of Cosmosky Canyon are altered porphyritic andesite flows.

Contacts between the various rock units on the property trend generally northwest.

Mineralization on the property consists mainly of trace values of gold and silver in quartz sweats and veins occurring within the phyllites and other sediments on the property. Large pyrite cubes and fine-grained disseminated pyrite can be found in some of the quartz sweats. Galena and sphalerite mineralization has been reported within the

quartz material. Significant multielement geochemical anomalies on the property would indicate that considerable surface leaching and depletion has taken place, and that samples of fresh, unweathered mineralized material should provide better results.

Mineralization on the Toppergold property occurs in a geological environment similar to that of the Frasergold property, located immediately to the east. In April of 1987, Eureka Resources announced potential large tonnage, open-pittable gold reserves grading 0.08 oz./ton gold and higher grade underground reserves of 2.0 million tons grading 0.40 oz./ton gold.



LEGEND

HP_{sm} – SNOWSHOE FM. (Phyllite, Schist, Gneiss)

uKa1 – Phyllite, Argillite, Quartzite, Schist

uKa2 – Greenstone, Breccia, Tuff

uKa3 – (Undivided uKa1 and uKa2)

Qal – Glacial Deposits

PMub – OMINECA BELT (Serpentinite, Peridotite)

GRAND NATIONAL RESOURCES INC.

REGIONAL GEOLOGY

(After R.B. Campbell, 1978)

TOPPERGOLD PROPERTY

Burton Consulting Inc.		NTS 93A/7
Sept. 14, 1989	1:125,000	FIG. 6-1

7.0 SOIL GEOCHEMICAL SURVEYS

A total of five areas on the **Toppergold** property were covered by soil geochemical surveys during the August, 1989 field program. Samples of "B" horizon material were taken when possible. Each sample was totally ground to -150 mesh at the laboratory, and analysed for gold, copper, lead, zinc and silver. Gold analysis was by fire assay with an atomic absorption finish, while the other elements were analysed using acid digestion and atomic absorption.

Statistical analysis of the August, 1989 geochemical data was carried out using a microcomputer. The data was studied separately for each of the five grids ("A" through "E") and then combined into one large file for comparison. Since the sample preparation method used on the most recent samples differs from the preparation method used on older samples (analysis of -80 mesh fraction only), different backgrounds and anomalous thresholds are to be expected.

Gold Geochemistry

Examination of the combined data file for gold indicates that gold values follow a lognormal distribution pattern, with a significant number (135) of assays below the detection limit. The distribution of gold in the soils could be broken down into 5 populations, with the following characteristics:

Population	Thresholds (ppb)	
1	0.9	1.0
2	0.3	6.0
3	7.1	25.4
4	19.2	46.1
5	39.1	and higher

From this information, the following contour intervals can be derived:

Detection Limit:	0.0	to 1.0	ppb
Background I:	1.1	to 6.5	ppb
Background II:	6.6	to 19.9	ppb
Anomalous I:	20.0	to 39.9	ppb
Anomalous II:	40.0	and higher	

Copper Geochemistry

Examination of the combined data file for copper indicates that copper values follow a lognormal distribution pattern. The distribution of copper in the soils could be broken down into 4 populations, with the following characteristics:

Population	Thresholds (ppm)	
1	11.2	17.5
2	18.9	39.7
3	30.0	61.6
4	50.3	144.2

From this information, the following contour intervals can be derived:

Background I:	11.2	to 17.9	ppm
Background II:	18.0	to 34.9	ppm
Background III:	35.0	to 54.9	ppm
Anomalous I:	55.0	and higher	

Lead Geochemistry

Examination of the combined data file for lead indicates that lead values follow a lognormal distribution pattern. The distribution of lead in the soils could be broken down into 5 populations, with the following characteristics:

Population	Thresholds (ppm)	
1	2.8	5.3
2	3.9	8.5
3	6.3	10.6
4	9.0	15.8
5	15.1	30.6

From this information, the following contour intervals can be derived:

Background I:	2.8	to 4.9	ppm
Background II:	5.0	to 6.9	ppm
Background III:	7.0	to 8.9	ppm
Background IV:	9.0	to 14.9	ppm
Anomalous I:	15.0	and higher	

Zinc Geochemistry

Examination of the combined data file for zinc indicates that zinc values follow a lognormal distribution pattern. The distribution of zinc in the soils could be broken down into 5 populations, with the following characteristics:

Population	Thresholds (ppm)	
1	54.0	85.6
2	77.6	106.5
3	88.9	161.2
4	156.0	248.2
5	204.5	479.9

From this information, the following contour intervals can be derived:

Background I:	54.0	to	79.9	ppm
Background II:	80.0	to	94.9	ppm
Background III:	95.0	to	159.9	ppm
Anomalous I:	160.0	to	219.9	ppm
Anomalous II:	220.0	and higher		

Silver Geochemistry

Examination of the combined data file for silver indicates that silver values follow a lognormal distribution pattern. The distribution of silver in the soils could be broken down into 5 populations, with the following characteristics:

Population	Thresholds (ppm)	
1	0.0	0.1
2	0.1	1.1
3	0.6	1.5
4	1.2	2.7
5	2.1	and higher

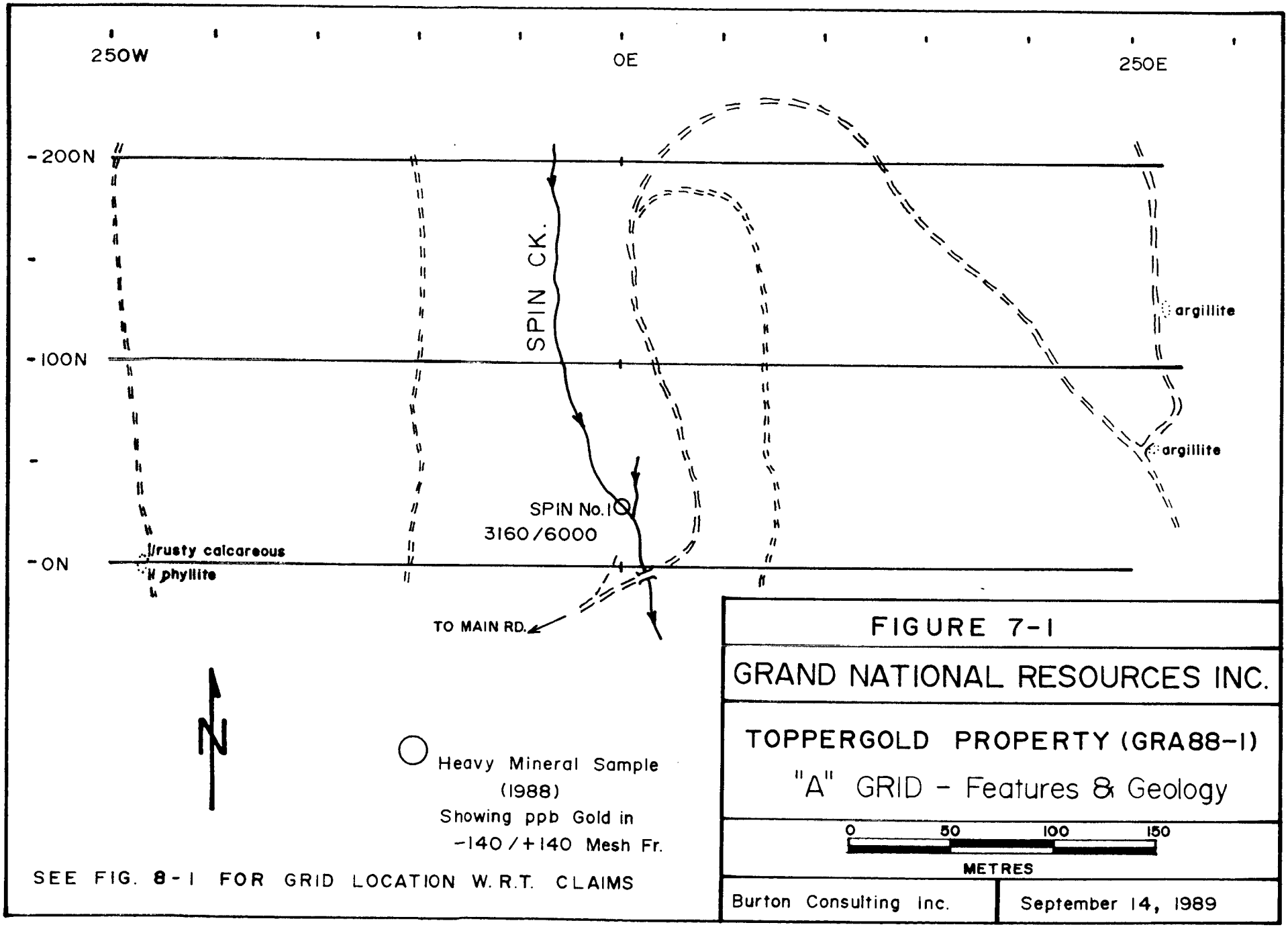
From this information, the following contour intervals can be derived:

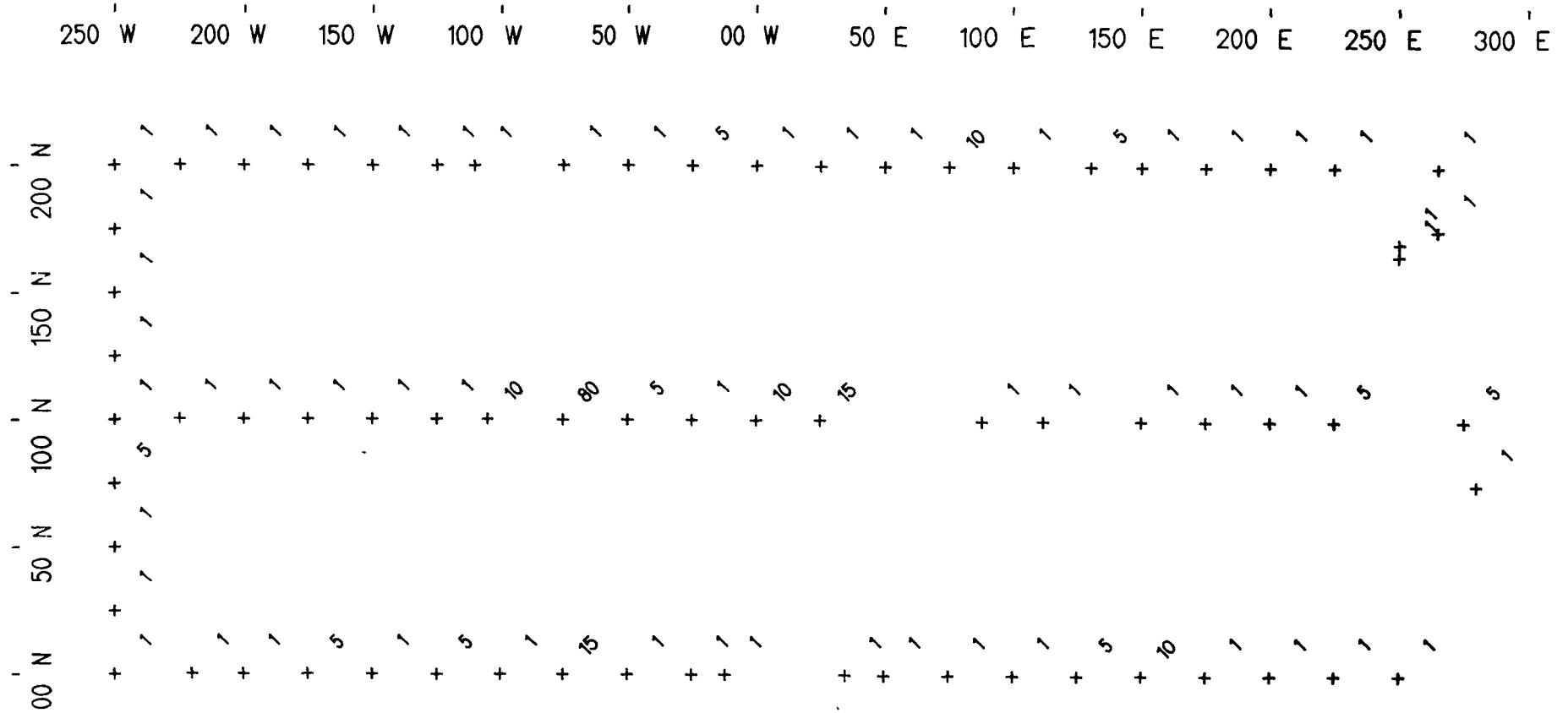
Detection Limit:	0.0	to	0.1	ppm
Background I:	0.2	to	0.7	ppm
Background II:	0.8	to	1.3	ppm
Anomalous I:	1.4	to	2.2	ppm
Anomalous II:	2.3	and higher		

A description of each of the five areas follows:

"AREA "A" - Geochemical Soil Survey Grid

LOCATION: On **Topper #5** claim, straddling "Spin" Creek.
PURPOSE: To follow up anomalous stream sediment suction sample taken during November, 1988. This sample (Spin #1) was taken just upstream from the main bridge crossing on "Spin" Creek. Gold values of 3160 ppb and 6000 ppb were detected in the -140 mesh and +140 mesh sample fractions respectively.
GEOLOGY: The grid area is underlain by phyllites and argillites.
DESCRIPTION: A total of 71 samples were taken at 25 metre spacings on three east-west lines spaced 100 metres apart. Note that these soil samples were pulverized to -150 mesh and then analysed. The samples were not sieved.
FIGURE REFS: Figures 7-1 through 7-1E & Figure 8-1.
DISCUSSION: A single gold value of 80 ppb was detected at Station 75W on Line 100N. Scattered single sample anomalies in copper, zinc and silver were detected on the grid.


250W
0E
250E
200N
100N
0N
SPIN CK.
argillite
argillite
SPIN No.1
3160/6000
rusty calcareous
phyllite
TO MAIN RD.
N
Heavy Mineral Sample
(1988)
Showing ppb Gold in
-140/+140 Mesh Fr.
SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS
FIGURE 7-1
GRAND NATIONAL RESOURCES INC.
TOPPERGOLD PROPERTY (GRA88-1)
"A" GRID - Features & Geology
0
50
100
150
METRES
Burton Consulting Inc.
September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-1A

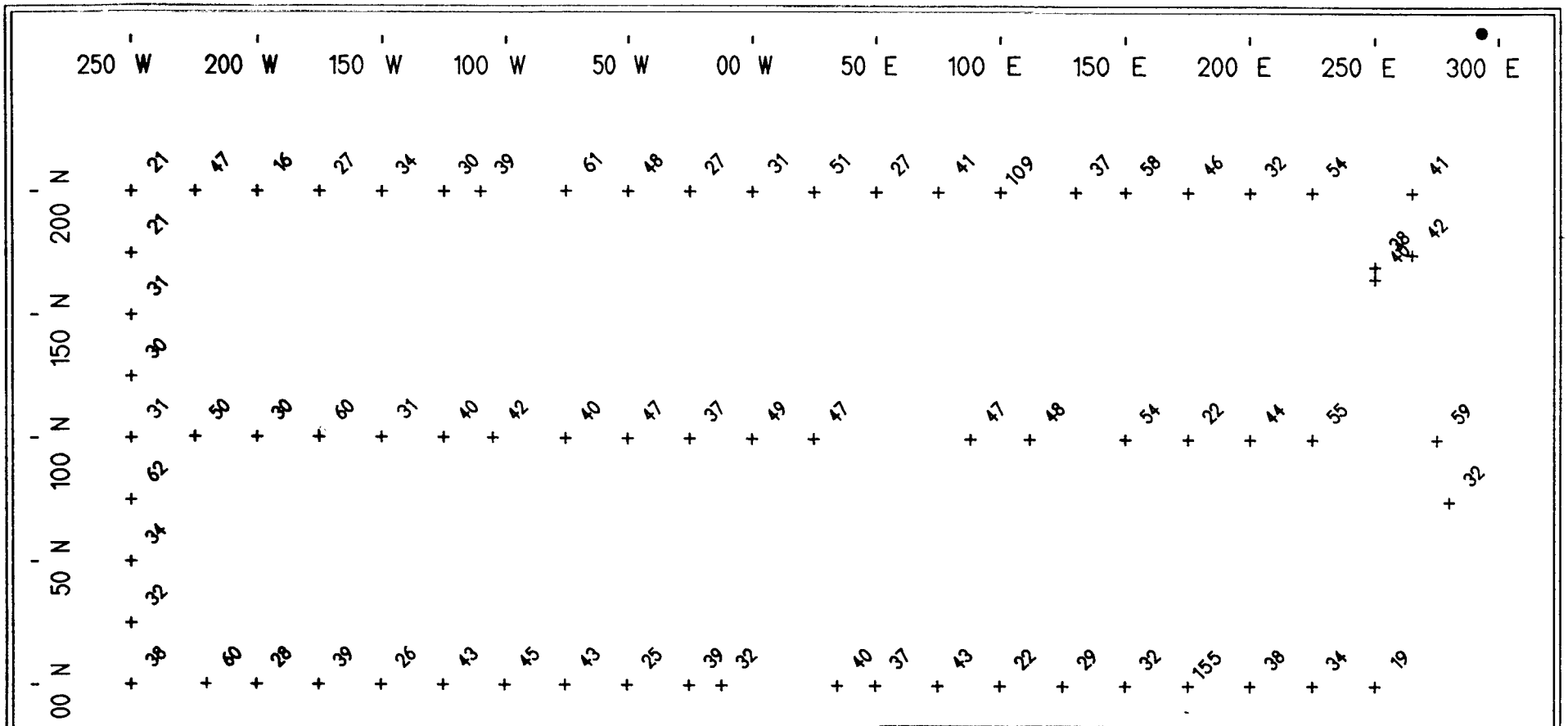
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

A GRID - AU (PPB)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-1E

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

A GRID - CU (PPM)

0 50. 100. M.

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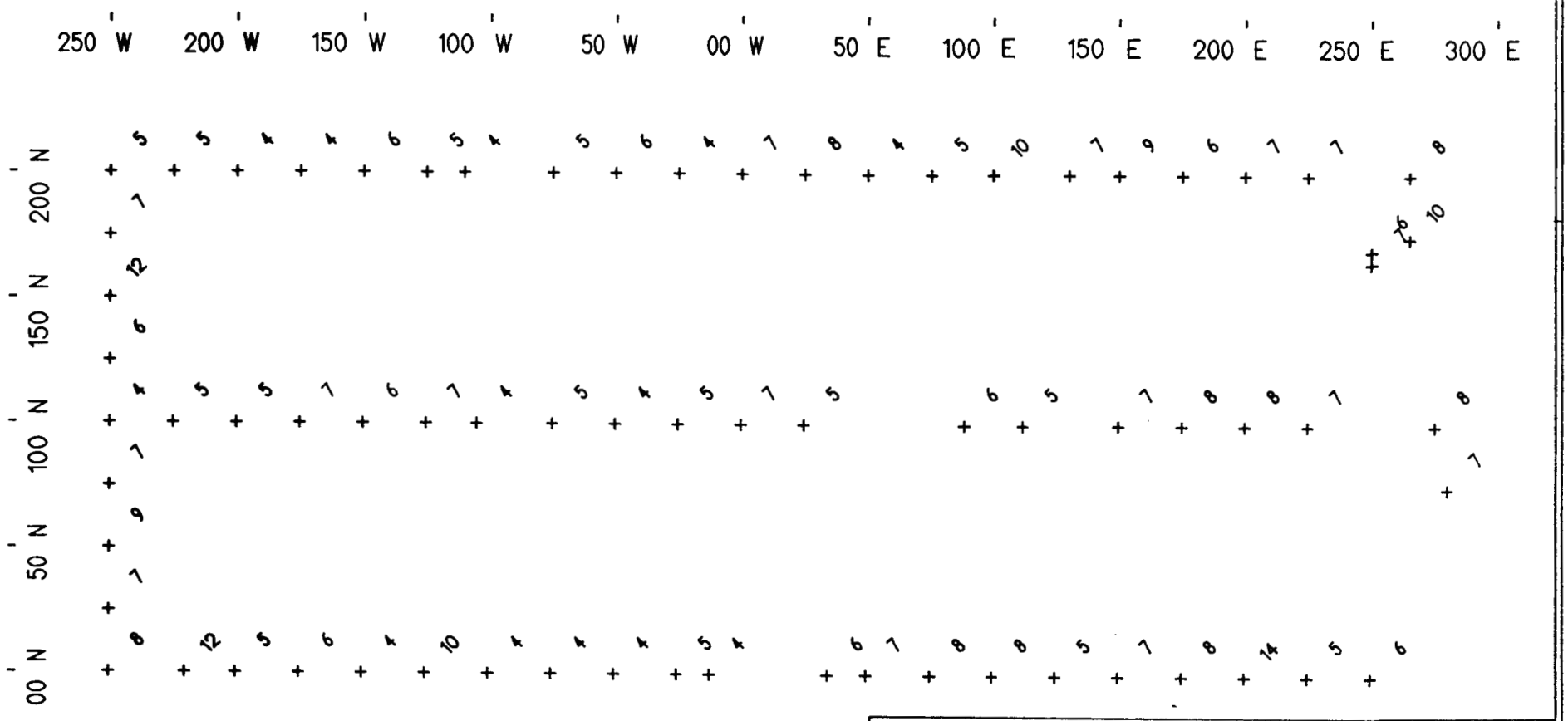


SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-1C

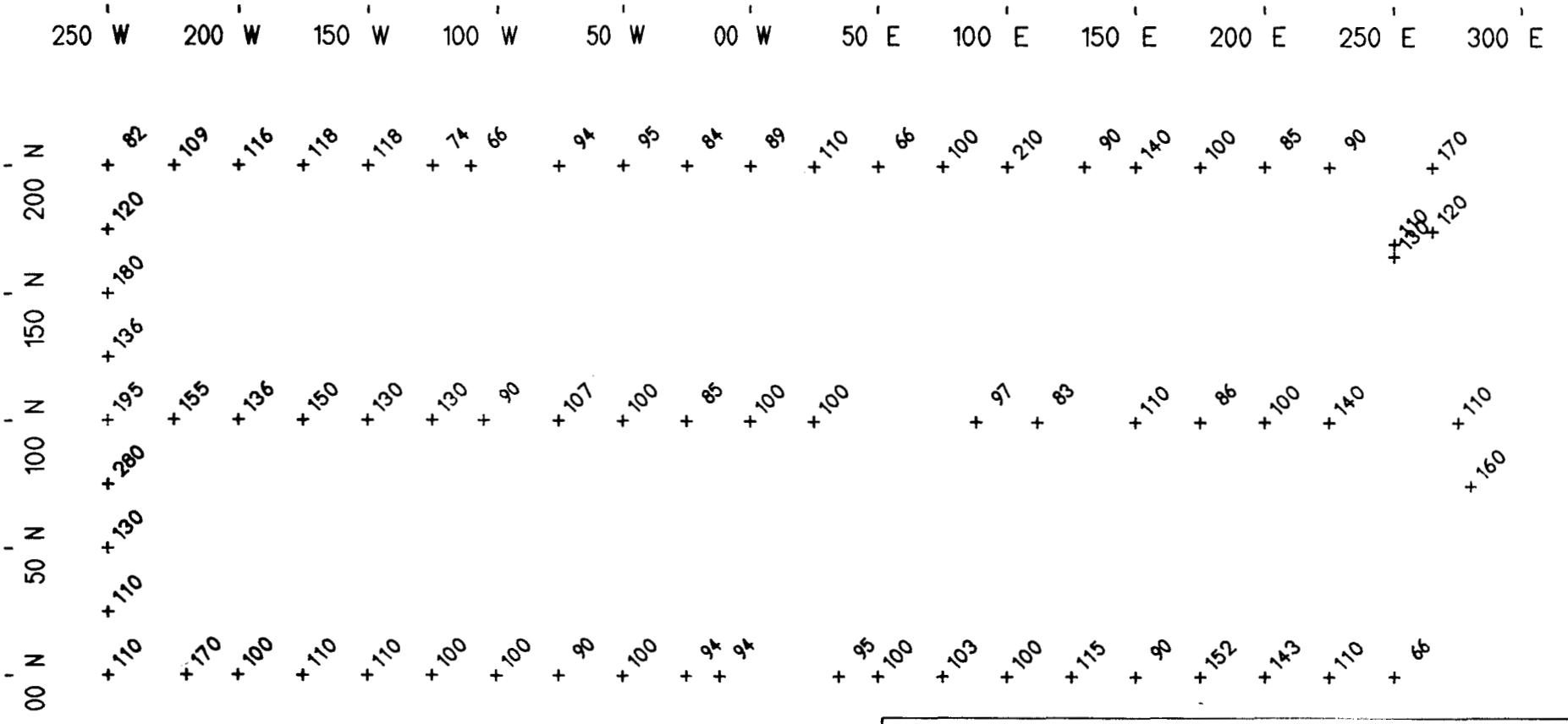
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

A GRID - PB (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-1D

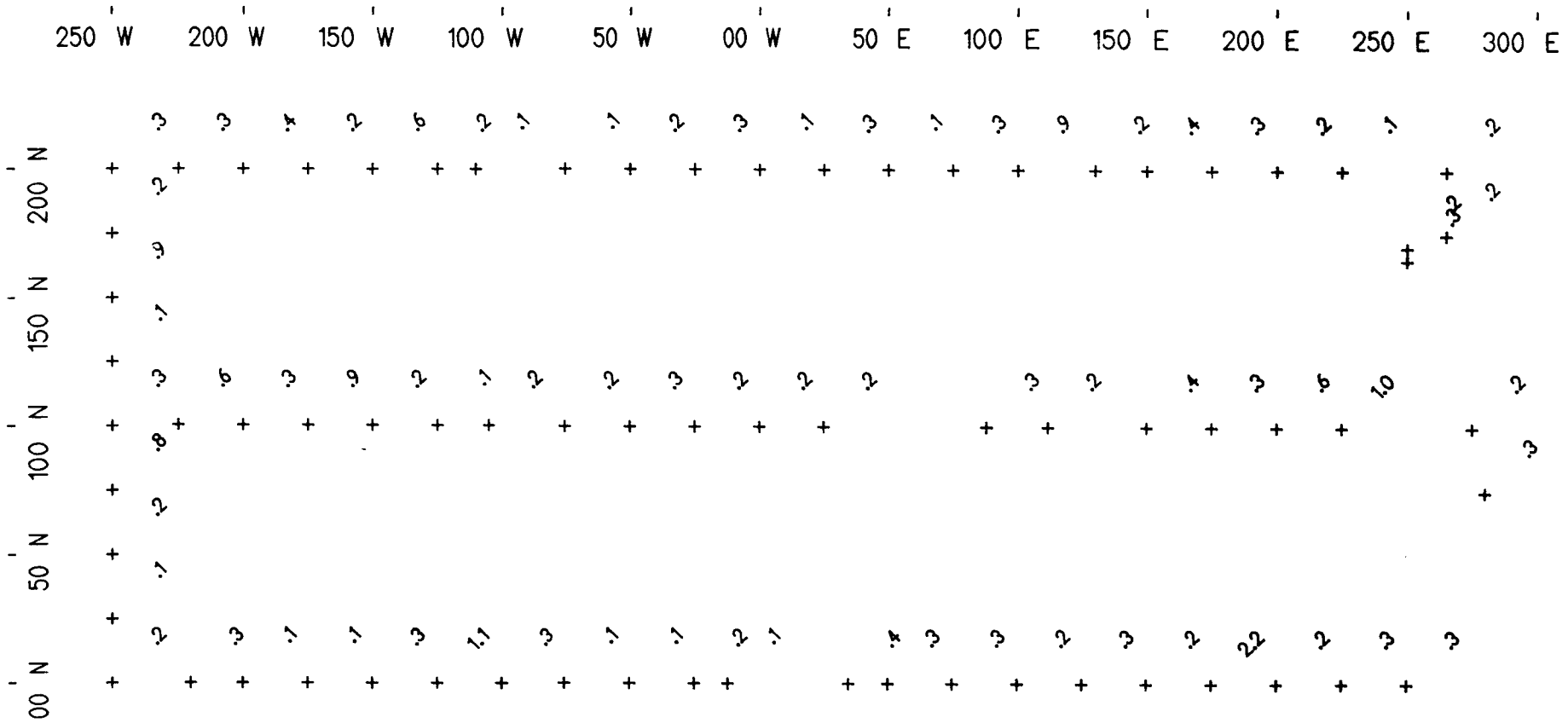
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

A GRID - ZN (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-1B

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

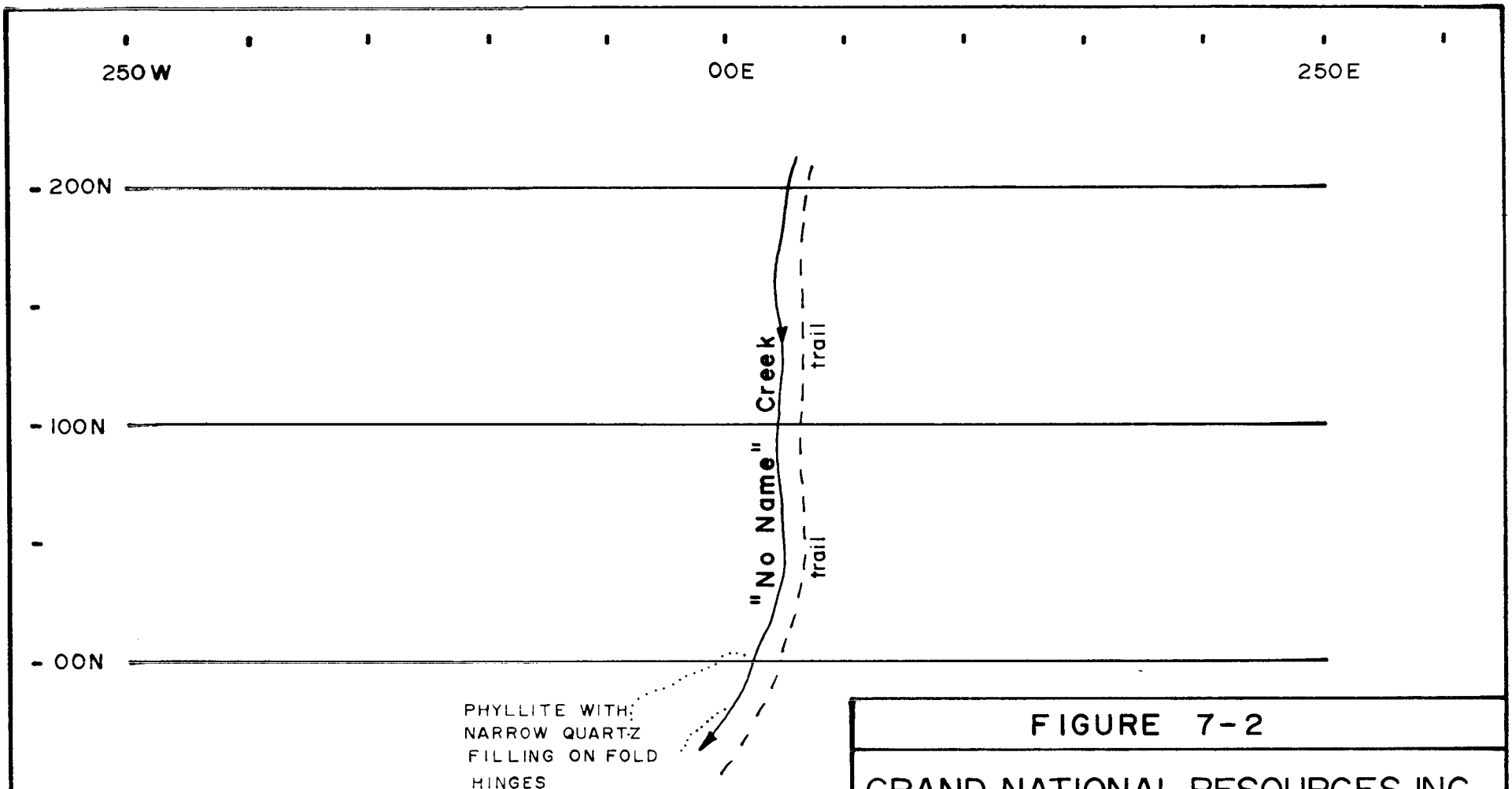
A GRID - AG (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989

"AREA "B" - Geochemical Soil Survey Grid

LOCATION: On **Topper #4** claim, straddling "No Name" Creek.
PURPOSE: To follow up anomalous stream sediment suction sample (Nom #3) taken during November, 1988. Gold values of 4350 ppb and <5 ppb were detected in the -140 mesh and +140 mesh sample fractions respectively.
GEOLOGY: The grid area is underlain by phyllites.
DESCRIPTION: A total of 61 samples were taken at 25 metre spacings on three east-west lines spaced 100 metres apart. Note that these samples were pulverized to -150 mesh and then analysed. The samples were not sieved.
FIGURE REFS: Figures 7-2 through 7-2E & Figure 8-1.
DISCUSSION: An anomalous silver value of 2.2 ppm was detected at Station 00W on Line 100N. No anomalous gold, copper, lead or zinc values were detected.



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-2

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY (GRA 88-1)

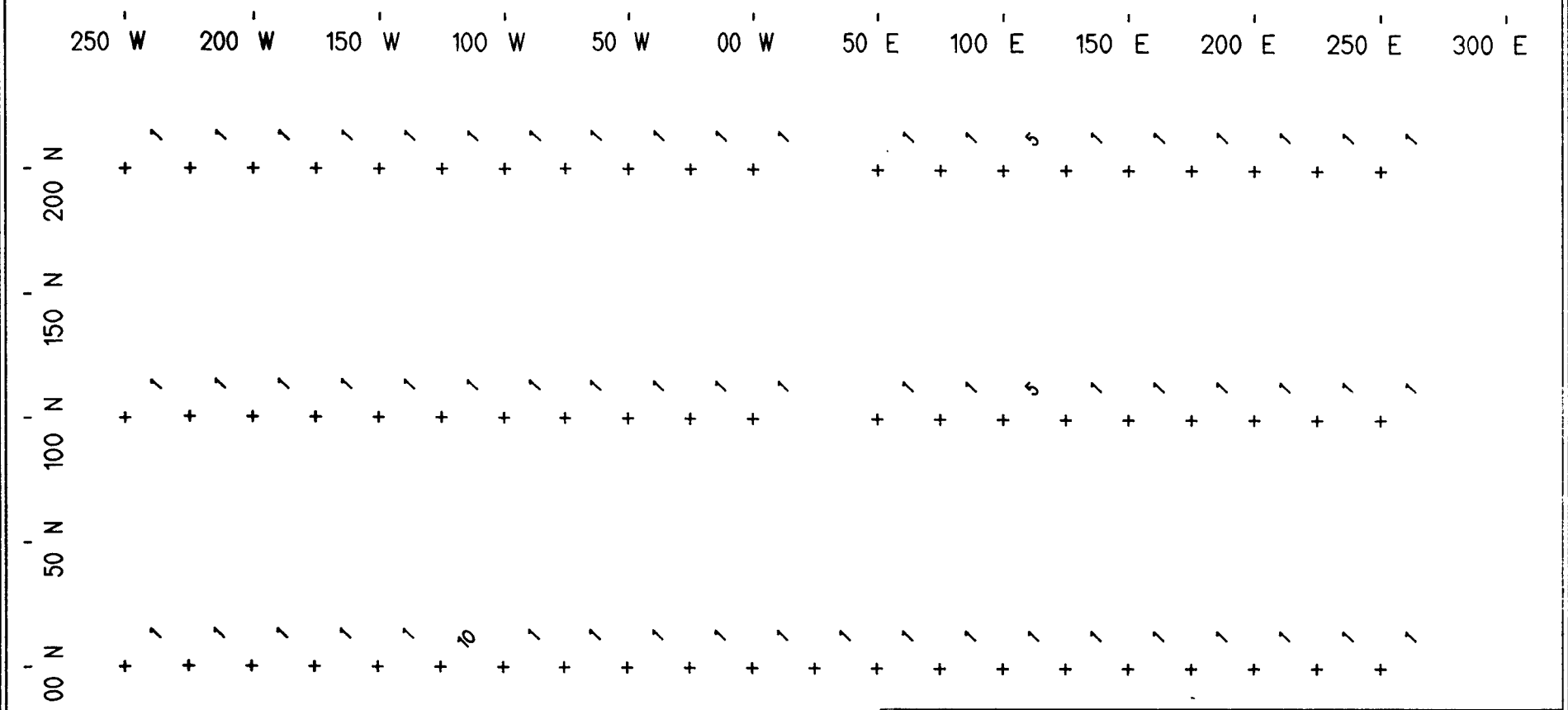
"B" GRID - Features & Geology

METRES

0 50 100

Burton Consulting Inc.

September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-2A

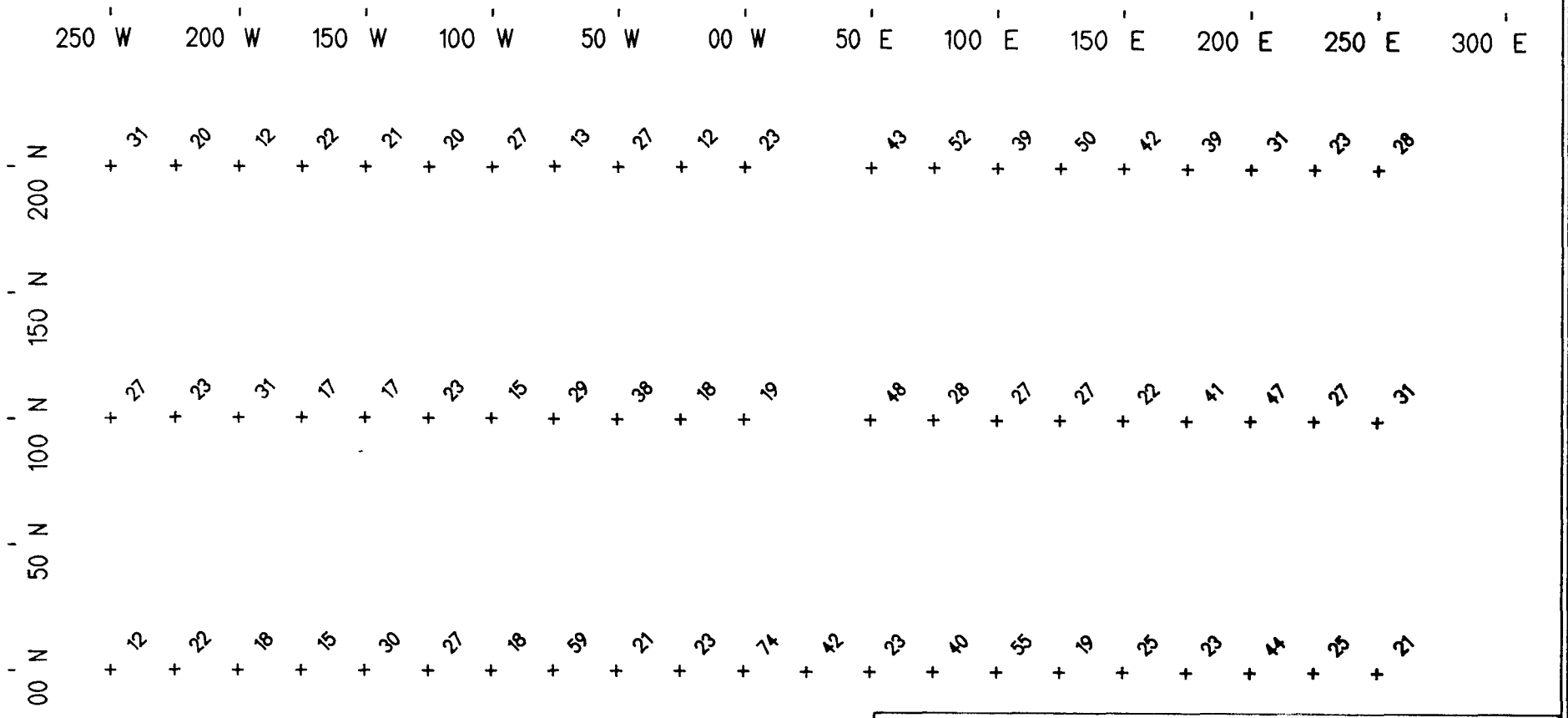
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

B GRID - AU (PPB)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-2E

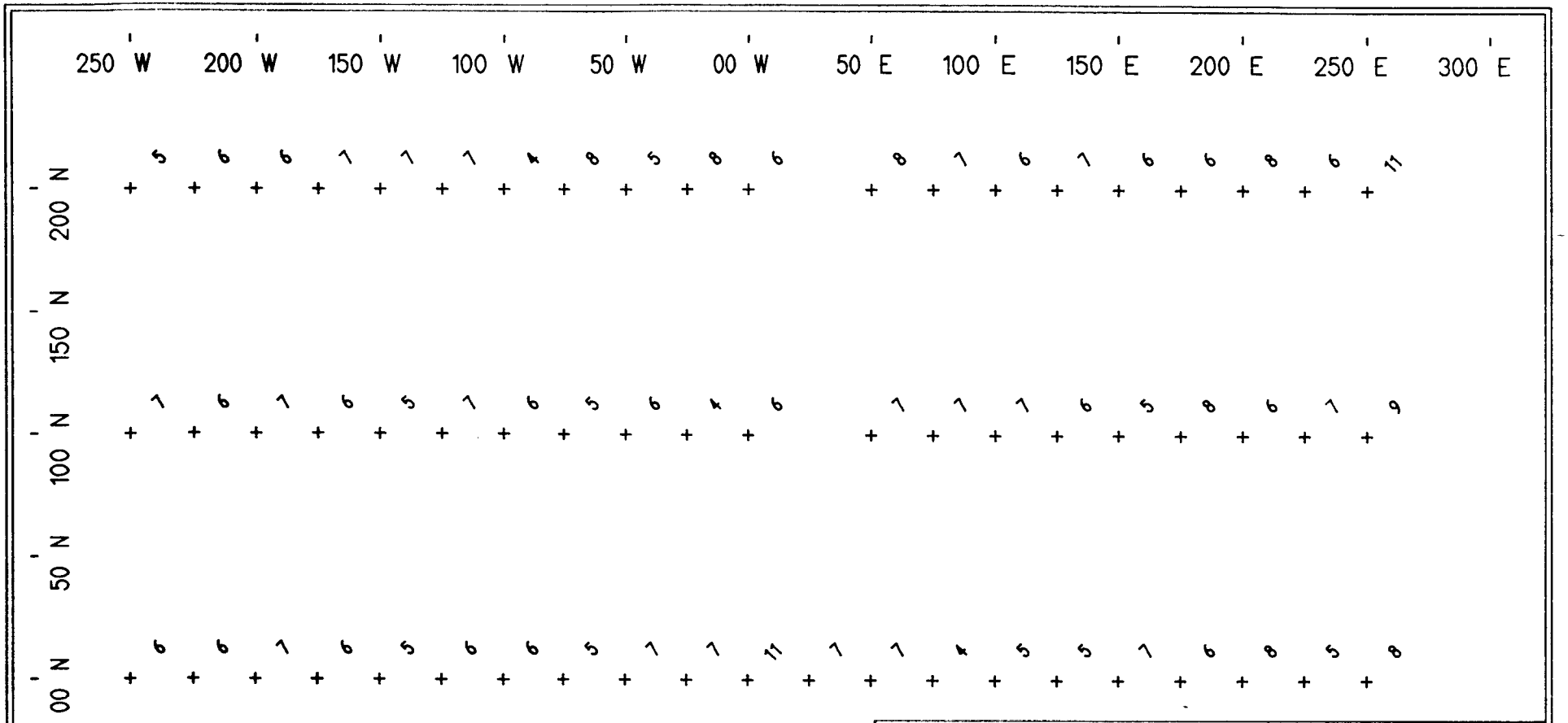
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

B GRID - CU (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-2C

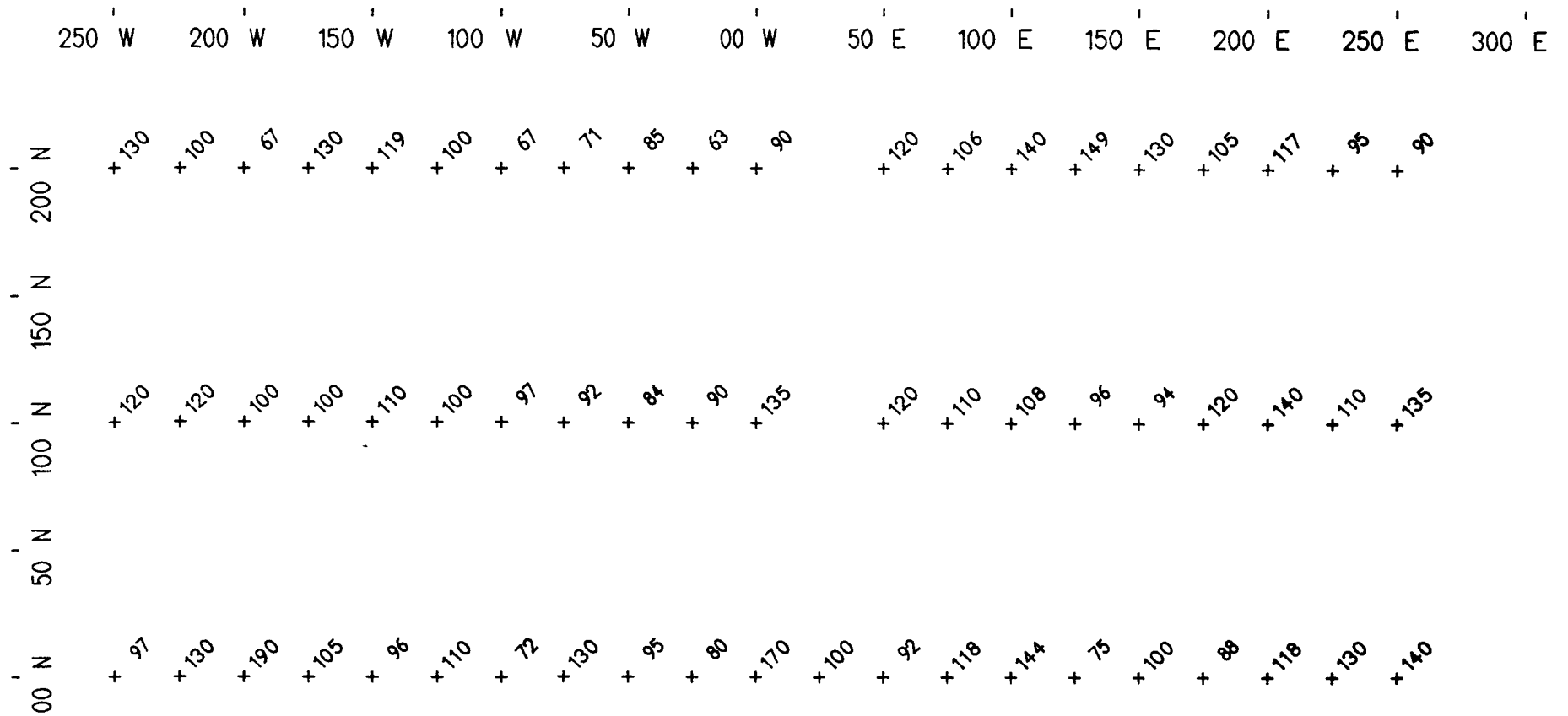
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

B GRID - PB (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-2 D

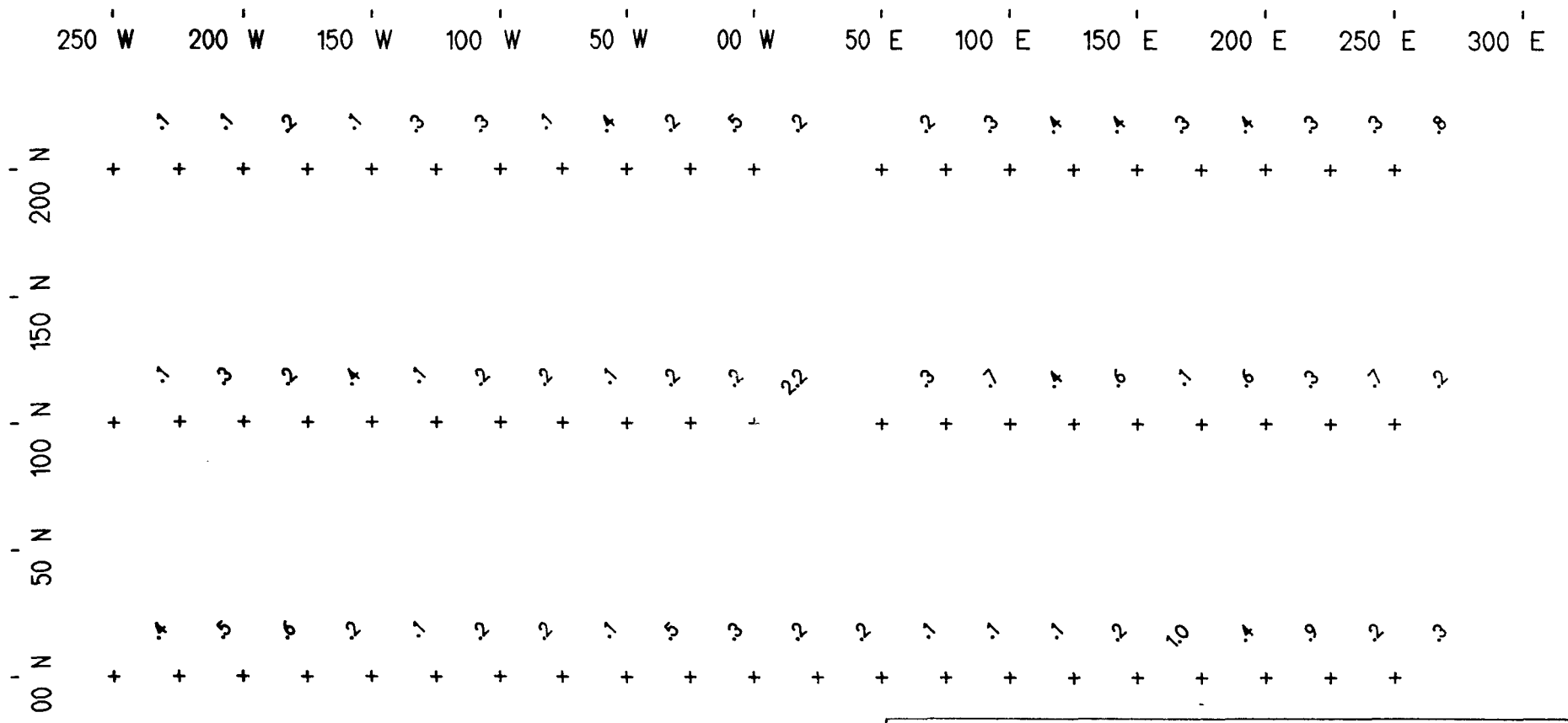
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

B GRID - ZN (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-2B

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

B GRID - AG (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989

"AREA "C" - Geochemical Soil Survey Grid

LOCATION: On **Top** claim, just east of main access road.

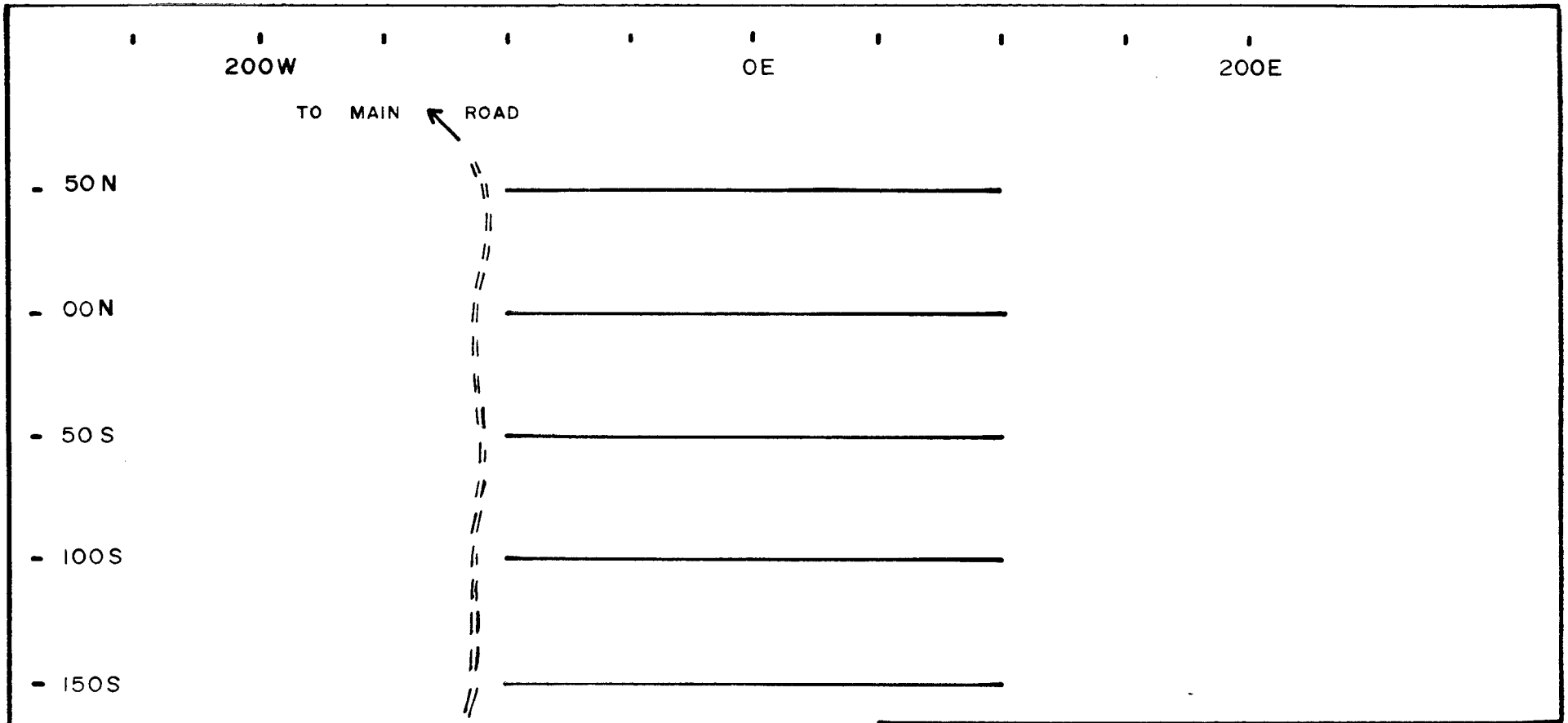
PURPOSE: To follow up anomalous gold soil geochemical values detected during a 1985 survey[1]. Gold values ranging from 37 ppb to 60 ppb were reported on original grid lines 9+00N and 10+00N, centering around station 3+00W.

DESCRIPTION: A total of 45 samples were taken at 25 metre spacings on five east-west lines spaced 50 metres apart. Note that these soil samples were pulverized to -150 mesh and then analysed. The samples were not sieved.

GEOLOGY: The grid area is underlain by phyllites and argillites.

FIGURE REFS: Figures 7-3 through 7-3E & Figure 8-1.

DISCUSSION: An anomalous gold value of 30 ppb was detected at Station 75W on Line 00N. A more or less coincident copper, lead, zinc and silver anomaly was detected across the southeast corner of the grid. This anomaly has copper values up to 146 ppm, lead values up to 25 ppm, zinc values up to 390 ppm and silver values up to 3.8 ppm.



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-3

GRAND NATIONAL RESOURCES INC.

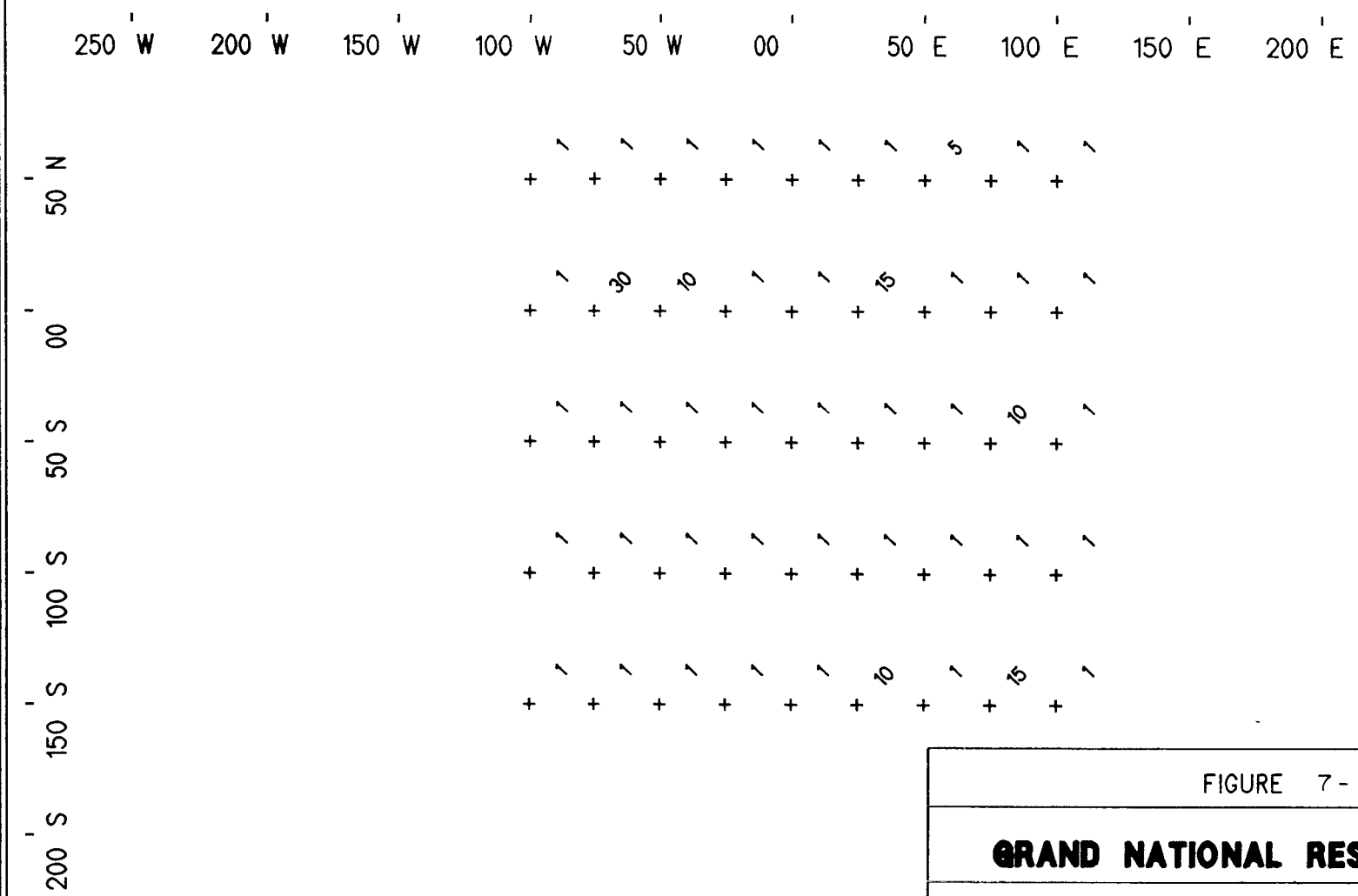
TOPPERGOLD PROPERTY (GRA 88-1)

"C" GRID - Features & Geology

METRES

0 50 100

Burton Consulting Inc. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-3A

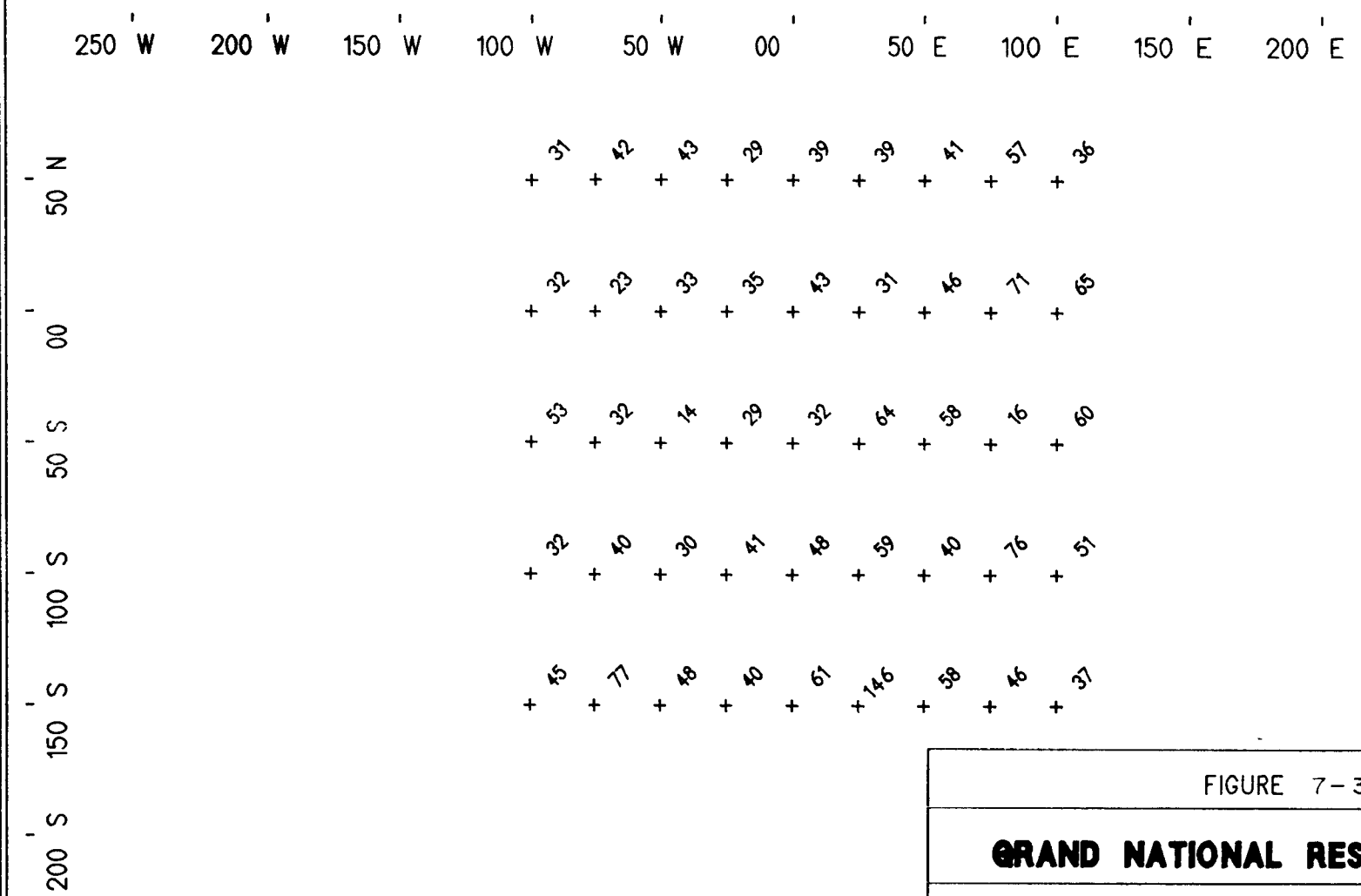
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

C GRID - AU (PPB)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-3 E

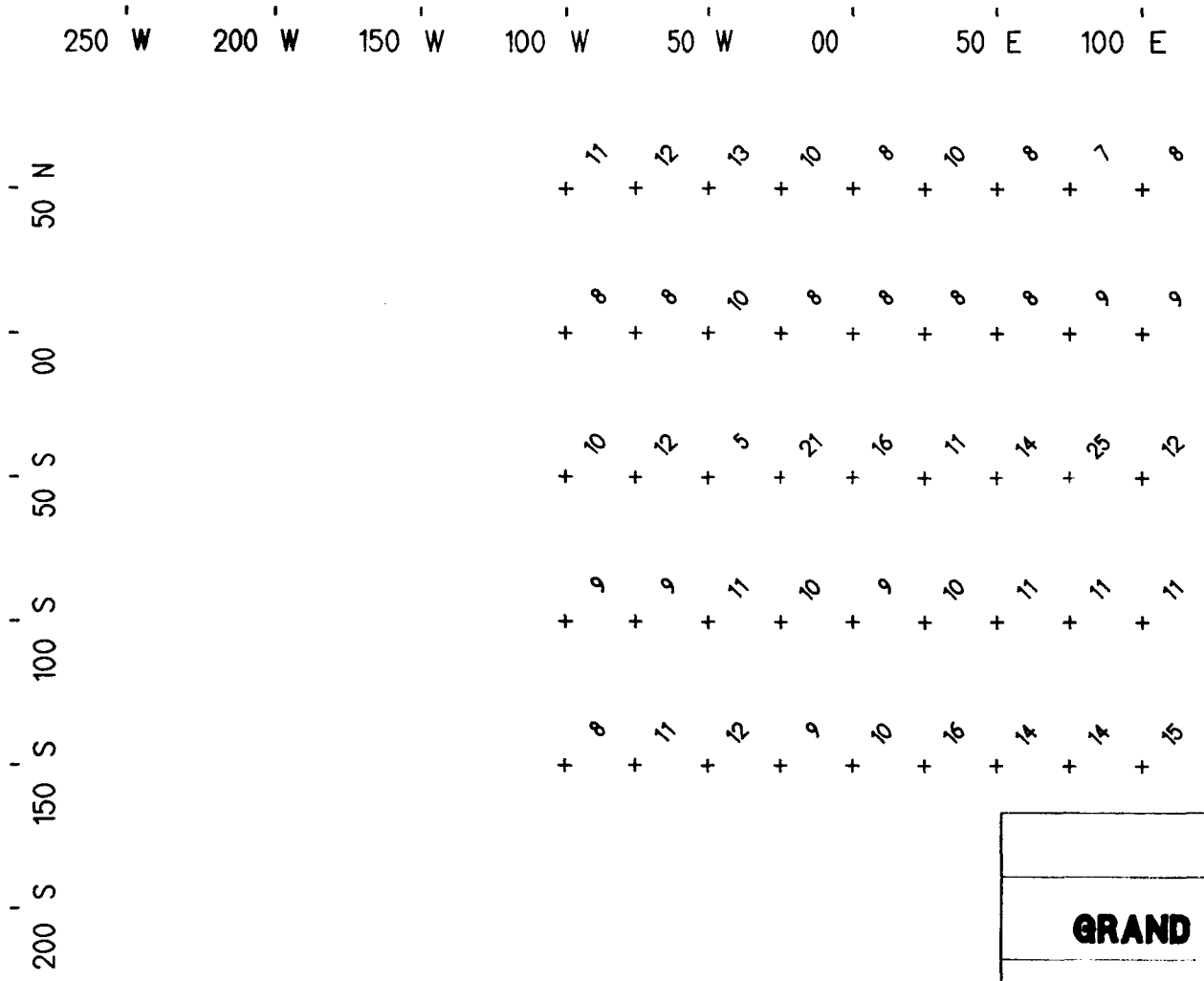
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

C GRID - CU (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-3C

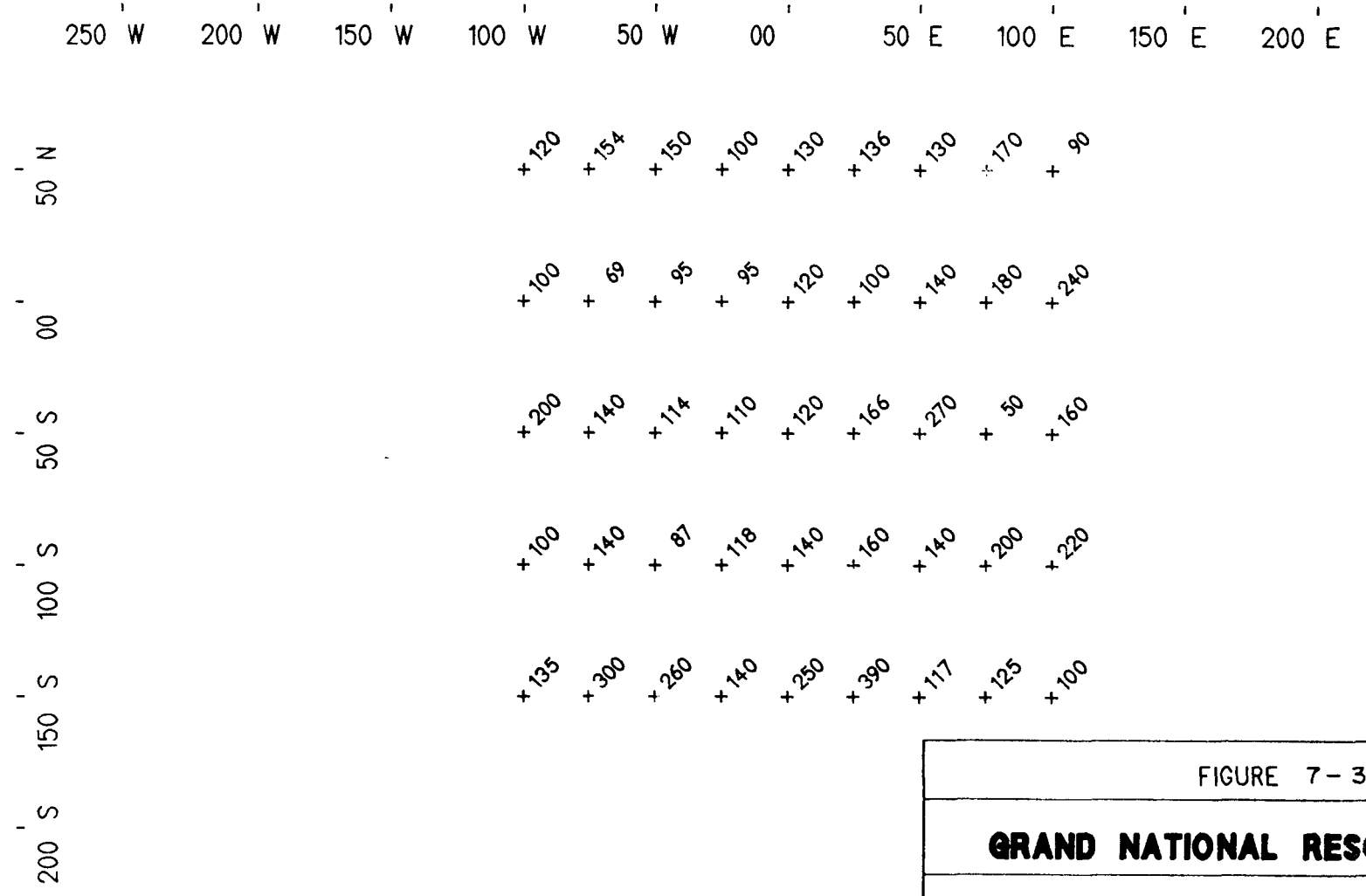
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

C GRID - PB (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-3D

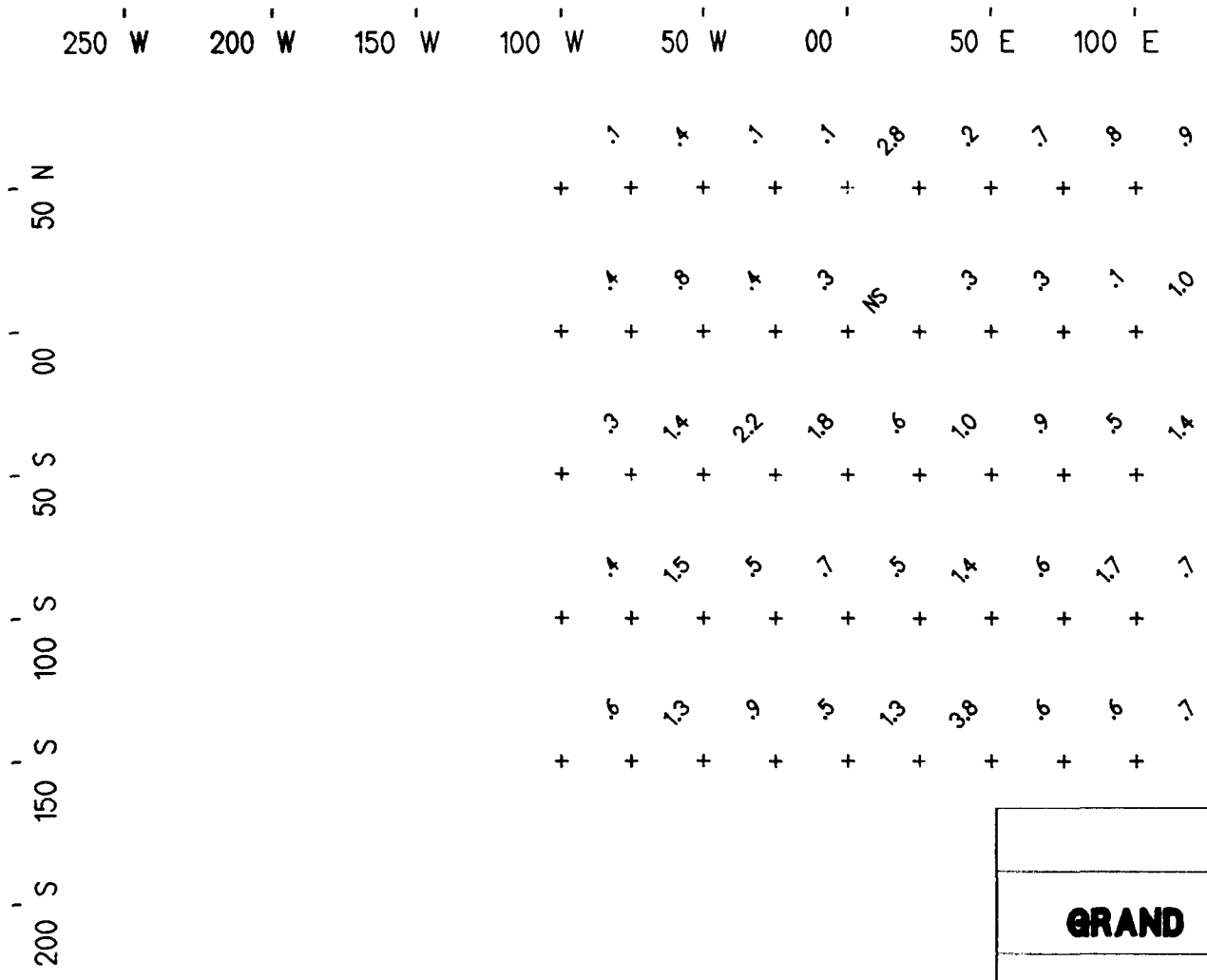
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

C GRID - ZN (PPM)

0 50. 100. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-3B

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

C GRID - AG (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989

"AREA "D" - Geochemical Soil Survey Grid

LOCATION: On **Topper #6 & Topper #9** claims, on and near their common east-west boundary.

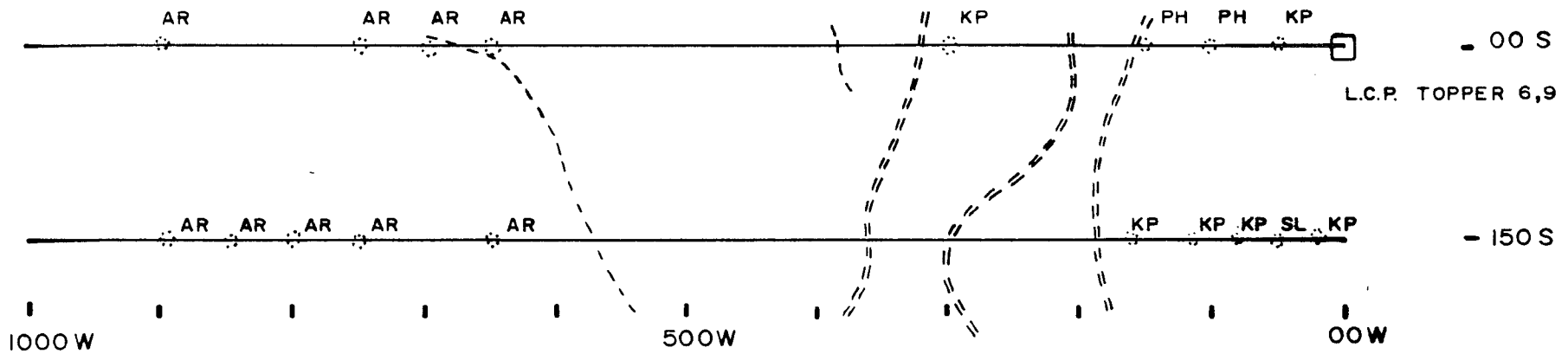
PURPOSE: To carry out reconnaissance sampling over newly staked ground having favourable geology ("knobby" phyllites). The area had not been sampled previously.

DESCRIPTION: A total of 42 samples, were taken at 50 metre spacings on two east-west lines spaced 150 metres apart. Note that these soil samples were pulverized to -150 mesh and then analysed. The samples were not sieved.

GEOLOGY: The grid area is underlain by "knobby" phyllites, phyllites, argillites and shale.

FIGURE REFS: Figures 7-4 through 7-4E & Figure 8-1.

DISCUSSION: An anomalous gold value of 295 ppb was detected at Station 150W on Line 00S. A zinc anomaly on the east end of the grid has zinc values up to 480 ppm. Scattered copper, lead and silver values are also present on the grid.



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

LEGEND

KP - "Knobby" Phyllite
PH - Phyllite
SL - Slate
AR - Argillite
qtz - Quartz

FIGURE 7-4

GRAND NATIONAL RESOURCES INC.

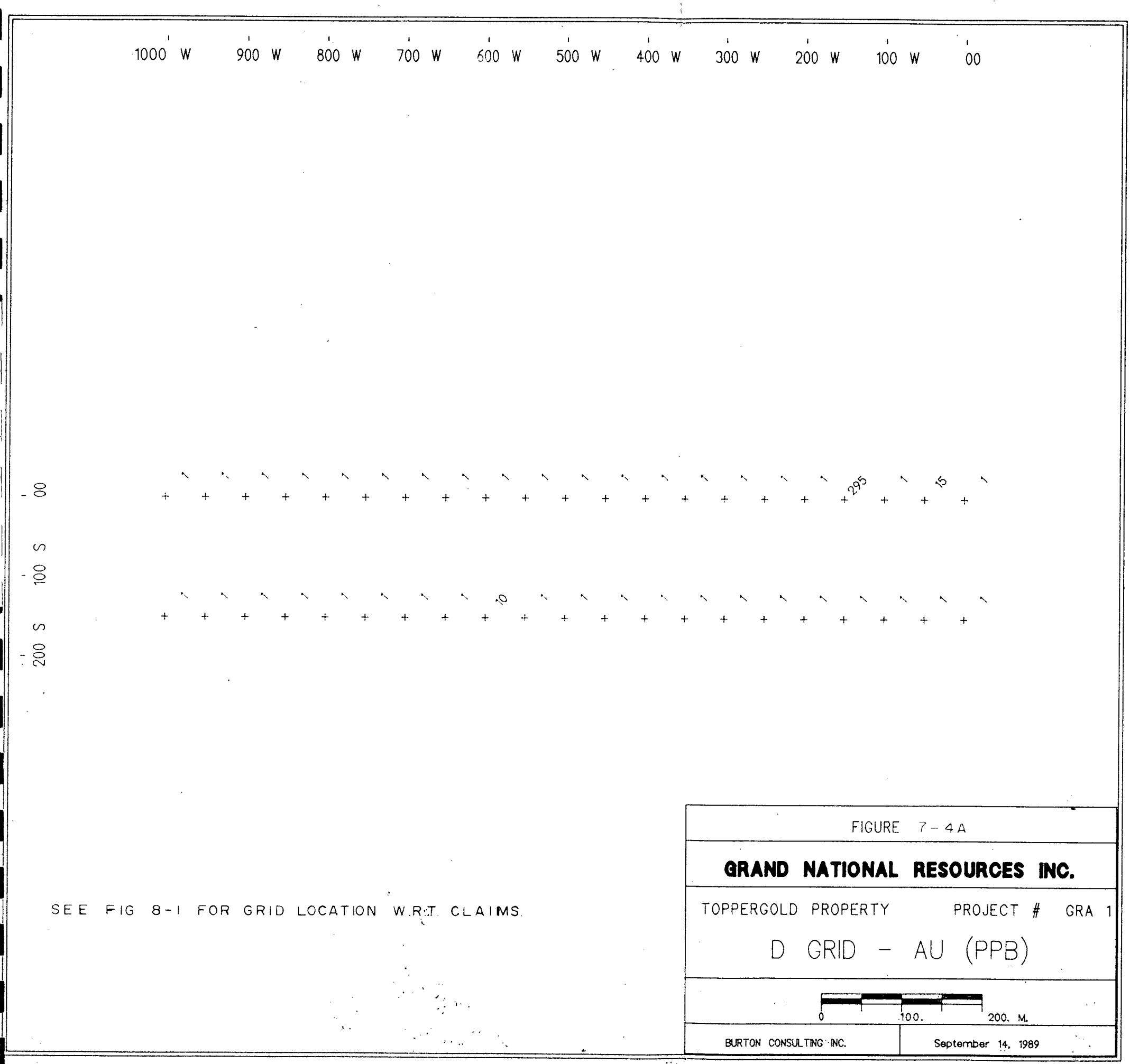
TOPPERGOLD PROPERTY (GRA88-1)

"D" GRID - Features & Geology

METRES

0 100 200

Burton Consulting Inc. | September 14, 1989



SEE FIG 8-1 FOR GRID LOCATION W.R.T. CLAIMS.

FIGURE 7-4A

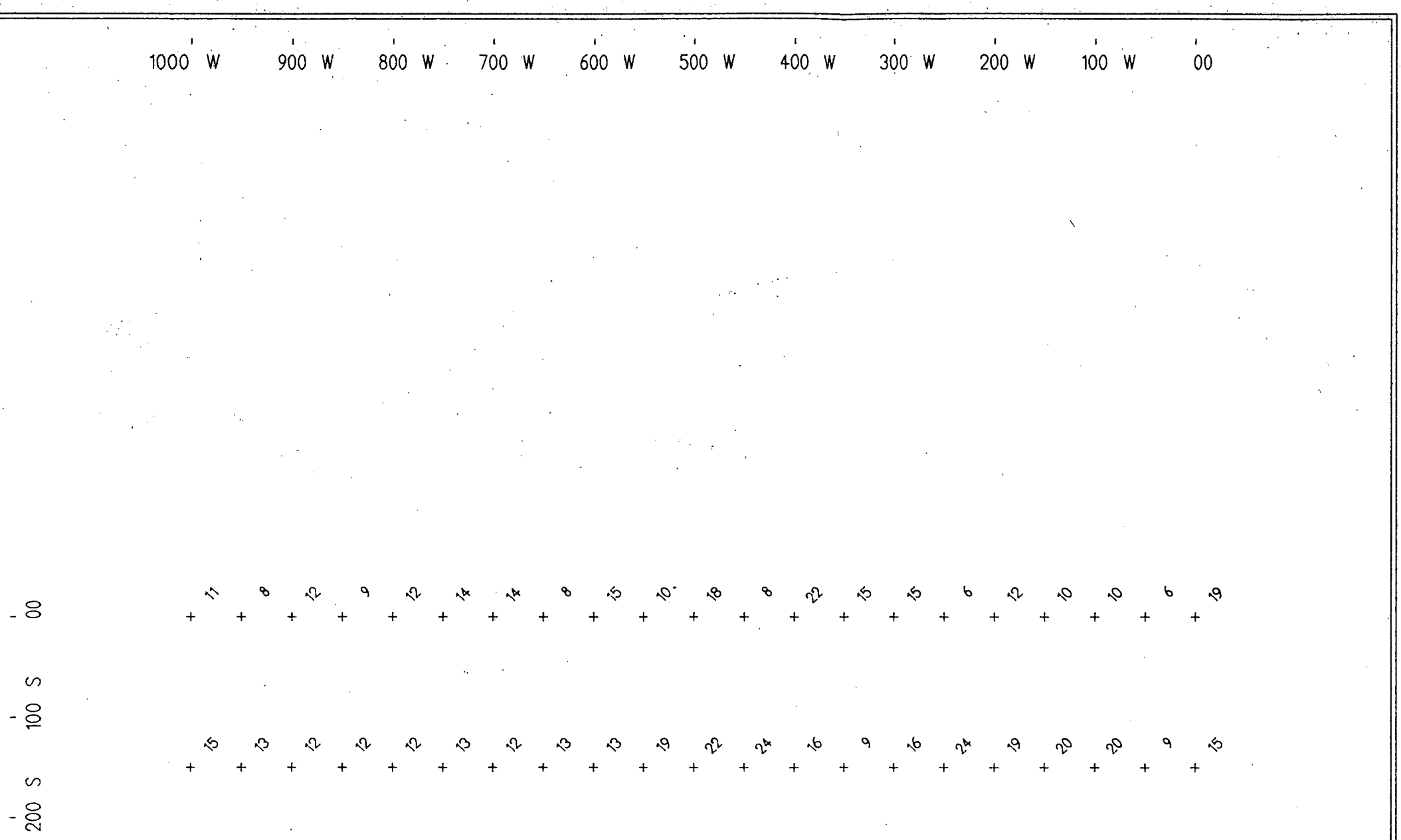
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

D GRID - AU (PPB)

0 100. 200. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-4C

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

D GRID - PB (PPM)

0 100. 200. M.

BURTON CONSULTING INC. | September 14, 1989

1000 W 900 W 800 W 700 W 600 W 500 W 400 W 300 W 200 W 100 W 00

00
100 S
200 S

+130 +110 +84 +100 +140 +100 +90 +155 +112 +100 +100 +94 +75 +70 +95 +41 +94 +230 +440 +220 +480

+108 +89 +170 +92 +147 +150 +84 +85 +97 +140 +195 +180 +124 +61 +130 +140 +158 +150 +200 +96 +200

SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-4D

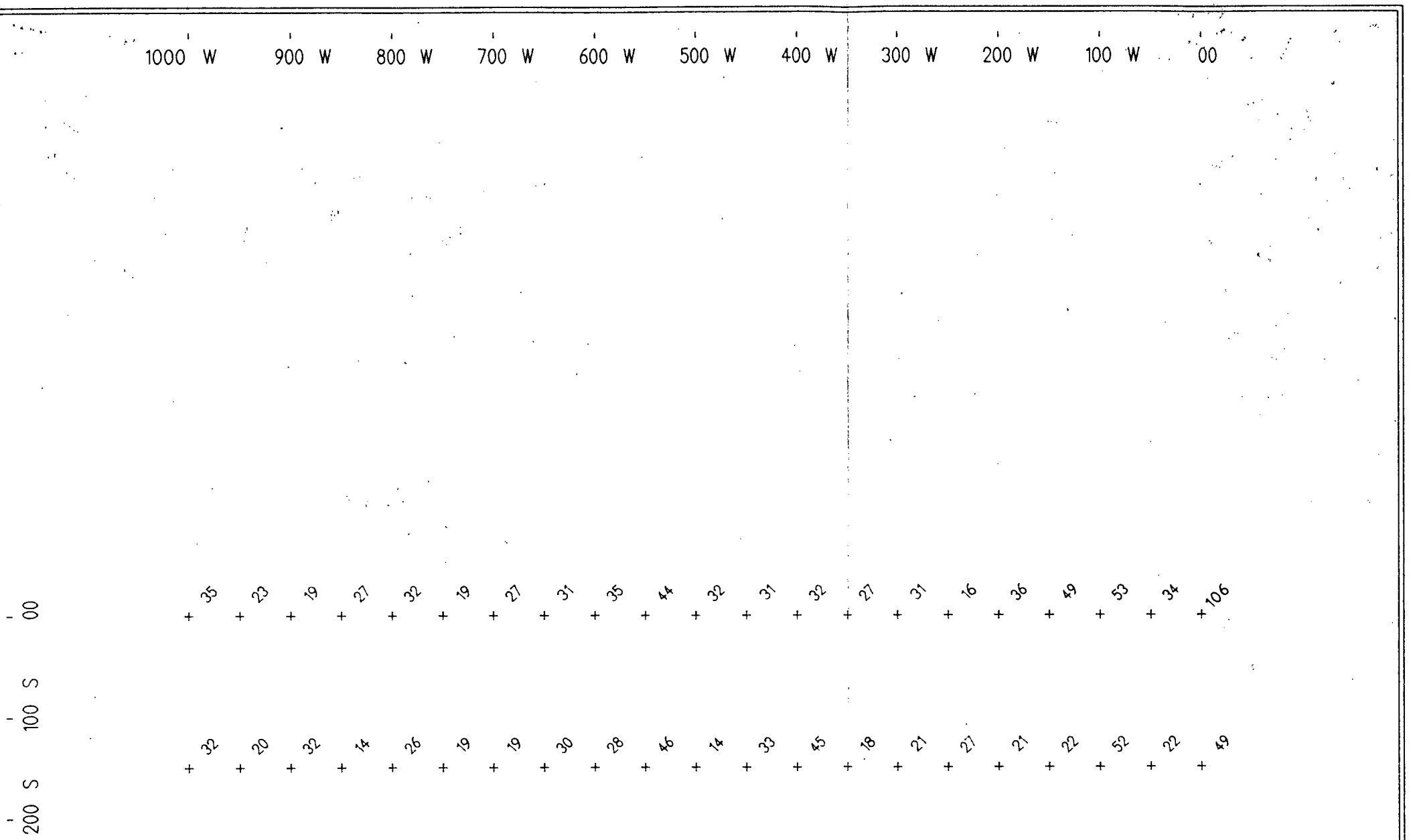
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

D GRID - ZN (PPM)

0 100. 200. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8 - 1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7 - 4E

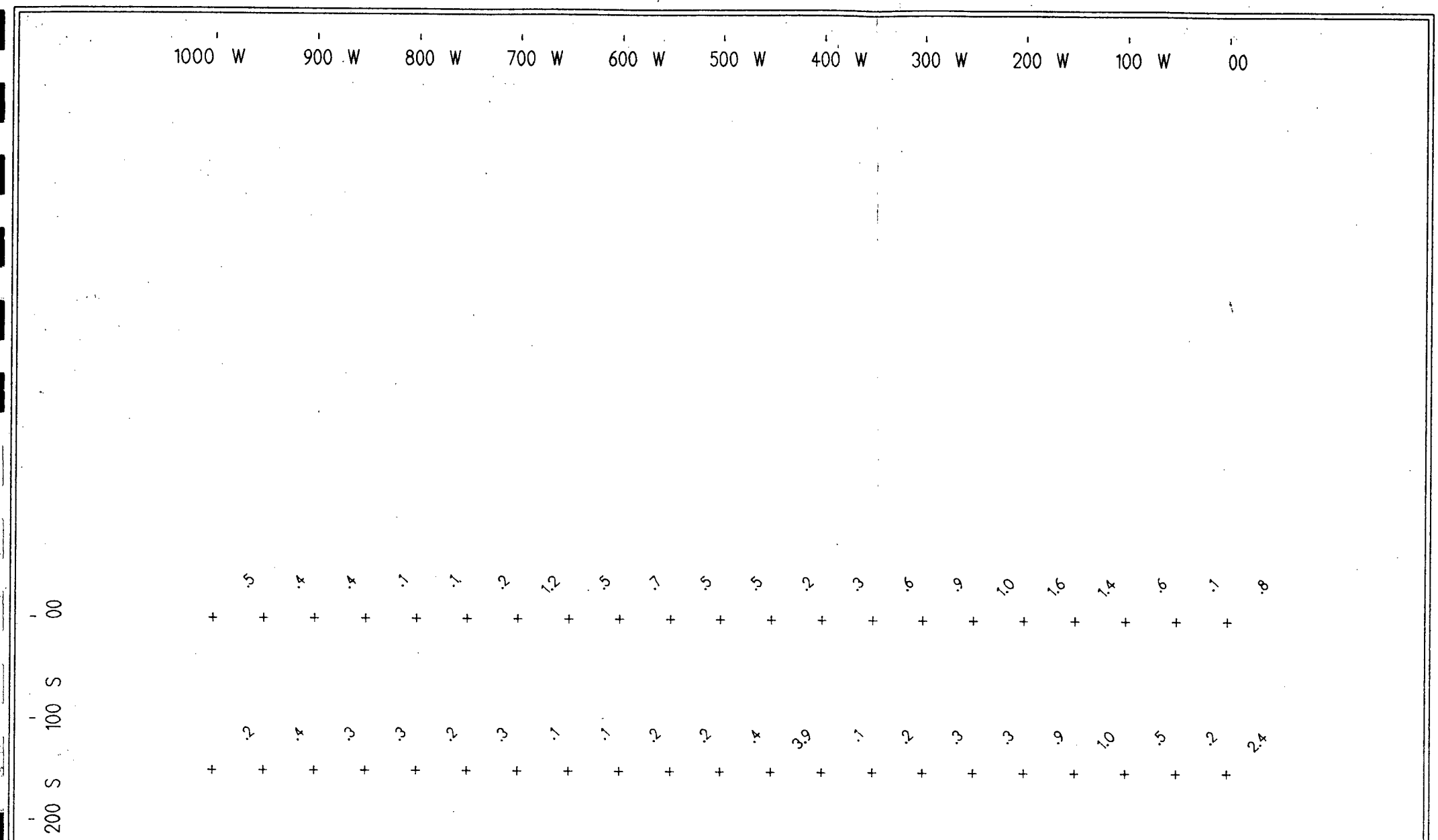
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

D GRID - CU (PPM)

0 100. 200. M.

BURTON CONSULTING INC. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7 - 4B

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

D GRID - AG (PPM)

0 100. 200. M.

BURTON CONSULTING INC. | September 14, 1989

"AREA "E" - Geochemical Soil Survey Grid

LOCATION: On **the Topper** claim, on the northeast flank of a prominent ridge transecting the claim.

PURPOSE: To investigate gold soil geochemical anomalous values detected during 1984 and 1985 surveys[1]. These previously-detected anomalous values ranged from 20 ppb to 275 ppb, and were located on old grid lines 2+00S through 5+00N. The anomalous area is about 200 metres wide from east to west.

DESCRIPTION: A total of 224 samples were taken at 25 metre spacings on eleven easterly-westerly lines spaced 50 metres apart. The original grid bearing of 072° and the original grid site designations were used for the new sampling whenever possible. Note that these soil samples were pulverized to -150 mesh and then analysed. The samples were not sieved.

GEOLOGY: The grid area is largely covered with overburden, except for the area along the southern edge on the ridge, which is typified by slightly "knobby" phyllites, which are quite deformed and contain abundant quartz.

FIGURE REFS: Figures 7-5 through 7-5E & Figure 8-1.

DISCUSSION: A total of 25 anomalous gold values in the range of 20 ppb to 100 ppb were detected on the August, 1989 survey grid. This range of numerical values is similar to the anomalous values previously detected in soils in the same area, for which the -80 mesh screened portion of the sample was analysed. These latest anomalous values are, in part, coincident with gold geochemical anomalies previously detected on the property. The most significant gold anomaly occurs along the top of the ridge on Line 00N, from Station 750E to 875E. Anomalous values in copper, lead and zinc are coincident with this anomaly. Two other significant silver anomalies occur on the grid. The first silver anomaly is located on Line 500N from Station 575E to 725E, and on Line 450N from Station 575E to 650E. Silver values range up to 6.9 ppm. A zinc anomaly with values up to 450 ppm is coincident with this silver anomaly. The second silver anomaly is located on Line 50N from Station 900E to 1000E and has values up to 4.2 ppm. Anomalous zinc values detected by the 1989 survey do not correlate well with the previous surveys. Anomalous silver values detected by the 1989 survey correlate to some

extent with the previous surveys, paticularly on Lines 00N and 100N in the area to the northeast and downslope from the prominient ridge.

500E

750E

1000E

- 500N
- 450N
- 400N
- 350N
- 300N
- 250N
- 200N
- 150N
- 100N
- 50N
- 00

trail

trail

DEFORMED GRAPHITIC SLIGHTLY "KNOBBY" PHYLLITES (ABUNDANT QUARTZ), ALONG CLIFF EDGE.

SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-5

GRAND NATIONAL RESOURCES INC.

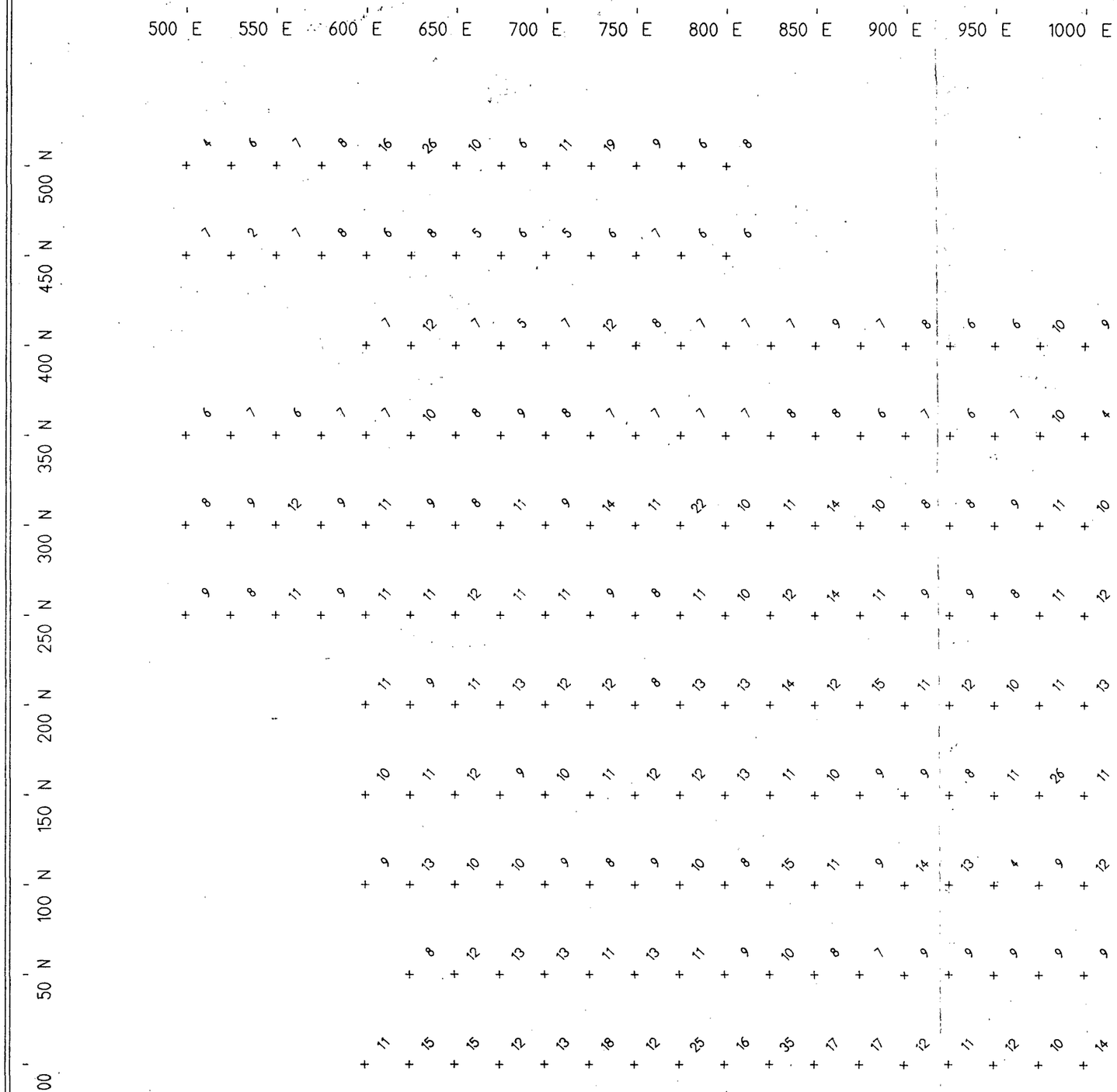
TOPPERGOLD PROPERTY (GRA88-1)

"E" GRID - Features & Geology

METRES

0 50 100

Burton Consulting Inc. | September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION

W.R.T. CLAIMS

FIGURE 7-5C

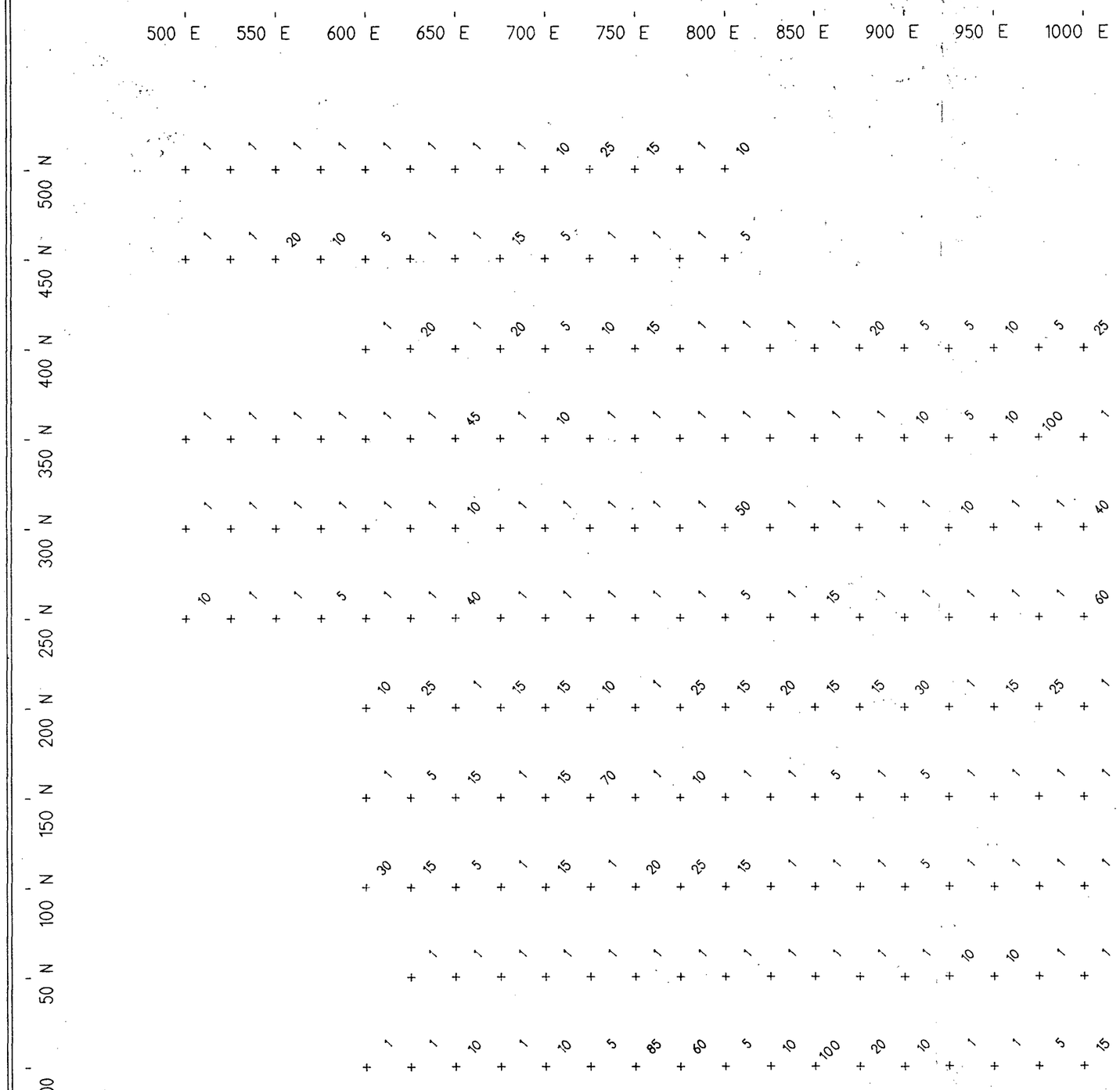
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

E GRID - PB (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION
W.R.T. CLAIMS

FIGURE 7 - 5A

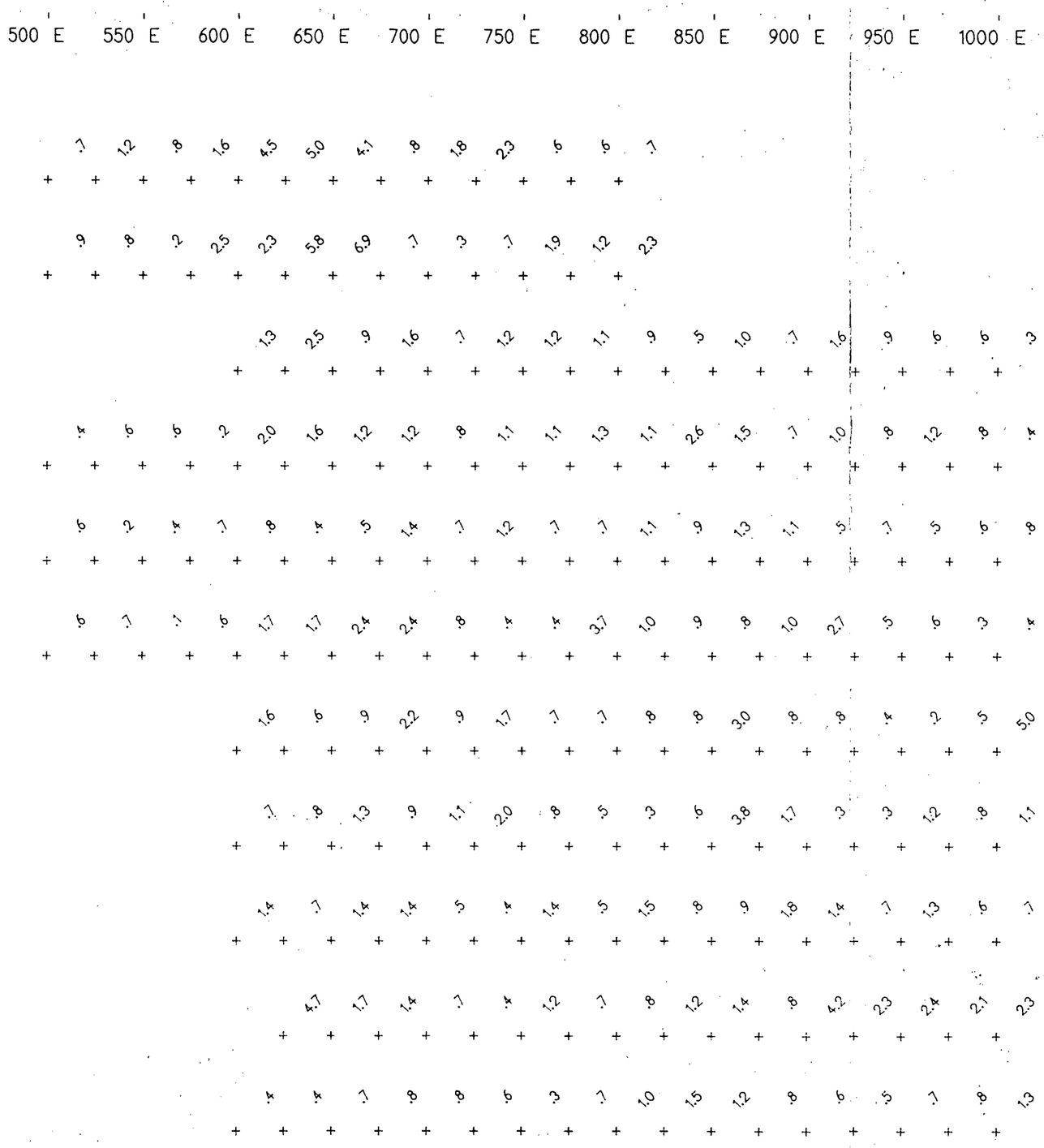
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

E GRID - AU (PPB)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

FIGURE 7-5B

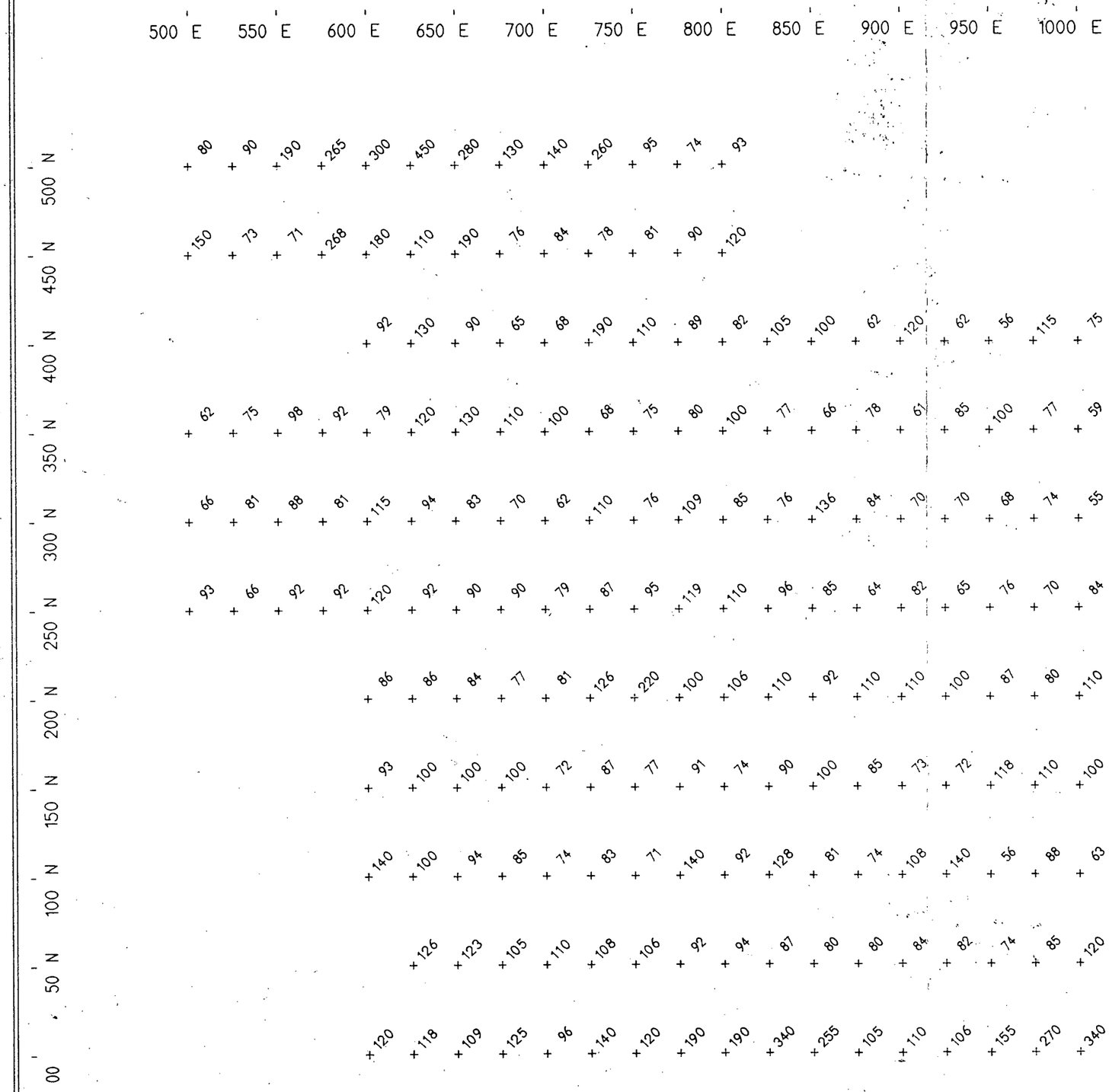
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

E GRID - AG (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION

W.R.T. CLAIMS

FIGURE 7-5D

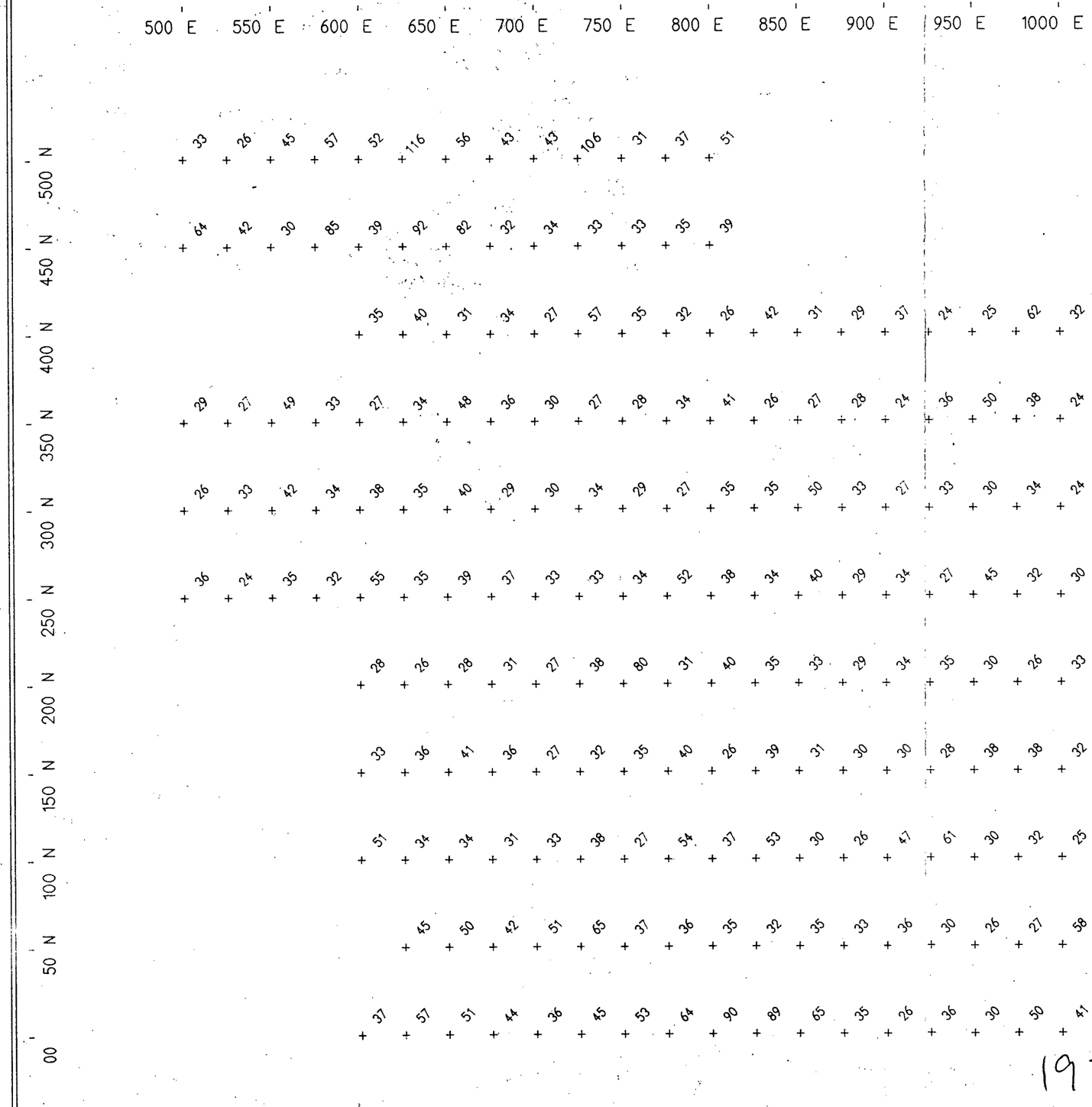
GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

E GRID - ZN (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989



SEE FIG. 8-1 FOR GRID LOCATION W.R.T. CLAIMS

19258

FIGURE 7-5 E

GRAND NATIONAL RESOURCES INC.

TOPPERGOLD PROPERTY PROJECT # GRA 1

E GRID - CU (PPM)

0 50. 100. M.

BURTON CONSULTING INC. September 14, 1989

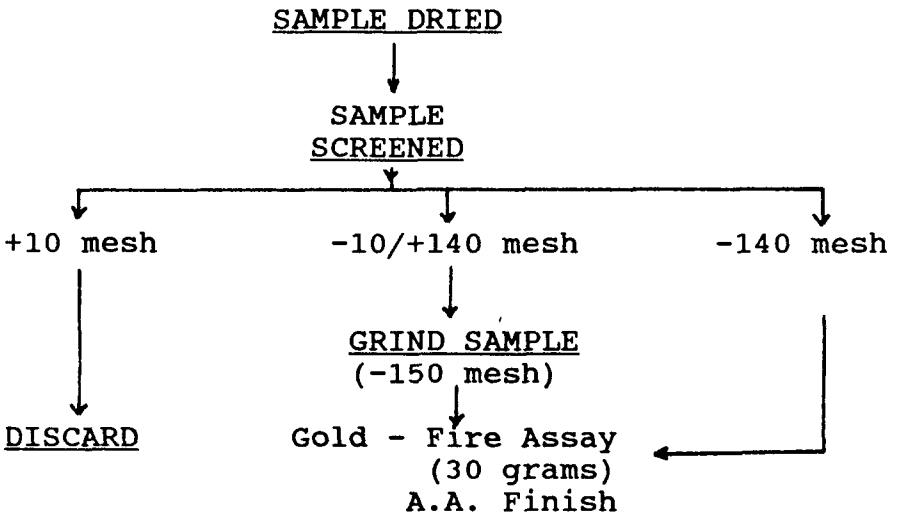
8.0 STREAM HEAVY SEDIMENT SUCTION SAMPLING

Heavy sediment suction sampling was carried out at 9 sites on Cosmosky Creek and Spin Creek in an attempt to improve the sampling coverage on drainages on the claim group. Sampling locations and results are shown in Figure 8-1 and the results are also shown in Appendix II.

A portable sluice box and pump/suction dredge were used to sample active drainages. The sluice box was set up on the creek bank so that no reject material from the box would be put back in the creek. The suction hose was used to pick up stream deposits in a localized(usually 6.0 m^2) area. The method depends on its ability to pick up heavier material, including gold, from natural "traps" such as underneath stream boulders, in cracks and on inside curves in the stream.

About one hour is required at each sample site(once the site is reached) to dredge and sluice approximately 0.5 m^3 to 0.75 m^3 of material. The material which is trapped by the fine riffles and the matting in the sluice box is washed carefully into a large heavy poly bag, allowed to settle. Most of the water can then be poured off.

The samples were sent to Chemex Laboratories Ltd., 212 Brooksbank Ave., North Vancouver, B.C., V7J 2C1 where they were processed as follows:



Gold - Fire Assay (30 grams) A.A. Finish	Copper/Lead/Zinc/Silver Nitric/Aqua Regia Digestion with A.A. Finish

The detection limits for heavy mineral sample analysis were as follows:

Gold - 5 ppb
Copper - 1 ppm
Lead - 1 ppm
Zinc - 1 ppm
Silver - 0.2 ppm

Results of Stream Suction Sediment Sampling

Two anomalous gold values were detected in the -140 mesh fraction of the stream suction sediment samples taken. These values were 910 ppb (Sample #Cos 89-10) and 660 ppb (Sample Spin #89-20).

9.0 DISCUSSION & RECOMMENDATIONS

Stream Suction Sampling

The stream suction sampling clearly shows anomalous and barren gold-bearing sections of the creek beds.

Further stream suction sampling is required to complete the coverage of the claims.

Geochemical Sampling

Geochemical soil sampling should be carried out as a follow-up when favourable areas are detected by stream suction sampling.

Follow-up to Geochemical Sampling

Geochemically anomalous zones should be exposed using an excavator. The zones as exposed should be sampled and mapped.

10.0 COST BREAKDOWN

The following cost breakdown was prepared by a representative of Grand National Resources Inc. from information supplied in part by Burton Consulting Inc.

TOPPER GOLD CORPORATION

Vancouver Stock Exchange Symbol - TGC

BREAKDOWN OF EXPENSES ON

WORK COMPLETED ON TOPPER 4 & 5 TO APPLY ON
TOPPER 2,3,4,5,TOP & TIP MINERAL CLAIMS

Work was carried out August 4,5,6,7,8,9 & 10. (7 days)
Geochemical survey including heavy mineral sampling
SUPERVISION PERSONNEL:

Burton Consulting Inc.	
Alex Burton, P.Eng.,	$ 450.00 per day
Doug Symonds, geeologist	$ 300.00 per day
L.M.Schram, field manager	200.00 per day
Dennis Wager, field assistant	150.00 per day
I.R.Schram, field assistant	150.00 per day

Doug. Symonds, geologist	7 days @ $300.00 per day		$2,100.00
L.M. Schram, field mgr.	4 days @ $200.00 per day		800.00
Dennis Wager, field ass't	4 days @ $150.00 per day		600.00
I.R.Schram, field ass't	7 days @ $150.00 per day		1,050.00
Alex Burton, P.Eng.,	2 days @ $450.00 per day		900.00
Board & room 22 mandays &	$70.00 per day		1,540.00
Travel geologist 2 days @	$00.00 per day		600.00
Assaying (Chemex Labs)			3,028.00
Dredging equipment rental	7 days @ $75.00 per day		525.00
Truck rental 2 X $100.00 per day	14 days		1,400.00
Report writing, drafting & data analysis			600.00
Montgomery Consultants Limited			500.00
			$ 13,643.00
From the Topper Claims			
Vancouver Petrographics Ltd (rock analysis)			209.00
	Total expenditures		$ 13,852.00

Due to over-run in expenses, no withdrawl from PAC account is required as shown on original statement of work filed.

Yours very truly,

Peter F. Wishart,
President & CEO

Suite 905 - 626 West Pender Street, Vancouver, B.C. Canada V6B 1V9 Telephone (604) 682-5618 Fax (604) 682-5619

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES DIVISION — TITLES BRANCH

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VANCOUVER, B.C.
RECORDING STAMP

Mineral Tenure Act
Sections 25, 26 & 27

STATEMENT OF WORK — CASH PAYMENT

Indicate type of title Mineral
(Mineral or Placer)

Mining Division Cariboo

I, Peter F. Wishart
(Name)
905 - 626 West Pender Street
(Address)
Vancouver B.C.
682 - 5648 V6B 1V9
(Telephone) (Postal Code)
Valid subsisting FMC No. 278310
FMC Code WISHPF

Agent for Grand National Resources Inc &
(Name)(s)
Topper Gold Corporation
(Address)
905 - 626 West Pender Street
Vancouver, B.C. V6B 1V9
(Telephone) 682-5648 (Postal Code)
Valid subsisting FMC No. 278435 & 278474
FMC Code GRANAR & TOPGOC

STATE THAT: **(NOTE: If only paying cash in lieu, turn to reverse and complete columns G to J and Q to T.)**
1. I have done, or caused to be done, work on the Topper 5 and 4
Claim(s)
Record No(s). Topper 5, 7229 & Topper 4, 7095
Work was done from Aug. 1, 19 89, to Aug.10, 19 89;
and was done in compliance with Section 50 of the Mineral Tenure Act and
Section 19(3) of the Regulation YES [x] NO [ ]

I hereby request that the claims listed in Column G on this Statement of Work be Grouped and I confirm that all claims listed are contiguous YES [ ] NO [ ]
FEE — $10.00

TYPE OF WORK

PHYSICAL: Work such as trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails. Details as required under section 13 of the Regulations, including the map and cost statement, must be given on this statement.

PROSPECTING: Details as required under section 9 of the Regulations must be submitted in a technical report. Prospecting work can only be claimed once by the same owner of the ground, and only during the first three years of ownership.

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL, DRILLING: Details must be submitted in a technical report conforming to sections 5 through 8 (as appropriate) of the Regulations.

PORTABLE ASSESSMENT CREDIT (PAC) WITHDRAWAL: A maximum of 30% of the approved value of geological, geophysical, geochemical and/or drilling work on this statement may be withdrawn from the owner's or operator's PAC account and added to the work value on this statement.

TYPE OF WORK (Specify Physical (include details), Prospecting, Geological, etc.)	VALUE OF WORK Physical	*Prospecting	*Geological etc.
Geochemical Survey			$11,240
P.Eng.Report to follow within 90 days			
TOTALS	A +	B +	C 2,360 = D 13,600
PAC WITHDRAWAL — Maximum 30% of Value in Box C Only			E → E 13,600
from account(s) of Topper Gold Corporation			TOTAL F $13,600

* Who was the operator (provided the financing)? Name Topper Gold Corporation
Address Joint Venture
As above Phone: 682-5648

Transfer amount in Box F to reverse side of form and complete as required.

F $13,600 I WISH TO APPLY $ 13,600 OF THE TOTAL VALUE FROM BOX F AS FOLLOWS;

Columns G through P inclusive MUST BE COMPLETED before work credits can be granted to claims. Columns G through J and Q through T inclusive MUST BE COMPLETED before a cash payment or rental payment can be credited. Columns not applicable need not be completed.

Cash Payment

CLAIM IDENTIFICATION / **APPLICATION OF WORK CREDIT** / **CASH IN LIEU OF WORK OR LEASE RENTAL**

	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
	CLAIM NAME (one claim/lease per line)	RECORD No.	No. OF UNITS*	CURRENT EXPIRY DATE	WORK TO BE APPLIED VALUE	WORK TO BE APPLIED YEARS	Recording Fees	PRIOR EXCESS CREDIT BEING USED	NEW EXPIRY DATE	EXCESS CREDIT REMAINING	C/L	RECORDING FEE	LEASE RENTAL	NEW EXPIRY DATE
1	Topper 2	5098	12	8/22/89	2,400	1	120.00		8/22/90					
2	Topper 3	5099	6	8/22/90	1,200	1	60.00		8/22/91					
3	Topper 4	7095	18	8/15/89	3,600	1	180.00		8/15/90					
4	Topper 5	7229	16	11/28/90	3,200	1	160.00		11/28/91					
5	Top	6774	4	5/18/90	1,600	2	80.00		4/15/92					
6	Tip	6001	8	4/15/90	1,600	1	80.00		4/15/91					
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
					13,600 TOTAL OF K		680.00 TOTAL OF M				TOTAL OF Q	TOTAL OF R	TOTAL OF S	

*2 POST, FRACTION, REV. CROWN GRANT AND PLACER CLAIM ARE 1 UNIT EACH

NOTICE TO GROUP No. 3424 RECORDED _____

Value of work to be credited to portable assessment credit (PAC) account(s).
[May only be credited from the approved value of Box C not applied to claims.]

Name of owner/operator

Name	Amount
1.	
2.	
3.	

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the Mineral Tenure Act. I further acknowledge and understand that if the statements made, or information given, in this Statement of Work — Cash Payment are found to be false and the exploration and development has not been performed, as alleged in this Statement of Work — Cash Payment, then the work reported on this statement will be cancelled and the subject mineral claim(s) may as a result, forfeit to and vest back to the Province.

Signature of Applicant

TOPPER GOLD CORPORATION

Vancouver Stock Exchange Symbol - TGC

WORK COMPLETED ON TOPPER 6,& TOPPER 7 MINERAL CLAIMS AND A BREAKDOWN OF EXPENSES INCURRED.

Cariboo Mining Division

August 1 to 10 (3 days August 1,2,3.)

SUPERVISION PERSONNEL:

Burton Consulting Inc.	$450.00	per day
Alex Burton, P.Eng.,		
Doug Symonds, Geologist,	$300.00	per day
L.M.Schram, field manager	200.00	per day
Dennis Wager, field assistant	150.00	per day
I.R.Schram, field assistant	150.00	per day

Doug Symonds, Geologist 3 days	$ 900.00
L.M. Schram, field mgr. 3 days	600.00
Dennis Wager, field ass't 3 days	450.00
I.R.Schram, field ass't 3 days	450.00
Board and room 12 mandays @ $70.00 per day	840.00
Alex Burton, P.Eng., i day	450.00
Truck rental 3 days @ $100.00 (2) 2X$300.00	600.00
Assaying	2,400.00
Freight & supplies	240.00
Dredginging equipment rental 3 days @ $75.00	225.00
Mobilization 1 day	350.00
Report writing and drafting	300.00
	7,805.00

Topper 6 8 units
Topper 7 18 units
26 units

Assessment filing 26 units @ $100.00 per unit= $2,600.00
3 years assessment X $2,600.00 = $7,800.00

Credit PAC account with $ 5.00

Yours truly,

Peter F. Wishart,Pres.& CEO

Suite 905 - 626 West Pender Street, Vancouver, B.C. Canada V6B 1V9 Telephone (604) 682-5648 Fax (604) 682-5649

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES DIVISION — TITLES BRANCH

DOCUMENT No. _____
OFFICE USE ONLY

SUB-RECORDER
AUG 10 1989
VANCOUVER B.C.
RECORDING STAMP

Mineral Tenure Act
Sections 25, 26 & 27

STATEMENT OF WORK — CASH PAYMENT

Indicate type of title Mineral (Mineral or Placer)

Mining Division Cariboo

I, Peter F. Wishart (Name)
905 - 626 Pender Street (Address)
Vancouver, B.C.
682-5648 (Telephone) V6B 1V9 (Postal Code)
Valid subsisting FMC No. 278310
FMC Code WISHPF

Agent for Grand National Resources Inc (Name)(s)
& Topper Gold Corporation (Address)
905 - 626 West Pender Street
Vancouver, B.C. V6C 1V9
682-5648 (Telephone) (Postal Code)
Valid subsisting FMC No. 278435 & 278474
FMC Code GRANAR & TOPGOC

STATE THAT: **(NOTE: If only paying cash in lieu, turn to reverse and complete columns G to J and Q to T.)**

1. I have done, or caused to be done, work on the Topper 6 and Topper 7 Claim(s)

Record No(s). 9291 & 9314

Work was done from August 1, 19 89, to August 10, 19 89;

and was done in compliance with Section 50 of the Mineral Tenure Act and

Section 19(3) of the Regulation YES [X] NO [ ]

I hereby request that the claims listed in Column G on this Statement of Work be Grouped and I confirm that all claims listed are contiguous YES [ ] NO [ ]

FEE — $10.00

TYPE OF WORK

PHYSICAL: Work such as trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails. Details as required under section 13 of the Regulations, including the map and cost statement, must be given on this statement.

PROSPECTING: Details as required under section 9 of the Regulations must be submitted in a technical report. Prospecting work can only be claimed once by the same owner of the ground, and only during the first three years of ownership.

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL, DRILLING: Details must be submitted in a technical report conforming to sections 5 through 8 (as appropriate) of the Regulations.

PORTABLE ASSESSMENT CREDIT (PAC) WITHDRAWAL: A maximum of 30% of the approved value of geological, geophysical, geochemical and/or drilling work on this statement may be withdrawn from the owner's or operator's PAC account and added to the work value on this statement.

TYPE OF WORK (Specify Physical (include details), Prospecting, Geological, etc.)	VALUE OF WORK Physical	*Prospecting	*Geological etc.	
Geochemical Survey			$6000.00	
P.Eng. report will follow within 90 days				
TOTALS	A +	B +	C 1,800 =	D 7,800
PAC WITHDRAWAL — Maximum 30% of Value in Box C Only			E →	E 7,800
from account(s) of Topper Gold Corporation			TOTAL	F 7,800

* Who was the operator (provided the financing)? Name Topper Gold Corporation
Address same as above
Phone: 682,5648

Transfer amount in Box F to reverse side of form and complete as required.

M28-2024

Cash Payment

F 7,800 I WISH TO APPLY $ 7,800 OF THE TOTAL VALUE FROM BOX F AS FOLLOWS:

Columns G through P inclusive MUST BE COMPLETED before work credits can be granted to claims. Columns G through J and Q through T inclusive MUST BE COMPLETED before a cash payment or rental payment can be credited. Columns not applicable need not be completed.

	CLAIM IDENTIFICATION				APPLICATION OF WORK CREDIT						CASH IN LIEU OF WORK OR LEASE RENTAL			
	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
	CLAIM NAME (one claim/lease per line)	RECORD No.	No. OF UNITS*	CURRENT EXPIRY DATE	WORK TO BE APPLIED VALUE	WORK TO BE APPLIED YEARS	Recording Fees	PRIOR EXCESS CREDIT BEING USED	NEW EXPIRY DATE	EXCESS CREDIT REMAINING	C/L	RECORDING FEE	LEASE RENTAL	NEW EXPIRY DATE
1	Topper 6	9291	8	8/10/89	2,400.00	3	$240.00		8/10/92					
2	Topper 7	9314	18	8/22/89	5,400.00	3	~~540.00~~ 270.00		8/22/92					
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
					$7,800.00 TOTAL OF K		~~$780.00~~ TOTAL OF M				TOTAL OF Q	TOTAL OF R	TOTAL OF S	

NOTICE TO GROUP No. _____ RECORDED _____

*2 POST, FRACTION, REV. CROWN GRANT AND PLACER CLAIM ARE 1 UNIT EACH

Value of work to be credited to portable assessment credit (PAC) account(s).
[May only be credited from the approved value of Box C not applied to claims.]

Name of owner/operator

Name	Amount
1.	
2.	
3.	

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the Mineral Tenure Act. I further acknowledge and understand that if the statements made, or information given, in this Statement of Work — Cash Payment are found to be false and the exploration and development has not been performed, as alleged in this Statement of Work — Cash Payment, then the work reported on this statement will be cancelled and the subject mineral claim(s) may as a result, forfeit to and vest back to the Province.

Signature of Applicant

TOPPER GOLD CORPORATION

Vancouver Stock Exchange Symbol - TGC

BREAKDOWN OF EXPENSES ON

WORK COMPLETED ON TOPPER # 8 & 9 FROM AUGUST 10 to 15

5 DAYS

TOPPER 8,18 units record # 9935 TOPPER 9, 6 units record # 9936

Geochemical Survey including heavy mineral sampling.

SUPERVISION PERSONNEL:

Burton Consulting Inc

Alex Burton, P.ENG.,	per day	$450.00
Doug Symonds, geologist	per day	300.00
L.M. Schram, field manager	per day	200.00
Dennis Wager, field assistant	per day	150.00
I.R. Schram, field assistatant	per day	150.00

Doug Symonds, geologist	5 days	$ 1,500.00
M.L.Schram, field assistant	5 days	1,000.00
Dennis Wager, field ass't	5 days	750.00
I.R.Schram, field ass't	5 days	750.00
Board and room 20 mandays	@ $70.00 per day	1,400.00
Truck rental 2 trucks @ $100.00 per day	10 days	1,000.00
Assaying Chemex Labs		1,500.00
Doug Symonds report& data analysis	2 days	600.00
Norman Wade- maps		82.00
Doug Symonds - shipping samples		60.00
Doug Symonds - prepare data for shipping	3 hours	180.00
		$ 8,822.00

Topper 8, 18 units
Topper 9 6 units
24 units @ $100.00 per unit = $2,400.00

Assessment work to be applied for 3 years 3 X $2,400=7,200.00

Excess amount of funds $ 8,822.00-7,200= $1,622 apply to PAC.

Yours very truly,

Peter F. Wishart
President & C.E.O.

Suite 905 - 626 West Pender Street, Vancouver, B.C. Canada V6B 1V9 Telephone (604) 682-5648 Fax (604) 682-5649

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES DIVISION — TITLES BRANCH

DOCUMENT No. _____
OFFICE USE ONLY

SUB-RECORDER
RECEIVED
OCT 5 1989
M.R. # _____ $ _____
VANCOUVER, B.C.
RECORDING STAMP

Mineral Tenure Act
Sections 25, 26 & 27

STATEMENT OF WORK — CASH PAYMENT

Indicate type of title Mineral (Mineral or Placer)

Mining Division Cariboo

I, Peter F. Wishart (Name)
905 - 626 West Pender Street (Address)
Vancouver, B.C.
682 - 5648 (Telephone) V6B 1V9 (Postal Code)
Valid subsisting FMC No. 278310
FMC Code WISHPF

Agent for ~~TOPPER GOLD CORPORATION~~ & Grand National Resources Inc (Name)(s)
905- 626 West Pender Street (Address)
Vancouver, B.C.
682 - 5648 (Telephone) V6B 1V9 (Postal Code)
Valid subsisting FMC No. 278435 & 278474
FMC Code GRANAR & TOPGOC

STATE THAT: **(NOTE: If only paying cash in lieu, turn to reverse and complete columns G to J and Q to T.)**

1. I have done, or caused to be done, work on the Topper 8 and Topper 9 mineral Claim(s)

Record No(s). 9935 and 9936

Work was done from August 10, 1989, to August 15, 1989;

and was done in compliance with Section 50 of the Mineral Tenure Act and

Section 19(3) of the Regulation YES [x] NO [ ]

I hereby request that the claims listed in Column G on this Statement of Work be Grouped and I confirm that all claims listed are contiguous YES [ ] NO [ ]

FEE — $10.00

TYPE OF WORK

PHYSICAL: Work such as trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails. Details as required under section 13 of the Regulations, including the map and cost statement, must be given on this statement.

PROSPECTING: Details as required under section 9 of the Regulations must be submitted in a technical report. Prospecting work can only be claimed once by the same owner of the ground, and only during the first three years of ownership.

GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL, DRILLING: Details must be submitted in a technical report conforming to sections 5 through 8 (as appropriate) of the Regulations.

PORTABLE ASSESSMENT CREDIT (PAC) WITHDRAWAL: A maximum of 30% of the approved value of geological, geophysical, geochemical and/or drilling work on this statement may be withdrawn from the owner's or operator's PAC account and added to the work value on this statement.

TYPE OF WORK (Specify Physical (include details), Prospecting, Geological, etc.)	VALUE OF WORK: Physical	*Prospecting	*Geological etc.	
Geochemical survey $8,822.00 Report by P.Eng., will follow within 90 days			$8,822	
TOTALS	A +	B +	C $8,822	D $8,822
PAC WITHDRAWAL — Maximum 30% of Value in Box C Only			E →	E
from account(s) of _____			TOTAL	F $8,822

* Who was the operator (provided the financing)? Name Topper Gold Corporation
Address 905-626 West Pender St.,
Vancouver, B.C. Phone: 682-5648

Transfer amount in Box F to reverse side of form and complete as required.

F $8,822.00 I WISH TO APPLY $ 7,200.00 OF THE TOTAL VALUE FROM BOX F AS FOLLOWS:

Columns G through P inclusive MUST BE COMPLETED before work credits can be granted to claims. Columns G through J and Q through T inclusive MUST BE COMPLETED before a cash payment or rental payment can be credited. Columns not applicable need not be completed.

Cash Payment

CLAIM IDENTIFICATION

	G CLAIM NAME (one claim/lease per line)	H RECORD No.	I No. OF UNITS*	J CURRENT EXPIRY DATE
1	Topper 8	9935	18	8/07/~~89~~90
2	Topper 9	9936	06	8/09/~~89~~90
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				

APPLICATION OF WORK CREDIT

	K WORK TO BE APPLIED VALUE	L WORK TO BE APPLIED YEARS	M Recording Fees	N PRIOR EXCESS CREDIT BEING USED	O NEW EXPIRY DATE	P EXCESS CREDIT REMAINING
1	$5,400.00	3	$270.00		8/07/~~92~~ 93	
2	1,800.00	3	90.00		8/09/~~92~~ 93	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
	$7,200. TOTAL OF K		$360.00 TOTAL OF M			

*2 POST, FRACTION, REV CROWN GRANT AND PLACER CLAIM ARE 1 UNIT EACH

CASH IN LIEU OF WORK OR LEASE RENTAL

	Q C/L	R RECORDING FEE	S LEASE RENTAL	T NEW EXPIRY DATE
	TOTAL OF Q	TOTAL OF R	TOTAL OF S	

NOTICE TO GROUP No. _____ RECORDED _____

Value of work to be credited to portable assessment credit (PAC) account(s).
[May only be credited from the approved value of Box C not applied to claims.]

	Name	Amount
Name of owner/operator	1. Topper Gold Corporation	$1,622.00
	2.	
	3.	

I, the undersigned Free Miner, hereby acknowledge and understand that it is an offence to knowingly make a false statement or provide false information under the Mineral Tenure Act. I further acknowledge and understand that if the statements made, or information given, in this Statement of Work — Cash Payment are found to be false and the exploration and development has not been performed, as alleged in this Statement of Work — Cash Payment, then the work reported on this statement will be cancelled and the subject mineral claim(s) may as a result, forfeit, to and vest back to the Province.

Peter Bickart

Signature of Applicant

11.0 CERTIFICATE

I, Douglas Frederick Symonds, of #305 - 6311 Gilbert Road, Richmond, B.C., do certify that:

1. I am a geologist and a graduate of the University of British Columbia(B.Sc.(Geol.), 1972).

2. I am a Fellow of the Geological Association of Canada (Registration #F5496).

2. I have practised my profession in Canada and the United States since 1972.

3. I have based this report on field work carried out under my direct supervision during August of 1989.

4. I have no personal interest, directly or indirectly in the property or securities of **Grand National Resources Inc.** or **Topper Gold Corporation**, nor do I expect to receive any such interest, directly or indirectly in any such property or securities.

Dated this 14th day of September, 1989 in Vancouver, B.C.

DOUGLAS F. SYMONDS, B.SC.,F.G.A.C.
Geologist

GEOLOGICAL ASSOCIATION OF CANADA
D. F. SYMONDS
FELLOW

APPENDIX I
(Soil Geochemical Analytical Results)

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER
BRITISH COLUMBIA CANADA V7J 2C1
PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC
905 - 626 W PENDER ST.
VANCOUVER BC
V6B 1V9

Project : GRA88-1
Comments: ATTN PETER WISHART CC: BURTON CONSULTING INC

Date: 20-AUG-88
Invoice #: I-88[illegible]
P.O. #:

CERTIFICATE OF ANALYSIS A8923713

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
A0+00N 0+35E	217 --	< 5	40	6	95	0.4
A0+00N 0+50E	217 --	< 5	37	7	100	0.3
A0+00N 0+75E	217 --	5	13	8	103	0.3
A0+00N 1+00E	217 --	< 5	22	8	100	0.2
A0+00N 1+25E	217 --	5	29	5	115	0.3
A0+00N 1+50E	217 --	10	32	7	90	0.2
A0+00N 1+75E	217 --	< 5	155	8	152	2.2
A0+00N 2+00E	217 --	< 5	38	14	143	0.2
A0+00N 2+25E	217 --	< 5	34	5	110	0.3
A0+00N 2+50E	217 --	< 5	19	6	66	0.3
A0+00N 0+12W	217 --	< 5	32	4	94	< 0.2
A0+00N 0+25W	217 --	< 5	39	5	94	0.2
A0+00N 0+50W	217 --	< 5	25	4	100	< 0.2
A0+00N 0+75W	217 --	15	43	4	90	< 0.2
A0+00N 1+00W	217 --	< 5	45	4	100	0.3
A0+00N 1+25W	217 --	5	43	10	100	1.1
A0+00N 1+50W	217 --	< 5	26	4	110	0.3
A0+00N 1+75W	217 --	5	39	6	110	< 0.2
A0+00N 2+00W	217 --	< 5	28	5	100	< 0.2
A0+00N 2+20W	217 --	< 5	60	12	170	0.3
A0+00N 2+50W	217 --	< 5	38	8	110	0.2
A0+25N 2+50W	217 --	< 5	32	7	110	< 0.2
A0+50N 2+50W	217 --	< 5	34	9	130	0.2
A0+75N 2+80E	217 --	< 5	32	7	160	0.3
A0+75N 2+50W	217 --	5	62	7	280	0.8
A1+00N 0+00E	217 --	10	49	7	100	0.2
A1+00N 0+25E	217 --	15	47	5	100	0.2
A1+00N 0+88E	217 --	< 5	47	6	97	0.3
A1+00N 1+12E	217 --	< 5	48	5	83	0.2
A1+00N 1+50E	217 --	< 5	54	7	110	0.4
A1+00N 1+75E	217 --	< 5	22	8	86	0.3
A1+00N 2+00E	217 --	5	44	8	100	0.6
A1+00N 2+25E	217 --	5	55	7	140	1.0
A1+00N 2+75E	217 --	5	59	8	110	0.2
A1+00N 0+25W	217 --	< 5	37	5	85	0.2
A1+00N 0+50W	217 --	5	47	4	100	0.3
A1+00N 0+75W	217 --	80	40	5	107	0.2
A1+00N 1+05W	217 --	10	42	4	90	0.2
A1+00N 1+25W	217 --	< 5	40	7	130	< 0.2
A1+00N 1+50W	217 --	< 5	31	6	130	0.2

CERTIFICATION: Hart Bichler

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE. NORTH VANCOUVER
BRITISH COLUMBIA, CANADA V7J 2C1

PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC

905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project: GRAND 1

Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date: 20-AUG-89
Invoice #: I-8923713
P.O. #

CERTIFICATE OF ANALYSIS A8923713

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
A1+00N 1+75W	217 --	< 5	60	7	150	0.9
A1+00N 2+00W	217 --	< 5	30	5	136	0.3
A1+00N 2+25W	217 --	< 5	50	5	155	0.6
A1+00N 2+50W	217 --	< 5	31	4	195	0.3
A1+25N 2+50W	217 --	< 5	30	6	136	< 0.2
A1+50N 2+50W	217 --	< 5	31	12	180	0.9
A1+65N 2+50E	217 --	< 5	40	7	130	0.3
A1+70N 2+50E	217 --	< 5	38	6	110	0.2
A1+75N 2+65E	217 --	< 5	42	10	120	0.2
A1+75N 2+50W	217 --	< 5	21	7	120	0.2
A2+00N 0+00E	217 --	< 5	31	7	89	< 0.2
A2+00N 0+25E	217 --	< 5	51	8	110	0.3
A2+00N 0+50E	217 --	< 5	27	4	66	< 0.2
A2+00N 0+75E	217 --	10	41	5	100	0.3
A2+00N 1+00E	217 --	< 5	109	10	210	0.9
A2+00N 1+30E	217 --	< 5	37	7	90	0.2
A2+00N 1+50E	217 --	< 5	58	9	140	0.4
A2+00N 1+75E	217 --	< 5	46	6	100	0.3
A2+00N 2+00E	217 --	< 5	32	7	85	0.2
A2+00N 2+25E	217 --	< 5	54	7	90	< 0.2
A2+00N 2+65E	217 --	< 5	41	8	170	0.2
A2+00N 0+25W	217 --	< 5	27	4	84	0.3
A2+00N 0+50W	217 --	< 5	48	6	95	0.2
A2+00N 0+75W	217 --	< 5	61	5	94	< 0.2
A2+00N 1+10W	217 --	< 5	39	4	66	< 0.2
A2+00N 1+25W	217 --	< 5	30	5	74	0.2
A2+00N 1+50W	217 --	< 5	34	6	118	0.6
A2+00N 1+75W	217 --	< 5	27	4	118	0.2
A2+00N 2+00W	217 --	< 5	16	4	116	0.4
A2+00N 2+25W	217 --	< 5	47	5	109	0.3
A2+00N 2+50W	217 --	< 5	21	5	82	0.3
B0+00N 0+25E	217 --	< 5	42	7	100	0.2
B0+00N 0+50E	217 --	< 5	23	7	92	< 0.2
B0+00N 0+75E	217 --	< 5	40	4	118	< 0.2
B0+00N 1+00E	217 --	< 5	55	5	144	< 0.2
B0+00N 1+25E	217 --	< 5	19	5	75	0.2
B0+00N 1+50E	217 --	< 5	25	7	100	1.0
B0+00N 1+75E	217 --	< 5	23	6	88	0.4
B0+00N 2+00E	217 --	< 5	44	8	118	0.9
B0+00N 2+25E	217 --	< 5	25	5	130	0.2

CERTIFICATION: Hart Richter

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA CANADA V7J 2C1
PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC.
905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project: GRAND-1
Comments: ATTN: PETER WISHART cc: BURTON CONSULTING INC.

Date: 20-AUG-89
Invoice #: I-8923713
P.O. #:

CERTIFICATE OF ANALYSIS A8923713

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
B0+00N 2+50E	217 --	< 5	21	8	140	0.3
B0+00N 0+00W	217 --	< 5	74	11	170	0.2
B0+00N 0+25W	217 --	< 5	23	7	80	0.3
B0+00N 0+50W	217 --	< 5	21	7	95	0.5
B0+00N 0+75W	217 --	< 5	59	5	130	< 0.2
B0+00N 1+00W	217 --	< 5	18	6	72	0.2
B0+00N 1+25W	217 --	10	27	6	110	0.2
B0+00N 1+50W	217 --	< 5	30	5	96	< 0.2
B0+00N 1+75W	217 --	< 5	15	6	105	0.2
B0+00N 2+00W	217 --	< 5	18	7	190	0.6
B0+00N 2+25W	217 --	< 5	22	6	130	0.5
B0+00N 2+50W	217 --	< 5	12	6	97	0.4
B1+00N 0+50E	217 --	< 5	48	7	120	0.3
B1+00N 0+75E	217 --	< 5	28	7	110	0.7
B1+00N 1+00E	217 --	< 5	27	7	108	0.4
B1+00N 1+25E	217 --	< 5	27	6	96	0.6
B1+00N 1+50E	217 --	< 5	22	5	94	< 0.2
B1+00N 1+75E	217 --	< 5	41	8	120	0.6
B1+00N 2+00E	217 --	< 5	47	6	140	0.3
B1+00N 2+25E	217 --	< 5	27	7	110	0.7
B1+00N 2+50E	217 --	< 5	31	9	135	0.2
B1+00N 0+00W	217 --	< 5	19	6	135	2.2
B1+00N 0+25W	217 --	< 5	18	4	90	0.2
B1+00N 0+50W	217 --	< 5	38	6	84	0.2
B1+00N 0+75W	217 --	< 5	29	5	92	< 0.2
B1+00N 1+00W	217 --	< 5	15	6	97	0.2
B1+00N 1+25W	217 --	< 5	23	7	100	0.2
B1+00N 1+50W	217 --	< 5	17	5	110	< 0.2
B1+00N 1+75W	217 --	< 5	17	6	100	0.4
B1+00N 2+00W	217 --	< 5	31	7	100	0.2
B1+00N 2+25W	217 --	< 5	23	6	120	0.3
B1+00N 2+50W	217 --	< 5	27	7	120	< 0.2
B2+00N 0+50E	217 --	< 5	43	8	120	0.2
B2+00N 0+75E	217 --	< 5	52	7	106	0.3
B2+00N 1+00E	217 --	< 5	39	6	140	0.4
B2+00N 1+25E	217 --	< 5	50	7	149	0.4
B2+00N 1+50E	217 --	< 5	42	6	130	0.3
B2+00N 1+75E	217 --	< 5	39	6	105	0.4
B2+00N 2+00E	217 --	< 5	31	8	117	0.3
B2+00N 2+25E	217 --	< 5	23	6	95	0.3

CERTIFICATION: Bart Bichler

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE. NORTH VANCOUVER
BRITISH COLUMBIA CANADA V7J 2C1
PHONE (604) [illegible]

To: GRAND NATIONAL RESOURCES INC

905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project: GRAHAM

Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Page No.: 1
Tot. Pages: 1
Date: 29-AUG-89
Invoice #: I-8923713
P.O. #:

CERTIFICATE OF ANALYSIS A8923713

SAMPLE DESCRIPTION	PREP CODE	Au ppm FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
B2+00N 2+50E	217	[illegible]	[illegible]	11	90	0.5
B2+00N 0+00W	217	--	[illegible]	6	90	0.2
B2+00N 0+25W	217	--	[illegible]	8	63	0.5
B2+00N 0+50W	217	--	27	5	85	0.2
B2+00N 0+75W	217	--	13	8	71	0.4
B2+00N 1+00W	217	--	27	4	67	0.2
B2+00N 1+25W	217	--	20	7	100	0.3
B2+00N 1+50W	217	--	21	7	119	0.3
B2+00N 1+75W	217	--	22	7	130	<0.2
B2+00N 2+00W	217	--	12	6	67	0.2
B2+00N 2+25W	217	--	20	6	100	<0.2
B2+00N 2+50W	217	--	31	5	130	<0.2
C0S 000E	217	--	43	8	120	0.9
C0S 025E	217	--	31	8	100	0.3
C0S 050E	217	--	46	8	140	0.3
C0S 075E	217	--	71	9	180	<0.2
C0S 100E	217	--	65	9	240	1.0
C0S 025W	217	--	35	8	95	0.3
C0S 050W	217	--	33	10	95	0.4
C0S 075W	217	--	23	8	69	0.8
C0S 100W	217	--	32	8	100	0.4
C50N 000E	217	--	39	8	130	2.8
C50N 025E	217	--	39	10	136	0.2
C50N 050E	217	--	41	8	130	0.7
C50N 075E	217	--	57	7	170	0.8
C50N 100E	217	--	36	8	90	0.9
C50N 025W	217	--	29	10	100	<0.2
C50N 050W	217	--	43	13	150	<0.2
C50N 075W	217	--	42	12	154	0.4
C50N 100W	217	--	31	11	120	<0.2
C50S 025E	217	--	64	11	166	1.0
C50S 050E	217	--	58	14	270	0.9
C50S 075E	217	--	16	25	50	0.5
C50S 100E	217	--	60	12	160	1.4
C50S 000W	217	--	32	16	120	0.6
C50S 025W	217	--	29	21	110	1.8
C50S 050W	217	--	14	5	114	2.2
C50S 075W	217	--	32	12	140	1.4
C50S 100W	217	--	53	10	200	0.3
C100S 025E	217	--	59	10	160	1.4

CERTIFICATION: [signature]

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE. NORTH VANCOUVER
BRITISH COLUMBIA CANADA V7J 2C1

PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC

905 - 626 W. PENDER ST.
VANCOUVER BC
V6B 1V9

Project: GRAAA 1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date: 29-AUG-89
Invoice #: I-8923713
P.O. #:

CERTIFICATE OF ANALYSIS A8923713

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
C100S 050E	217 --	< 5	40	11	140	0.6
C100S 075E	217 --	< 5	76	11	200	1.7
C100S 100E	217 --	< 5	51	11	220	0.7
C100S 000W	217 --	< 5	48	9	140	0.5
C100S 025W	217 --	< 5	41	10	118	0.7
C100S 050W	217 --	< 5	30	11	87	0.5
C100S 075W	217 --	< 5	40	9	140	1.5
C100S 100W	217 --	< 5	32	9	100	0.4
C150S 000E	217 --	< 5	61	10	250	1.3
C150S 025E	217 --	10	146	16	390	3.8
C150S 050E	217 --	< 5	58	14	117	0.6
C150S 075E	217 --	15	46	14	125	0.6
C150S 100E	217 --	< 5	37	11	100	0.7
C150S 025W	217 --	< 5	40	9	140	0.5
C150S 050W	217 --	< 5	48	12	260	0.9
C150S 075W	217 --	< 5	77	11	300	1.3
C150S 100W	217 --	< 5	45	8	135	0.6
D0N 0000W	217 --	< 5	106	19	480	0.8
D0N 0050W	217 --	15	34	6	220	< 0.2
D0N 0100W	217 --	< 5	53	10	440	0.6
D0N 0150W	217 --	295	49	10	230	1.4
D0N 0200W	217 --	< 5	36	12	94	1.6
D0N 0250W	217 --	< 5	16	6	41	1.0
D0N 0300W	217 --	< 5	31	15	95	0.9
D0N 0350W	217 --	< 5	27	15	70	0.6
D0N 0400W	217 --	< 5	32	22	75	0.3
D0N 0450W	217 --	< 5	31	8	94	0.2
D0N 0500W	217 --	< 5	32	18	100	0.5
D0N 0550W	217 --	< 5	44	10	100	0.5
D0N 0600W	217 --	< 5	35	15	112	0.7
D0N 0650W	217 --	< 5	31	8	155	0.5
D0N 0700W	217 --	< 5	27	14	90	1.2
D0N 0750W	217 --	< 5	19	14	100	0.2
D0N 0800W	217 --	< 5	32	12	140	< 0.2
D0N 0850W	217 --	< 5	27	9	100	< 0.2
D0N 0900W	217 --	< 5	19	12	84	0.4
D0N 0950W	217 --	< 5	23	8	110	0.4
D0N 1000W	217 --	< 5	35	11	130	0.5
D150S 0000W	217 --	< 5	49	15	200	2.4
D150S 0050W	217 --	< 5	22	9	96	0.2

CERTIFICATION: Stan Bichler

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE NORTH VANCOUVER
BRITISH COLUMBIA CANADA V7J 2C1

PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC

900 - 626 W. PENDER ST
VANCOUVER, BC
V6B 1V9

Project : GRAAA 1
Comments: ATTN: PETER WISHART cc: BURTON CONSULTING

Page No. : 1
Tot. Pages : 1
Date : 20 AUG 89
Invoice # : I-A8922712
P.O. :

CERTIFICATE OF ANALYSIS A8922712

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
D150S 0100W	217 --	< 5	52	20	200	0.5
D150S 0150W	217 --	5	22	20	150	1.0
D150S 0200W	217 --	5	23	19	158	0.9
D150S 0250W	217 --	5	27	34	140	0.3
D150S 0300W	217 --	5	21	16	130	0.3
D150S 0350W	217 --	5	18	9	61	0.2
D150S 0400W	217 --	5	45	16	124	< 0.2
D150S 0450W	217 --	5	33	21	180	3.9
D150S 0500W	217 --	5	14	22	195	0.4
D150S 0550W	217 --	5	46	19	140	0.2
D150S 0600W	217 --	10	28	13	97	0.2
D150S 0650W	217 --	5	30	13	85	< 0.2
D150S 0700W	217 --	5	19	12	84	< 0.2
D150S 0750W	217 --	5	19	13	150	0.3
D150S 0800W	217 --	5	26	12	147	0.2
D150S 0850W	217 --	5	14	12	92	0.3
D150S 0900W	217 --	5	32	12	170	0.3
D150S 0950W	217 --	5	20	13	89	0.4
D150S 1000W	217 --	5	32	15	108	0.2

CERTIFICATION: Bart Bichler

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC.
905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Date: 30-AUG-89
Invoice # I-8923715
P.O. #

Project : GRANT-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC.

CERTIFICATE OF ANALYSIS A8923715

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
E350N 0500E	217 --	< 5	29	6	62	0.4
E350N 0525E	217 --	< 5	27	7	75	0.6
E350N 0550E	217 --	< 5	49	6	98	0.6
E350N 0575E	217 --	< 5	33	7	92	0.2
E350N 0600E	217 --	< 5	27	7	79	2.0
E350N 0625E	217 --	< 5	34	10	120	1.6
E350N 0650E	217 --	45	48	8	130	1.2
E350N 0675E	217 --	< 5	36	9	110	1.2
E350N 0700E	217 --	10	30	8	100	0.8
E350N 0725E	217 --	< 5	27	7	68	1.1
E350N 0750E	217 --	< 5	28	7	75	1.1
E350N 0775E	217 --	< 5	34	7	80	1.3
E350N 0800E	217 --	< 5	41	7	100	1.1
E350N 0825E	217 --	< 5	26	8	77	2.6
E350N 0850E	217 --	< 5	27	8	66	1.5
E350N 0875E	217 --	< 5	28	6	78	0.7
E350N 0900E	217 --	10	24	7	61	1.0
E350N 0925E	217 --	5	36	6	85	0.8
E350N 0950E	217 --	10	50	7	100	1.2
E350N 0975E	217 --	100	38	10	77	0.8
E350N 1000E	217 --	< 5	24	4	59	0.4
E400N 0600E	217 --	< 5	35	7	92	1.3
E400N 0625E	217 --	20	40	12	130	2.5
E400N 0650E	217 --	< 5	31	7	90	0.9
E400N 0675E	217 --	20	34	5	65	1.6
E400N 0700E	217 --	5	27	7	68	0.7
E400N 0725E	217 --	10	57	12	190	1.2
E400N 0750E	217 --	15	35	8	110	1.2
E400N 0775E	217 --	< 5	32	7	89	1.1
E400N 0800E	217 --	< 5	26	7	82	0.9
E400N 0825E	217 --	< 5	42	7	105	0.5
E400N 0850E	217 --	< 5	31	9	100	1.0
E400N 0875E	217 --	20	29	7	62	0.7
E400N 0900E	217 --	5	37	8	120	1.6
E400N 0925E	217 --	5	24	6	62	0.9
E400N 0950E	217 --	10	25	6	56	0.6
E400N 0975E	217 --	5	62	10	115	0.6
E400N 1000E	217 --	25	32	9	75	0.3
E450N 0500E	217 --	< 5	64	7	150	0.9
E450N 0525E	217 --	< 5	42	2	73	0.8

CERTIFICATION : Ivan Bichler

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA CANADA V7J-2C1
PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC.
905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date: 30-AUG-89
Invoice #: I-8923715
P.O. #

CERTIFICATE OF ANALYSIS A8923715

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
E0N 600E	217 --	< 5	37	11	120	0.4
E0N 625E	217 --	< 5	57	15	118	0.4
E0N 650E	217 --	10	51	15	109	0.7
E0N 675E	217 --	< 5	44	12	125	0.8
E0N 700E	217 --	10	36	13	96	0.8
E0N 725E	217 --	5	45	18	140	0.6
E0N 750E	217 --	85	53	12	120	0.3
E0N 775E	217 --	60	64	25	190	0.7
E0N 800E	217 --	5	90	16	190	1.0
E0N 825E	217 --	10	89	35	340	1.5
E0N 850E	217 --	100	65	17	255	1.2
E0N 875E	217 --	20	35	17	105	0.8
E0N 900E	217 --	10	26	12	110	0.6
E0N 925E	217 --	< 5	36	11	106	0.5
E0N 950E	217 --	< 5	30	12	155	0.7
E0N 975E	217 --	5	50	10	270	0.8
E0N 1000E	217 --	15	41	14	340	1.3
E2N 600E (1)	217 --	< 5	30	9	91	0.7
E2N 600E (2)	217 --	< 5	33	13	100	1.2
E2N 600E (3)	217 --	10	28	11	86	1.6
E2N 625E (1)	217 --	< 5	27	9	70	1.1
E2N 625E (2)	217 --	< 5	31	10	94	1.3
E2N 625E (3)	217 --	25	26	9	86	0.6
E2N 650E (1)	217 --	< 5	28	11	84	0.9
E2N 650E (2)	217 --	< 5	23	9	70	1.0
E2N 650E (3)	217 --	< 5	29	10	92	0.8
E2N 675E (1)	217 --	< 5	27	11	70	2.2
E2N 675E (2)	217 --	15	31	13	77	2.2
E2N 675E (3)	217 --	10	28	12	87	1.1
E2N 700E (1)	217 --	< 5	31	14	94	3.4
E2N 700E (2)	217 --	15	27	12	81	0.9
E2N 700E (3)	217 --	< 5	30	11	92	2.0
E2N 725E (1)	217 --	10	38	12	126	1.7
E2N 725E (2)	217 --	< 5	43	14	136	1.7
E2N 725E (3)	217 --	< 5	45	12	135	4.0
E2N 750E (1)	217 --	< 5	80	8	220	0.7
E2N 750E (2)	217 --	< 5	53	12	144	0.8
E2N 750E (3)	217 --	< 5	36	13	110	0.4
E2N 775E (1)	217 --	< 5	74	12	120	0.4
E2N 775E (2)	217 --	25	31	13	100	0.7

CERTIFICATION : Hart Bichler

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC.
905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date 30-AUG-89
Invoice # I-8923715
P.O. #

CERTIFICATE OF ANALYSIS A8923715

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
E2N 775E (3)	217 --	5	32	14	100	0.7
E2N 800E (1)	217 --	10	47	15	160	2.0
E2N 800E (2)	217 --	15	40	13	106	0.8
E2N 800E (3)	217 --	<5	30	13	104	1.4
E2N 825E (1)	217 --	<5	47	14	130	0.9
E2N 825E (2)	217 --	15	47	13	146	0.7
E2N 825E (3)	217 --	20	35	14	110	0.8
E2N 850E (1)	217 --	10	35	13	100	0.5
E2N 850E (2)	217 --	15	33	12	92	3.0
E2N 850E (3)	217 --	<5	78	12	200	1.5
E2N 875E (1)	217 --	<5	37	11	120	0.7
E2N 875E (2)	217 --	15	29	15	110	0.8
E2N 875E (3)	217 --	<5	32	13	120	2.5
E2N 900E (1)	217 --	20	34	11	106	1.1
E2N 900E (2)	217 --	30	34	11	110	0.8
E2N 900E (3)	217 --	30	28	12	100	0.6
E2N 925E (1)	217 --	<5	26	11	90	0.3
E2N 925E (2)	217 --	<5	35	12	100	0.4
E2N 925E (3)	217 --	<5	25	10	90	0.3
E2N 950E (1)	217 --	<5	29	10	85	0.2
E2N 950E (2)	217 --	10	37	14	107	0.6
E2N 950E (3)	217 --	15	30	10	87	0.2
E2N 975E (1)	217 --	<5	38	12	90	0.8
E2N 975E (2)	217 --	<5	28	12	84	0.5
E2N 975E (3)	217 --	25	26	11	80	0.5
E2N 1000E (1)	217 --	<5	33	13	110	5.0
E2N 1000E (2)	217 --	<5	37	16	92	0.9
E2N 1000E (3)	217 --	<5	23	9	61	0.6
E50N 0625E	217 --	<5	45	8	126	4.7
E50N 0650E	217 --	<5	50	12	123	1.7
E50N 0675E	217 --	<5	42	13	105	1.4
E50N 0700E	217 --	<5	51	13	110	0.7
E50N 0725E	217 --	<5	65	11	108	0.4
E50N 0750E	217 --	<5	37	13	106	1.2
E50N 0775E	217 --	<5	36	11	92	0.7
E50N 0800E	217 --	<5	35	9	94	0.8
E50N 0825E	217 --	<5	32	10	87	1.2
E50N 0850E	217 --	<5	35	8	80	1.4
E50N 0875E	217 --	<5	33	7	80	0.8
E50N 0900E	217 --	<5	36	9	84	4.2

CERTIFICATION : Ian Bichler

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: GRAND NATIONAL RESOURCES INC
905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date : 30-AUG-89
Invoice # : I-8923715
P.O. #

CERTIFICATE OF ANALYSIS A8923715

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
E50N 0925E	217 --	10	30	9	82	2.3
E50N 0950E	217 --	10	26	9	74	2.4
E50N 0975E	217 --	<5	27	9	85	2.1
E50N 1000E	217 --	<5	58	9	120	2.3
E100N 0600E	217 --	30	51	9	140	1.4
E100N 0625E	217 --	15	34	13	100	0.7
E100N 0650E	217 --	5	34	10	94	1.4
E100N 0675E	217 --	<5	31	10	85	1.4
E100N 0700E	217 --	15	33	9	74	0.5
E100N 0725E	217 --	<5	38	8	83	0.4
E100N 0750E	217 --	20	27	9	71	1.4
E100N 0775E	217 --	25	54	10	140	0.5
E100N 0800E	217 --	15	37	8	92	1.5
E100N 0825E	217 --	<5	53	15	128	0.8
E100N 0850E	217 --	<5	30	11	81	0.9
E100N 0875E	217 --	<5	26	9	74	1.8
E100N 0900E	217 --	5	47	14	108	1.4
E100N 0925E	217 --	<5	61	13	140	0.7
E100N 0950E	217 --	<5	30	4	56	1.3
E100N 0975E	217 --	<5	32	9	88	0.6
E100N 1000E	217 --	<5	25	12	63	0.7
E150N 0600E	217 --	<5	33	10	93	0.7
E150N 0625E	217 --	5	36	11	100	0.8
E150N 0650E	217 --	15	41	12	100	1.3
E150N 0675E	217 --	<5	36	9	100	0.9
E150N 0700E	217 --	15	27	10	72	1.1
E150N 0725E	217 --	70	32	11	87	2.0
E150N 0750E	217 --	<5	35	12	77	0.8
E150N 0775E	217 --	10	40	12	91	0.5
E150N 0800E	217 --	<5	26	13	74	0.3
E150N 0825E	217 --	<5	39	11	90	0.6
E150N 0850E	217 --	5	31	10	100	3.8
E150N 0875E	217 --	<5	30	9	85	1.7
E150N 0900E	217 --	5	30	9	73	0.3
E150N 0925E	217 --	<5	28	8	72	0.3
E150N 0950E	217 --	<5	38	11	118	1.2
E150N 0975E	217 --	<5	38	26	110	0.8
E150N 1000E	217 --	<5	32	11	100	1.1
E250N 0500E	217 --	10	36	9	93	0.6
E250N 0525E	217 --	<5	24	8	66	0.7

CERTIFICATION : Hart Bichler

Chemex Labs Ltd.

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To GRAND NATIONAL RESOURCES INC

905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date 30-AUG-88
Invoice # I-8923715
P O #

CERTIFICATE OF ANALYSIS A8923715

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
E250N 0550E	217	--	< 5	35	11	92	< 0.2
E250N 0575E	217	--	5	32	9	92	0.6
E250N 0600E	217	--	< 5	55	11	120	1.7
E250N 0625E	217	--	< 5	35	11	92	1.7
E250N 0650E	217	--	40	39	12	90	2.4
E250N 0675E	217	--	< 5	37	11	90	2.4
E250N 0700E	217	--	< 5	33	11	79	0.8
E250N 0725E	217	--	< 5	33	9	87	0.4
E250N 0750E	217	--	< 5	34	8	95	0.4
E250N 0775E	217	--	< 5	52	11	119	3.7
E250N 0800E	217	--	5	38	10	110	1.0
E250N 0825E	217	--	< 5	34	12	96	0.9
E250N 0850E	217	--	15	40	14	85	0.8
E250N 0875E	217	--	< 5	29	11	64	1.0
E250N 0900E	217	--	< 5	34	9	82	2.7
E250N 0925E	217	--	< 5	27	9	65	0.5
E250N 0950E	217	--	< 5	45	8	76	0.6
E250N 0975E	217	--	< 5	32	11	70	0.3
E250N 1000E	217	--	60	30	12	84	0.4
E300N 0500E	217	--	< 5	26	8	66	0.6
E300N 0525E	217	--	< 5	33	9	81	0.2
E300N 0550E	217	--	< 5	42	12	88	0.4
E300N 0575E	217	--	< 5	34	9	81	0.7
E300N 0600E	217	--	< 5	38	11	115	0.8
E300N 0625E	217	--	< 5	35	9	94	0.4
E300N 0650E	217	--	10	40	8	83	0.5
E300N 0675E	217	--	< 5	29	11	70	1.4
E300N 0700E	217	--	< 5	30	9	62	0.7
E300N 0725E	217	--	< 5	34	14	110	1.2
E300N 0750E	217	--	< 5	29	11	76	0.7
E300N 0775E	217	--	< 5	27	22	109	0.7
E300N 0800E	217	--	50	35	10	85	1.1
E300N 0825E	217	--	5	35	11	76	0.9
E300N 0850E	217	--	5	50	14	136	1.3
E300N 0875E	217	--	5	33	10	84	1.1
E300N 0900E	217	--	< 5	27	8	70	0.5
E300N 0925E	217	--	10	33	8	70	0.7
E300N 0950E	217	--	< 5	30	9	68	0.5
E300N 0975E	217	--	< 5	34	11	74	0.6
E300N 1000E	217	--	40	24	10	55	0.8

CERTIFICATION : Stuart Bichler

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To: GRAND NATIONAL RESOURCES INC.
905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date: 30-AUG-89
Invoice # I-8923715
P.O. #

CERTIFICATE OF ANALYSIS A8923715

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
E450N 0550E	217 --	20	30	7	71	0.2
E450N 0575E	217 --	10	85	8	268	2.5
E450N 0600E	217 --	5	39	6	180	2.3
E450N 0625E	217 --	<5	92	8	110	5.8
E450N 0650E	217 --	5	82	5	190	6.9
E450N 0675E	217 --	15	32	6	76	0.7
E450N 0700E	217 --	5	34	5	84	0.3
E450N 0725E	217 --	<5	33	6	78	0.7
E450N 0750E	217 --	<5	33	7	81	1.9
E450N 0775E	217 --	<5	35	6	90	1.2
E450N 0800E	217 --	5	39	6	120	2.3
E500N 0500E	217 --	<5	33	4	80	0.7
E500N 0525E	217 --	<5	26	6	90	1.2
E500N 0550E	217 --	<5	45	7	190	0.8
E500N 0575E	217 --	<5	57	8	265	1.6
E500N 0600E	217 --	<5	52	16	300	4.5
E500N 0625E	217 --	<5	116	26	450	5.0
E500N 0650E	217 --	<5	56	10	280	4.1
E500N 0675E	217 --	<5	43	6	130	0.8
E500N 0700E	217 --	10	43	11	140	1.8
E500N 0725E	217 --	25	106	19	260	2.3
E500N 0750E	217 --	15	31	9	95	0.6
E500N 0775E	217 --	<5	37	6	74	0.6
E500N 0800E	217 --	10	51	8	93	0.7

CERTIFICATION: Hart Bichler

APPENDIX II
(Heavy Mineral Sampling Assay Results)

Chemex Labs Ltd.
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212 BROOKSBANK AVE. NORTH VANCOUVER,
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905 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date : 30-AUG-89
Invoice # : I-8923705
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8923705

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
COS 89-10 -140	202 --	910	76	15	100	0.3
COS 89-11 -140	202 --	470	81	8	100	< 0.2
COS 89-12 -140	202 --	275	89	7	100	< 0.2
COS 89-13 -140	202 --	60	95	8	84	< 0.2
SPIN 89-20 -140	202 --	660	57	8	56	< 0.2
SPIN 89-21 -140	202 --	250	46	8	60	< 0.2
SPIN 89-22 -140	202 --	150	52	11	120	< 0.2
SPIN 89-23 -140	202 --	30	57	10	120	< 0.2
SPIN 89-24 -140	202 --	10	52	8	105	< 0.2

CERTIFICATION : Kurt Bicklen

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VANCOUVER, BC
V6B 1V9

Project : GRA88-1
Comments: ATTN: PETER WISHART CC: BURTON CONSULTING INC

Date : 30-AUG-89
Invoice # : I-8923706
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8923706

SAMPLE DESCRIPTION	PREP CODE	Au ppb FA+AA	Cu ppm	Pb ppm	Zn ppm	Ag ppm Aqua R
COS89-10 -10+140	217 --	925	50	5	100	0.2
COS89-11 -10+140	217 --	6080	50	6	90	0.2
COS89-12 -10+140	217 --	15	54	4	70	< 0.2
COS89-13 -10+140	217 --	< 5	60	3	52	< 0.2
SPIN89-20-10+140	217 --	9150	38	2	48	< 0.2
SPIN89-21-10+140	217 --	< 5	32	3	53	< 0.2
SPIN89-22-10+140	217 --	95	37	4	90	< 0.2
SPIN89-23-10+140	217 --	20	37	4	86	< 0.2
SPIN89-24-10+140	217 --	1000	40	5	82	< 0.2

CERTIFICATION : Kurt Psichla

APPENDIX III
(References)

REFERENCES

1. Kregosky, R.; "Geochemical Report on the Topper Group"; Private(Assessment) Report on behalf of Grand National Resources Inc. & World Cement Industries Inc.; September 6, 1985.

2. Borovic, I.; "Report on the Mineral Exploration of Jolly Jack-Topper Properties"; Private Report on behalf of Grand National Resources Inc.; August 30, 1984.

3. Borovic, I.;"Report on the Mineral Exploration of the Topper and Kero Projects"; Private Report on behalf of Grand National Resources Inc.; August 18, 1987.

4. Freeze, J.C.; "Report on the Topper Property"; Private Report on behalf of World Cement Industries Inc.; May 5, 1987.

5. Symonds, D.F.; "Geochemical Report on the Toppergold Property; Assessment Report on behalf of Grand National Resources Inc.; November 8, 1988.

6. Symonds, D.F.; "Geochemical Assessment Report on the Toppergold Property; Assessment Report on behalf of Grand National Resources Inc.; May 25, 1989.

APPENDIX IV
(Petrographic Report)
(Vancouver Petrographics Ltd.)

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

P.O. BOX 39
8080 GLOVER ROAD,
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Report for: Doug Symonds,
Burton Consulting Inc.,
901-626 West Pender St.,
Vancouver, B.C.,
V6B 1V9

Invoice 8419

September 13th, 1989

Samples:

Two samples, numbered GRA 88-1, for polished thin sectioning and petrographic study. The more weathered sample is from the Toppergold Property, and is designated as #1; the less weathered, more deformed sample is from the Frazergold Property, and is designated #2.

Summary:

Both rocks are metamorphically recrystallized, carbonaceous siltstones.

Sample #1 has the fabric of a phyllite, and contains augen of quartz and of earthy limonite.

Sample #2 has the fabric of a phyllonite, and contains prominent augen of brown carbonate and traces of pyrrhotite.

Both rocks have a similar composition, and contain traces of disseminated tourmaline. The carbonate segregations and trace sulfides in #2 may well represent the source of the limonite in the weathered #1.

The petrographic evidence strongly suggests that these two rocks come from the same stratigraphic unit.

No microscopically visible gold was found in either slide.

Individual petrographic descriptions are attached.

J.F. Harris Ph.D. (929-5867)

SAMPLE GRA 88-1 (1): TOPPERGOLD CARBONACEOUS PHYLLITE

Estimated mode

Quartz	50
Sericite	35
Carbon	5
Limonite	10
Tourmaline	trace

This is a very fine-grained, strongly foliated rock of metasedimentary aspect.

It is composed essentially of quartz and sericite.

The quartz consists mainly of tiny, often flattened grains and Tenticles, 5 - 30 microns in size, intimately intergrown with perfectly oriented, tiny flakes of sericite. The latter coalesce to form films or micro-schlieren which alternate, on a scale of 10 - 20 microns, with wisps of relatively more quartzose composition, to produce a microlaminated or varved fabric.

The delicately laminated fabric is emphasized by micron and sub-micron-sized opaque (carbonaceous) dust which impregnates the sericite and produces the dark body colour of the rock, and emphasizes its fissility.

The rock contains scattered wisps and ovoid to blocky augen of coarser, quartz-rich composition (grain size up to 100 microns).

It also includes sporadic, prominent augen of fine-grained limonite - sometimes packed with minute quartz inclusions. In a few cases, the ferruginous aggregates form composite augen with granular quartz. Many of them have been lost by plucking during slide preparation, and/or are partially leached by surface weathering.

The origin of these limonitic segregations is obscure. They may represent authigenic concentrations or metamorphic porphyroblasts of fine-grained sulfides or ferruginous carbonate (though no remnants of either are preserved).

The sinuously micro-schistose fabric of the quartz-sericite matrix diverges around the quartzose and ferruginous augen, and locally exhibits crenulate microdeformation.

Minute, sparsely disseminated euhedra of tourmaline are a notable trace accessory.

The rock is a typical carbonaceous phyllite.

SAMPLE GRA 88-1 (2): FRAZERGOLD GRAPHITIC PHYLLONITE

Estimated mode

Quartz	40
Sericite	45
Graphite	5
Carbonate	10
Tourmaline	trace
Pyrrhotite	trace

This is a rock of closely similar type to Sample 1.

It consists of a minutely granular intergrowth of quartz and sericite with sub-micron-sized carbonaceous material.

Quartz grain size is in the range 5 - 20 microns. Sericite is largely segregated (as in the other slide) as thin, close-spaced films or schlieren. The fabric, in this case, is notably more deformed, however, and the rock exhibits a typical phyllonitic structure of platy cleavage planes of graphitic sericite (producing the extreme fissility) separated by quartzose laminae in which the sericite shows oblique or contorted orientation.

Occasional, more argillaceous intercalations, show strong crenulate microdeformation.

This rock is largely devoid of the quartzose lenses and augen seen in Slide 1, but includes prominent ovoid or blocky masses of brownish carbonate. These are up to 8mm in size, and often show included laminar remnants of carbonaceous material, and lines of tiny quartz granules.

The direction of the included laminar relicts is often oblique to the main schistosity, and it appears that these carbonate masses are porphyroblasts which developed early in the recrystallization history, prior to the main phase of deformation (during which they acted as resistant augen and, in some cases, were rotated).

A little carbonate also occurs in dispersed form and associated with rare, highly contorted, thin quartz laminae.

The rock resembles Slide 1 in containing sparsely disseminated, tiny euhedra of tourmaline. It also contains scattered, small, irregular clumps and threads of pyrrhotite (not seen in the other sample - possibly because of its more weathered condition).

The carbonate augen, in this sample, could well represent the original form of the limonitic augen in Slide 1.

APPENDIX V
(Statistical Analysis of Geochemical Data)

13:00:51 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable = AU Unit = PPB N = 71

Mean =	3.521	Min =	1.000	1st Quartile =	1.000
Std. Dev. =	9.747	Max =	80.000	Median =	1.000
CV % =	276.803	Skewness =	6.952	3rd Quartile =	1.000

%	cum %	cls int	(# of bins = 19 - bin size = 4.389)
0.00	0.69	-1.194	
77.46	77.08	3.194	********** --> 55
12.68	89.58	7.583	*********
5.63	95.14	11.972	****
2.82	97.92	16.361	**
0.00	97.92	20.750	
0.00	97.92	25.139	
0.00	97.92	29.528	
0.00	97.92	33.917	
0.00	97.92	38.306	
0.00	97.92	42.694	
0.00	97.92	47.083	
0.00	97.92	51.472	
0.00	97.92	55.861	
0.00	97.92	60.250	
0.00	97.92	64.639	
0.00	97.92	69.028	
0.00	97.92	73.417	
0.00	97.92	77.806	
1.41	99.31	82.194	*

0 1 2 3 4

14:15:31 TOPPERGOLD PROPERTY - "B" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AU Unit = PPB N = 61

Mean =	0.0393	Min =	0.0000	1st Quartile =	0.0000
Std. Dev. =	0.1771	Max =	1.0000	Median =	0.0000
CV % =	450.6343	Skewness =	4.2669	3rd Quartile =	0.0000

Anti-Log Mean = 1.095 Anti-Log Std. Dev. : (-) 0.728
(+) 1.646

%	cum %	antilog	cls int	(# of bins = 18 - bin size = 0.0588)
0.00	0.81	0.935	-0.0294	
95.08	94.35	1.070	0.0294	********** --> 58
0.00	94.35	1.225	0.0882	
0.00	94.35	1.403	0.1471	
0.00	94.35	1.607	0.2059	
0.00	94.35	1.840	0.2647	
0.00	94.35	2.106	0.3235	
0.00	94.35	2.412	0.3824	
0.00	94.35	2.762	0.4412	
0.00	94.35	3.162	0.5000	
0.00	94.35	3.621	0.5588	
0.00	94.35	4.146	0.6176	
0.00	94.35	4.748	0.6765	
3.28	97.58	5.436	0.7353	**
0.00	97.58	6.225	0.7941	
0.00	97.58	7.128	0.8529	
0.00	97.58	8.161	0.9118	
0.00	97.58	9.345	0.9706	
1.64	99.19	10.701	1.0294	*

0 1 2 3 4

15:18:46 TOPPERGOLD PROPERTY - "C" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AU Unit = PPB N = 45

Mean =	0.1673	Min =	0.0000	1st Quartile =	0.0000
Std. Dev. =	0.4039	Max =	1.4771	Median =	0.0000
CV % =	241.4204	Skewness =	2.0715	3rd Quartile =	0.0000

Anti-Log Mean = 1.470 Anti-Log Std. Dev. : (-) 0.580
(+) 3.725

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0923)
0.00	1.09	0.899	-0.0462	
84.44	83.70	1.112	0.0462	**********
0.00	83.70	1.376	0.1385	
0.00	83.70	1.701	0.2308	
0.00	83.70	2.104	0.3231	
0.00	83.70	2.603	0.4154	
0.00	83.70	3.219	0.5078	
0.00	83.70	3.982	0.6001	
0.00	83.70	4.925	0.6924	
2.22	85.87	6.091	0.7847	*
0.00	85.87	7.534	0.8770	
0.00	85.87	9.319	0.9694	
6.67	92.39	11.526	1.0617	***
0.00	92.39	14.256	1.1540	
4.44	96.74	17.633	1.2463	**
0.00	96.74	21.809	1.3386	
0.00	96.74	26.975	1.4310	
2.22	98.91	33.364	1.5233	*

0 1 2 3 4

16:16:55 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable = AU Unit = PPB N = 42

Mean =	8.548	Min =	1.000	1st Quartile =	1.000
Std. Dev. =	45.350	Max =	295.000	Median =	1.000
CV % =	530.554	Skewness =	6.143	3rd Quartile =	1.000

%	cum %	cls int	(# of bins = 17 - bin size = 18.375)
0.00	1.16	-8.187	
95.24	94.19	10.187	********** --> 40
2.38	96.51	28.562	*
0.00	96.51	46.937	
0.00	96.51	65.312	
0.00	96.51	83.687	
0.00	96.51	102.062	
0.00	96.51	120.437	
0.00	96.51	138.812	
0.00	96.51	157.187	
0.00	96.51	175.562	
0.00	96.51	193.937	
0.00	96.51	212.312	
0.00	96.51	230.687	
0.00	96.51	249.062	
0.00	96.51	267.437	
0.00	96.51	285.812	
2.38	98.84	304.187	*

0 1 2 3 4

SET PRINT OFF 12:49:37 TOPPERGOLD PROPERTY - "E" GRID
10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AU Unit = PPB N = 190

COPY TO B:ULTIMATE.DOC SDF
190 records copied

Mean =	0.4723	Min =	0.0000	1st Quartile =	0.0000
Std. Dev. =	0.6028	Max =	2.0000	Median =	0.0000
CV % =	127.6418	Skewness =	0.7595	3rd Quartile =	1.0000

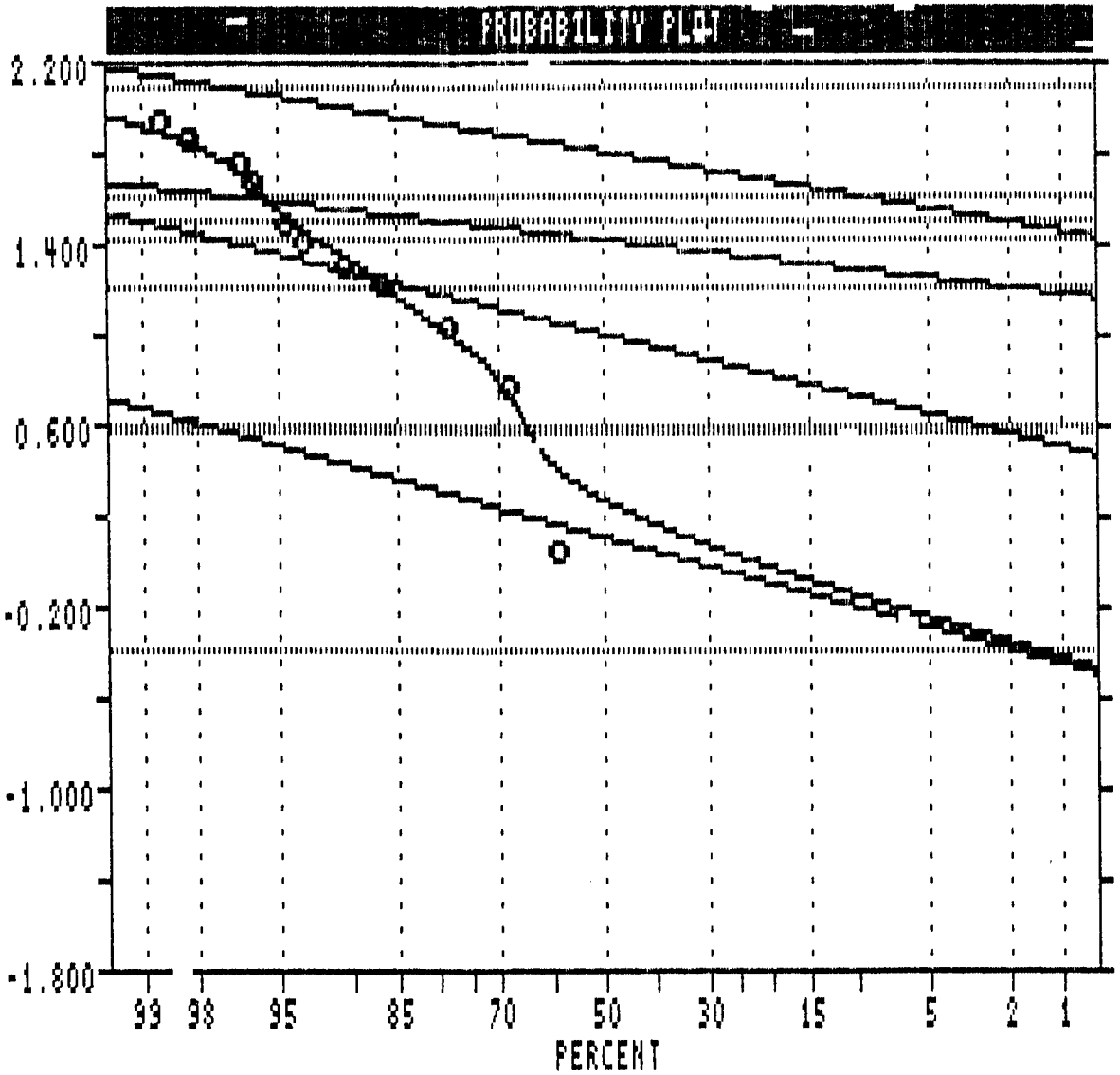
Anti-Log Mean = 2.967 Anti-Log Std. Dev. : (-) 0.740
(+) 11.889

%	cum %	antilog	cls int	(# of bins = 23 - bin size = 0.0909)
0.00	0.26	0.901	-0.0455	
58.42	58.38	1.110	0.0455	********** --> 78
0.00	58.38	1.369	0.1364	
0.00	58.38	1.688	0.2273	
0.00	58.38	2.081	0.3182	
0.00	58.38	2.565	0.4091	
0.00	58.38	3.162	0.5000	
0.00	58.38	3.899	0.5909	
0.00	58.38	4.806	0.6818	
9.47	67.80	5.926	0.7727	**********
0.00	67.80	7.305	0.8636	
0.00	67.80	9.006	0.9545	
10.53	78.27	11.103	1.0455	**********
0.00	78.27	13.689	1.1364	
8.42	86.65	16.876	1.2273	**********
3.68	90.31	20.806	1.3182	*****
3.16	93.46	25.650	1.4091	****
1.05	94.50	31.623	1.5000	*
0.00	94.50	38.986	1.5909	
1.58	96.07	48.064	1.6818	**
0.53	96.60	59.255	1.7727	*
1.58	98.17	73.053	1.8636	**
0.53	98.69	90.063	1.9545	*
1.05	99.74	111.034	2.0455	*

0 1 2 3 4

12:57:02
10/13/89

TOPPERGOLD PROPERTY - "E" GRID



LOGARITHMIC VALUES

VARIABLE = AU
UNIT = PPB
N = 190
N CI = 23

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.0975	0.2431	65.0
2	0.9913	0.2144	25.0
3	1.3914	0.1003	5.0
4	1.7887	0.1522	5.0

THRESHOLDS

Pop.		
1	-0.3887	0.5838
2	0.5631	1.4207
3	1.1908	1.5919
4	1.4842	2.0932

USERS VISUAL
PARAMETER ESTIMATES

13:08:35 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ULTIMATE.DOC

Variable = AU Unit = PPB N = 190
N CI = 23

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	1.252	-	0.715	65.00
		+	2.191	
2	9.815	-	5.991	25.00
		+	16.080	
3	24.624	-	19.548	5.00
		+	31.020	
4	61.477	-	43.299	5.00
		+	87.286	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.409	3.835
2	3.657	26.343
3	15.517	39.076
4	30.496	123.931

##

15:15:54 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AU Unit = PPB N = 408

Mean =	0.2853	Min =	0.0000	1st Quartile =	0.0000
Std. Dev. =	0.5090	Max =	2.0000	Median =	0.0000
CV % =	178.4412	Skewness =	1.4983	3rd Quartile =	0.6990

Anti-Log Mean = 1.929 Anti-Log Std. Dev. : (-) 0.597
(+) 6.227

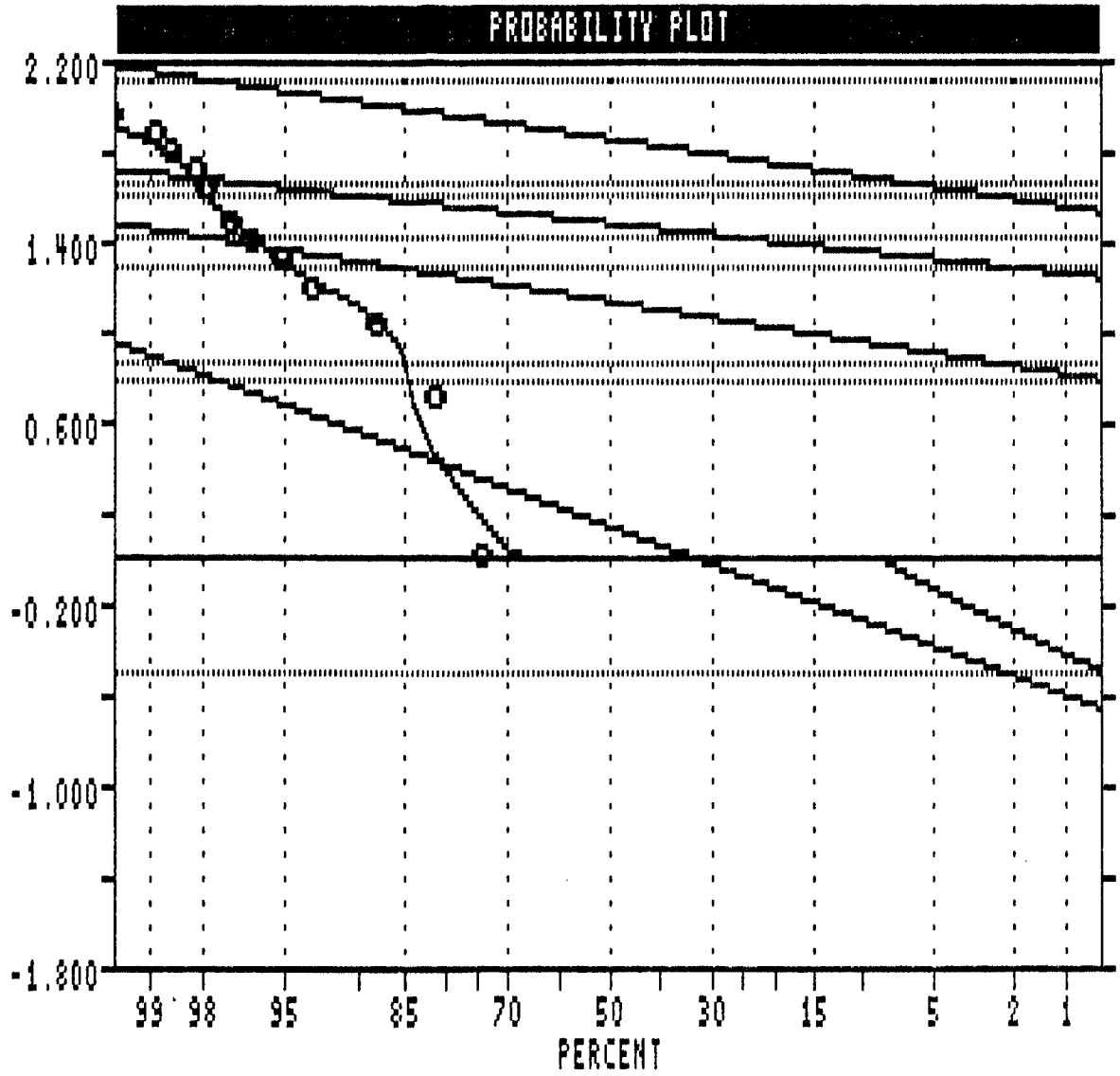
%	cum %	antilog	cls int	(# of bins = 27 - bin size = 0.0769)
0.00	0.12	0.915	-0.0385	
73.77	73.72	1.093	0.0385	********** --> 135
0.00	73.72	1.304	0.1154	
0.00	73.72	1.557	0.1923	
0.00	73.72	1.859	0.2692	
0.00	73.72	2.219	0.3462	
0.00	73.72	2.649	0.4231	
0.00	73.72	3.162	0.5000	
0.00	73.72	3.775	0.5769	
0.00	73.72	4.507	0.6538	
7.35	81.05	5.380	0.7308	**********
0.00	81.05	6.422	0.8077	
0.00	81.05	7.667	0.8846	
0.00	81.05	9.152	0.9615	
7.11	88.14	10.926	1.0385	**********
0.00	88.14	13.043	1.1154	
5.15	93.28	15.571	1.1923	*********
0.00	93.28	18.588	1.2692	
1.72	94.99	22.190	1.3462	***
1.47	96.45	26.490	1.4231	***
0.74	97.19	31.623	1.5000	*
0.00	97.19	37.751	1.5769	
0.74	97.92	45.066	1.6538	*
0.25	98.17	53.798	1.7308	
0.49	98.66	64.223	1.8077	*
0.25	98.90	76.668	1.8846	
0.49	99.39	91.525	1.9615	*
0.49	99.88	109.260	2.0385	*

0 1 2 3 4

Each "*" represents approximately 2.2 observations.

15:22:27
10/13/89

TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS



LOGARITHMIC VALUES

VARIABLE = AU
UNIT = PPB
N = 408
N CI = 27

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.0000	0.0050	60.0
2	0.1388	0.3198	25.0
3	1.1300	0.1374	11.0
4	1.4730	0.0352	2.0
5	1.8429	0.1253	2.0

THRESHOLDS

Pop.		
1	-0.0100	0.0100
2	-0.5008	0.7784
3	0.8553	1.4048
4	1.2827	1.6634
5	1.5923	2.0935

USERS VISUAL
PARAMETER ESTIMATES

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ALLDAT.DOC

Variable = AU Unit = PPB N = 408
N CI = 27

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

0 Observations Were Below the Minimum Value of 1.0000
1 Observations Were Above the Maximum Value of 274.0000

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	1.000	-	0.989	60.00
		+	1.012	
2	1.377	-	0.659	25.00
		+	2.875	
3	13.491	-	9.832	11.00
		+	18.511	
4	29.719	-	23.870	2.00
		+	37.000	
5	69.646	-	52.194	2.00
		+	92.934	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.977	1.023
2	0.316	6.004
3	7.166	25.399
4	19.172	46.066
5	39.115	124.009

##########

13:02:57 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = CU Unit = PPM N = 71

Mean =	1.5852	Min =	1.2041	1st Quartile =	1.4914
Std. Dev. =	0.1582	Max =	2.1903	Median =	1.5911
CV % =	9.9812	Skewness =	0.6907	3rd Quartile =	1.6721

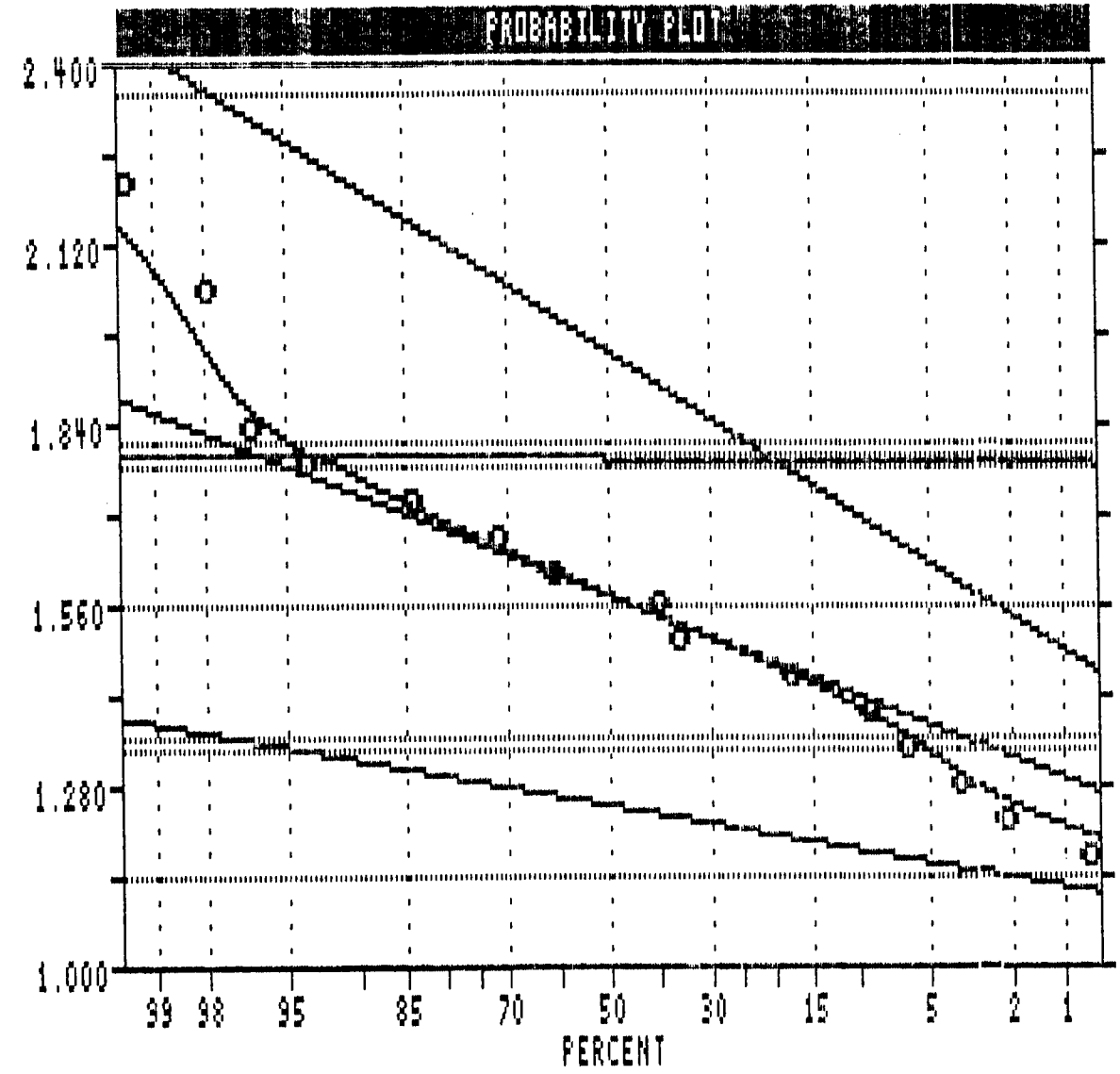
Anti-Log Mean = 38.480 Anti-Log Std. Dev. : (-) 26.731
(+) 55.394

%	cum %	antilog	cls int	(# of bins = 19 - bin size = 0.0548)
0.00	0.69	15.022	1.1767	
1.41	2.08	17.042	1.2315	*
1.41	3.47	19.333	1.2863	*
2.82	6.25	21.933	1.3411	**
2.82	9.03	24.882	1.3959	**
8.45	17.36	28.228	1.4507	******
18.31	35.42	32.023	1.5055	**********
4.23	39.58	36.329	1.5603	***
21.13	60.42	41.214	1.6150	**********
11.27	71.53	46.755	1.6698	********
12.68	84.03	53.042	1.7246	*********
9.86	93.75	60.174	1.7794	*******
2.82	96.53	68.265	1.8342	**
0.00	96.53	77.444	1.8890	
0.00	96.53	87.857	1.9438	
0.00	96.53	99.671	1.9986	
1.41	97.92	113.073	2.0534	*
0.00	97.92	128.277	2.1081	
0.00	97.92	145.525	2.1629	
1.41	99.31	165.092	2.2177	*

0 1 2 3 4

13:18:36
10/12/89

TOPPERGOLD PROPERTY - "A" GRID



LOGARITHMIC VALUES

VARIABLE = CU
UNIT = PPM
N = 71
N CI = 19

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.2414	0.0528	3.0
2	1.5688	0.1200	92.0
3	1.7805	0.0050	1.0
4	1.9514	0.1378	4.0

THRESHOLDS

Pop.		
1	1.1359	1.3470
2	1.3288	1.8088
3	1.7705	1.7905
4	1.5558	2.3469

USERS VISUAL
PARAMETER ESTIMATES

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:AGRID.DAT

Variable = CU Unit = PPM N = 71
N CI = 19

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	17.436	-	15.441	3.00
		+	19.688	
2	37.053	-	28.102	92.00
		+	48.844	
3	60.331	-	59.641	1.00
		+	61.030	
4	89.407	-	56.701	4.00
		+	140.978	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	13.674	22.232
2	21.322	64.388
3	58.958	61.737
4	35.959	222.296

##########

14:17:22 TOPPERGOLD PROPERTY - "B" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = CU Unit = PPM N = 61

Mean =	1.4243	Min =	1.0792	1st Quartile =	1.3169
Std. Dev. =	0.1797	Max =	1.8692	Median =	1.4147
CV % =	12.6188	Skewness =	0.2070	3rd Quartile =	1.5135

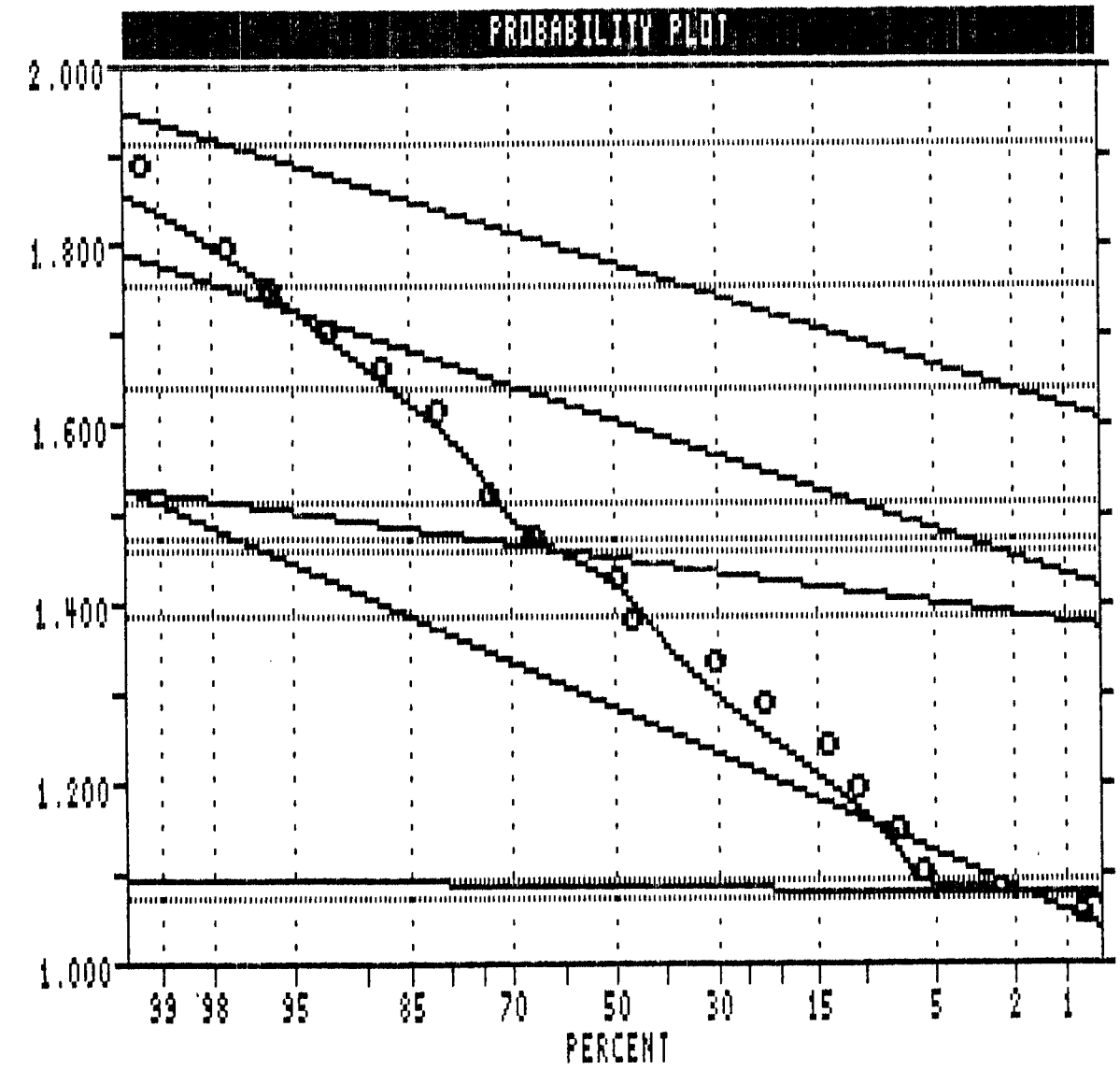
Anti-Log Mean = 26.562 Anti-Log Std. Dev. : (-) 17.560
(+) 40.177

%	cum %	antilog	cls int	(# of bins = 18 - bin size = 0.0465)
0.00	0.81	11.375	1.0539	
4.92	5.65	12.660	1.1024	***
1.64	7.26	14.089	1.1489	*
3.28	10.48	15.681	1.1954	**
3.28	13.71	17.452	1.2418	**
8.20	21.77	19.423	1.2883	*****
8.20	29.84	21.617	1.3348	*****
16.39	45.97	24.058	1.3813	**********
3.28	49.19	26.775	1.4277	**
16.39	65.32	29.799	1.4742	**********
8.20	73.39	33.165	1.5207	*****
0.00	73.39	36.911	1.5672	
8.20	81.45	41.080	1.6136	*****
6.56	87.90	45.719	1.6601	****
4.92	92.74	50.883	1.7066	***
3.28	95.97	56.630	1.7530	**
1.64	97.58	63.026	1.7995	*
0.00	97.58	70.145	1.8460	
1.64	99.19	78.067	1.8925	*

0 1 2 3 4

14:26:03
10/12/89

TOPPERGOLD PROPERTY - "B" GRID



LOGARITHMIC VALUES

VARIABLE = CU
UNIT = PPM
N = 61
N CI = 18

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.0792	0.0050	5.0
2	1.2804	0.0364	44.0
3	1.4479	0.0312	21.0
4	1.6020	0.0737	25.0
5	1.7741	0.0673	5.0

THRESHOLDS

Pop.		
1	1.0692	1.0892
2	1.0876	1.4732
3	1.3856	1.5102
4	1.4545	1.7435
5	1.6396	1.9086

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:BGRID.DAT

Variable = CU Unit = PPM N = 61
N CI = 18

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	12.000	-	11.863	5.00
		+	12.139	
2	19.072	-	15.276	44.00
		+	23.811	
3	28.049	-	26.108	21.00
		+	30.135	
4	39.994	-	33.748	25.00
		+	47.396	
5	59.445	-	50.915	5.00
		+	69.403	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	11.727	12.280
2	12.236	29.728
3	24.301	32.376
4	28.478	56.168
5	43.609	81.030

##

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = CU Unit = PPM N = 45

Mean =	1.6267	Min =	1.1461	1st Quartile =	1.5051
Std. Dev. =	0.1765	Max =	2.1644	Median =	1.6128
CV % =	10.8488	Skewness =	0.0029	3rd Quartile =	1.7322

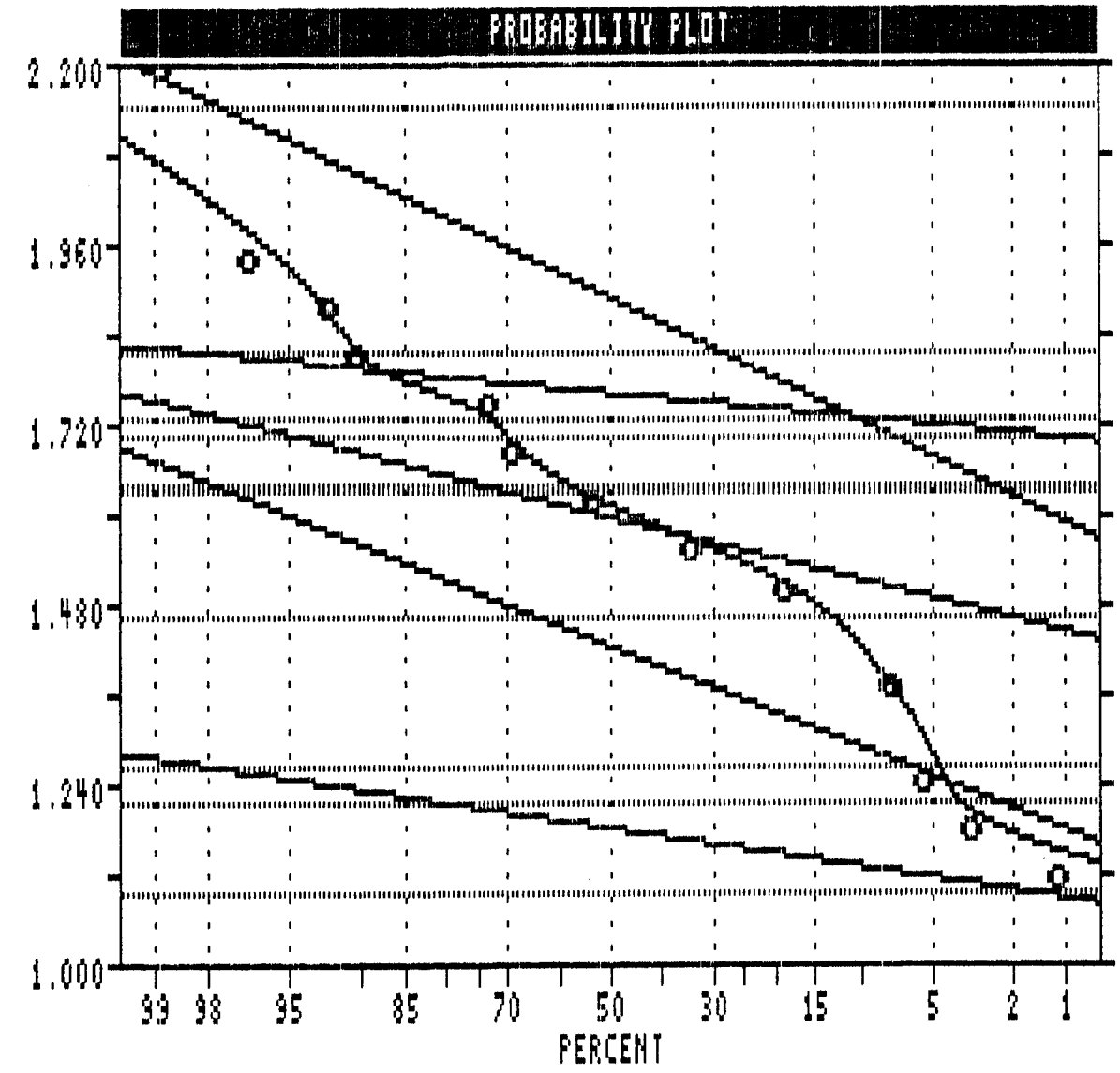
Anti-Log Mean = 42.333 Anti-Log Std. Dev. : (-) 28.197
(+) 63.555

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0636)
0.00	1.09	13.011	1.1143	
2.22	3.26	15.064	1.1779	*
2.22	5.43	17.442	1.2416	*
0.00	5.43	20.194	1.3052	
2.22	7.61	23.381	1.3689	*
0.00	7.61	27.071	1.4325	
11.11	18.48	31.343	1.4961	*****
15.56	33.70	36.290	1.5598	*******
20.00	53.26	42.017	1.6234	*********
15.56	68.48	48.647	1.6871	*******
4.44	72.83	56.325	1.7507	**
17.78	90.22	65.214	1.8143	********
2.22	92.39	75.505	1.8780	*
4.44	96.74	87.421	1.9416	**
0.00	96.74	101.217	2.0053	
0.00	96.74	117.191	2.0689	
0.00	96.74	135.685	2.1325	
2.22	98.91	157.099	2.1962	*

0 1 2 3 4

15:23:08
10/12/89

TOPPERGOLD PROPERTY - "C" GRID



LOGARITHMIC VALUES

VARIABLE = CU
UNIT = PPM
N = 45
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.1751	0.0410	4.0
2	1.4215	0.1057	11.0
3	1.5901	0.0659	55.0
4	1.7561	0.0268	16.0
5	1.8839	0.1294	14.0

THRESHOLDS

Pop.		
1	1.0931	1.2571
2	1.2101	1.6329
3	1.4584	1.7219
4	1.7025	1.8097
5	1.6250	2.1428

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:CGRID.DAT

Variable = CU Unit = PPM N = 45
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	14.967	-	13.618	4.00
		+	16.449	
2	26.394	-	20.692	11.00
		+	33.666	
3	38.916	-	33.438	55.00
		+	45.290	
4	57.031	-	53.616	16.00
		+	60.664	
5	76.543	-	56.815	14.00
		+	103.121	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	12.391	18.077
2	16.222	42.942
3	28.732	52.709
4	50.406	64.528
5	42.172	138.928

##

16:18:21 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = CU Unit = PPM N = 42

Mean =	1.4625	Min =	1.1461	1st Quartile =	1.3222
Std. Dev. =	0.1753	Max =	2.0253	Median =	1.4914
CV % =	11.9870	Skewness =	0.5945	3rd Quartile =	1.5378

Anti-Log Mean = 29.004 Anti-Log Std. Dev. : (-) 19.371
(+) 43.427

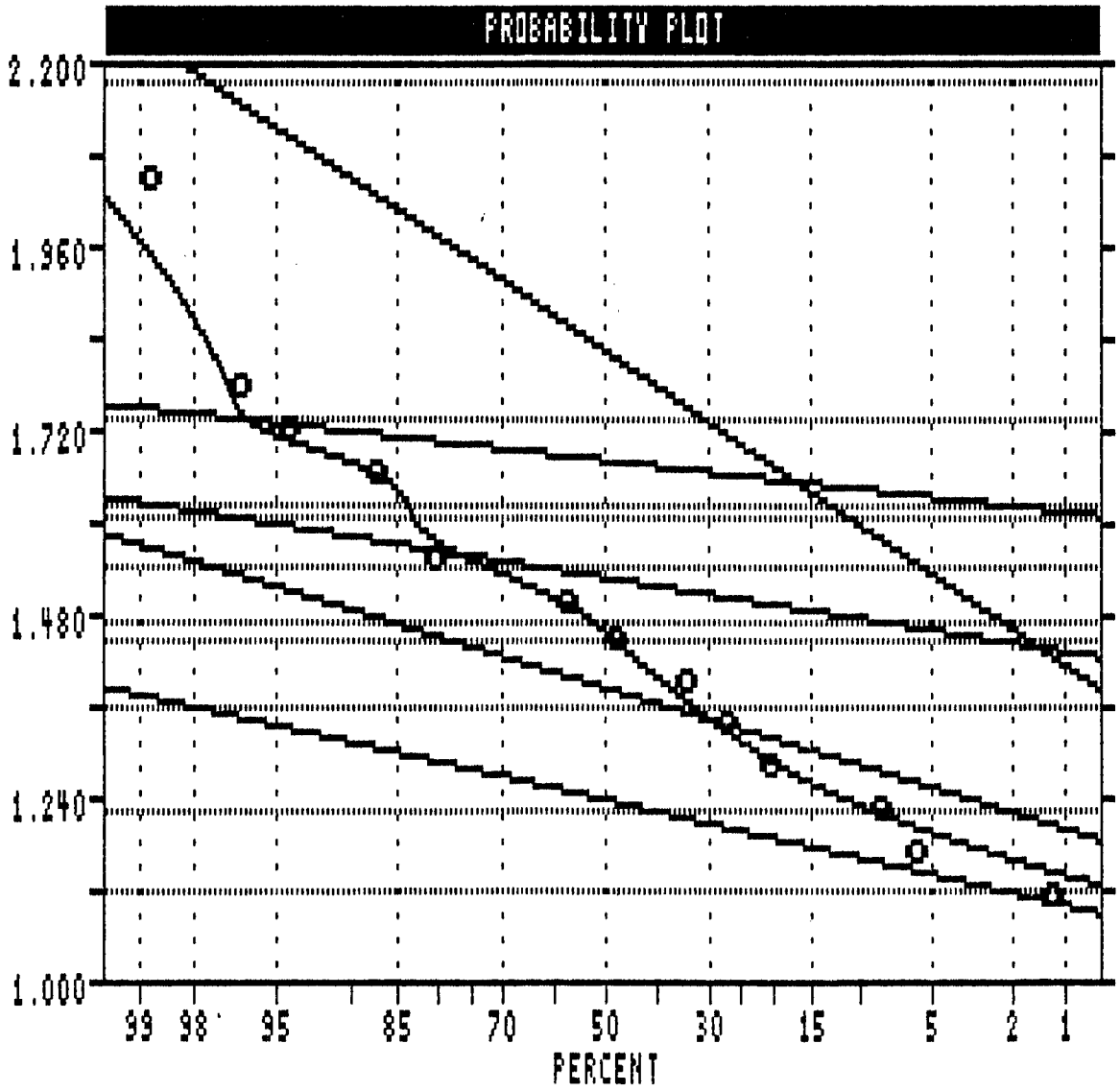
(# of bins = 17 - bin size = 0.0549)

%	cum %	antilog	cls int	
0.00	1.16	13.142	1.1187	
4.76	5.81	14.914	1.1736	**
2.38	8.14	16.926	1.2286	*
11.90	19.77	19.209	1.2835	*****
7.14	26.74	21.800	1.3384	***
7.14	33.72	24.740	1.3934	***
14.29	47.67	28.077	1.4483	******
9.52	56.98	31.864	1.5033	****
23.81	80.23	36.161	1.5582	**********
0.00	80.23	41.038	1.6132	
7.14	87.21	46.574	1.6681	***
7.14	94.19	52.855	1.7231	***
2.38	96.51	59.984	1.7780	*
0.00	96.51	68.075	1.8330	
0.00	96.51	77.256	1.8879	
0.00	96.51	87.676	1.9429	
0.00	96.51	99.502	1.9978	
2.38	98.84	112.922	2.0528	*

0 1 2 3 4

16:25:13
10/12/89

TOPPERGOLD PROPERTY - "D" GRID



LOGARITHMIC VALUES

VARIABLE = CU
UNIT = PPM
N = 42
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.2333	0.0595	20.0
2	1.3823	0.0794	34.0
3	1.5241	0.0404	29.0
4	1.6760	0.0274	12.0
5	1.8219	0.1762	5.0

Pop.	THRESHOLDS	
1	1.1143	1.3524
2	1.2234	1.5412
3	1.4434	1.6048
4	1.6211	1.7308
5	1.4694	2.1743

USERS VISUAL
PARAMETER ESTIMATES

16:27:05 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:DGRID.DAT

Variable = CU Unit = PPM N = 42
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	17.113	-	14.922	20.00
		+	19.627	
2	24.115	-	20.084	34.00
		+	28.955	
3	33.429	-	30.462	29.00
		+	36.685	
4	47.421	-	44.520	12.00
		+	50.511	
5	66.353	-	44.221	5.00
		+	99.563	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	13.011	22.510
2	16.727	34.767
3	27.759	40.257
4	41.797	53.802
5	29.471	149.394

##########

13:09:48 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = CU Unit = PPM N = 190

Mean =	1.5661	Min =	1.3802	1st Quartile =	1.4771
Std. Dev. =	0.1311	Max =	2.0645	Median =	1.5441
CV % =	8.3735	Skewness =	1.3130	3rd Quartile =	1.6128

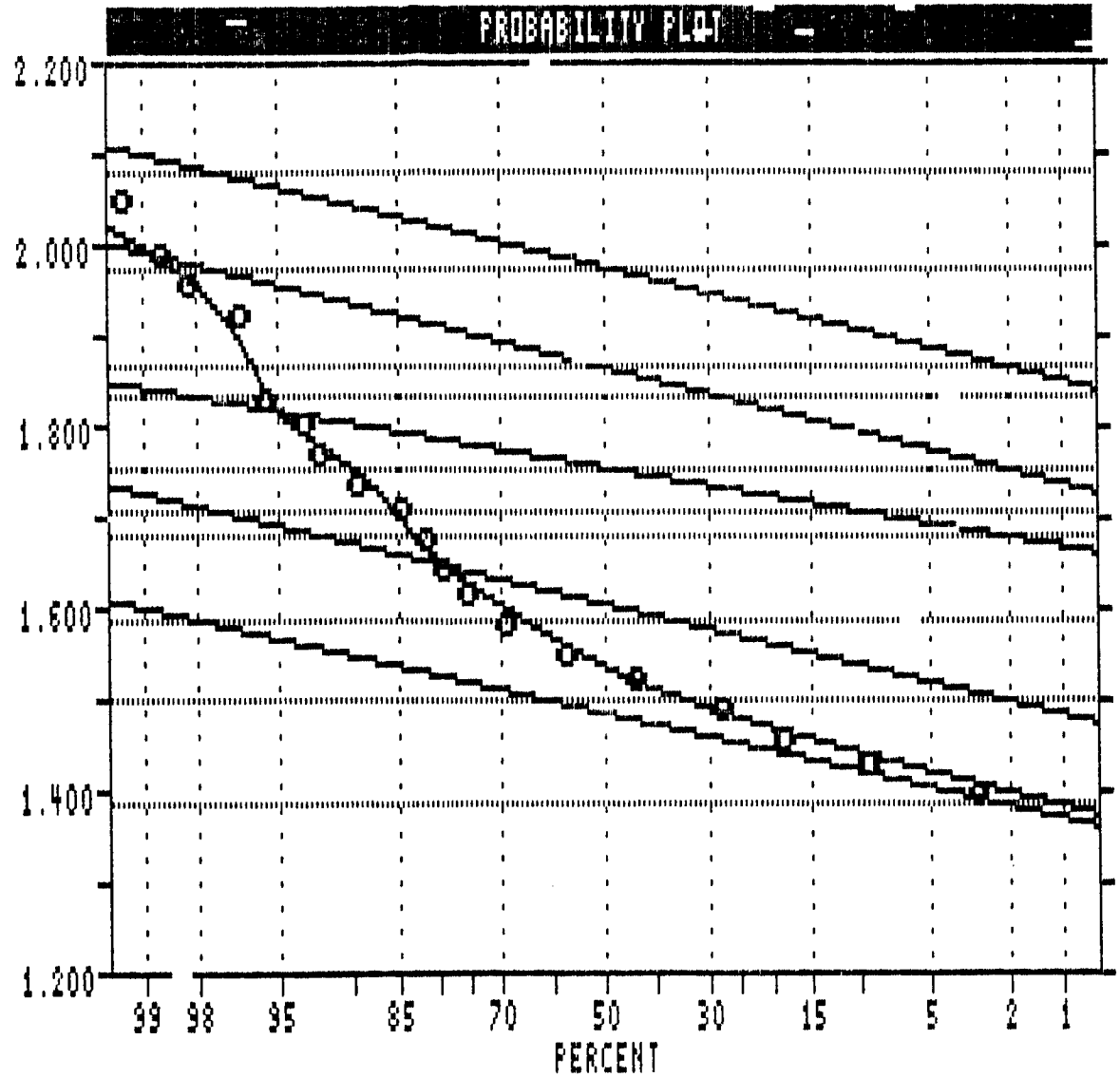
Anti-Log Mean = 36.820 Anti-Log Std. Dev. : (-) 27.224
(+) 49.798

%	cum %	antilog	cls int	(# of bins = 23 - bin size = 0.0311)
0.00	0.26	23.156	1.3647	
2.63	2.88	24.875	1.3958	****
6.32	9.16	26.722	1.4269	********
8.95	18.06	28.706	1.4580	**********
9.47	27.49	30.837	1.4891	**********
15.79	43.19	33.126	1.5202	**********
14.21	57.33	35.585	1.5513	**********
11.58	68.85	38.227	1.5824	**********
6.32	75.13	41.066	1.6135	********
3.68	78.80	44.114	1.6446	*****
2.63	81.41	47.389	1.6757	****
3.16	84.55	50.908	1.7068	****
4.74	89.27	54.687	1.7379	******
3.16	92.41	58.747	1.7690	****
1.05	93.46	63.109	1.8001	*
2.11	95.55	67.794	1.8312	***
0.00	95.55	72.827	1.8623	
0.00	95.55	78.234	1.8934	
1.05	96.60	84.042	1.9245	*
1.58	98.17	90.282	1.9556	**
0.53	98.69	96.985	1.9867	*
0.00	98.69	104.185	2.0178	
0.53	99.21	111.920	2.0489	*
0.53	99.74	120.229	2.0800	*

0 1 2 3 4

13:12:51
10/13/89

TOPPERGOLD PROPERTY - "E" GRID



LOGARITHMIC VALUES

VARIABLE = CU
UNIT = PPM
N = 190
N CI = 23

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.4819	0.0491	55.0
2	1.5999	0.0530	30.0
3	1.7514	0.0379	10.0
4	1.8607	0.0553	2.0
5	1.9715	0.0540	3.0

THRESHOLDS

Pop.		
1	1.3838	1.5801
2	1.4933	1.7058
3	1.6755	1.8272
4	1.7500	1.9713
5	1.8635	2.0794

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ULTIMATE.DOC

Variable = CU Unit = PPM N = 190
N CI = 23

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	30.334	-	27.092	55.00
		+	33.963	
2	39.798	-	35.226	30.00
		+	44.963	
3	56.412	-	51.695	10.00
		+	61.559	
4	72.558	-	63.878	2.00
		+	82.417	
5	93.646	-	82.701	3.00
		+	106.039	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	24.197	38.026
2	31.180	50.798
3	47.372	67.176
4	56.236	93.616
5	73.036	120.072

##

16:14:40 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = CU Unit = PPM N = 409

Mean =	1.5443	Min =	1.0792	1st Quartile =	1.4472
Std. Dev. =	0.1660	Max =	2.1903	Median =	1.5315
CV % =	10.7508	Skewness =	0.3312	3rd Quartile =	1.6335

Anti-Log Mean = 35.017 Anti-Log Std. Dev. : (-) 23.892
(+) 51.322

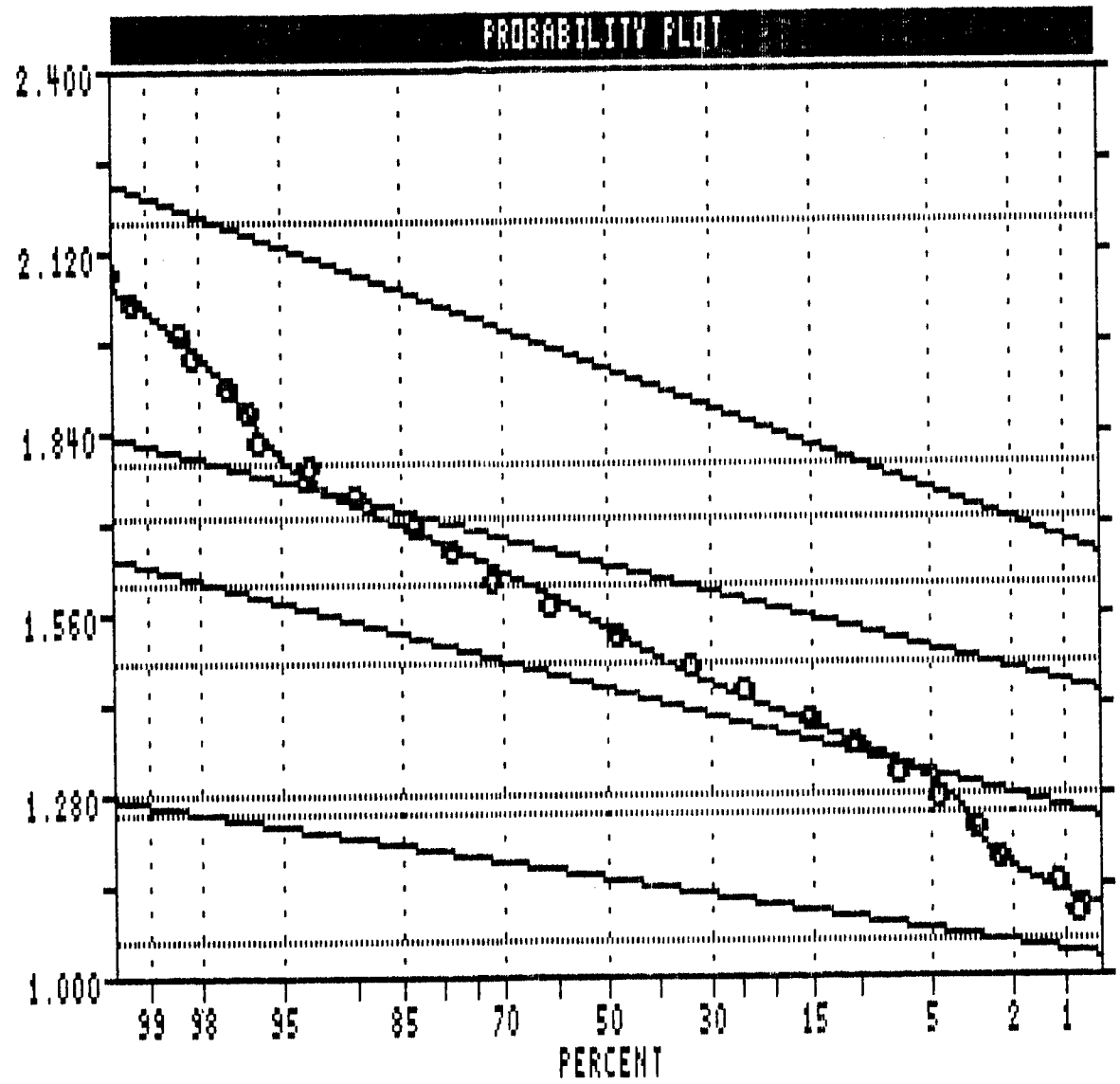
%	cum %	antilog	cls int	(# of bins = 27 - bin size = 0.0427)
0.00	0.12	11.424	1.0578	
0.73	0.85	12.605	1.1005	*
0.24	1.10	13.909	1.1433	
1.22	2.32	15.347	1.1860	**
0.73	3.05	16.934	1.2288	*
1.47	4.51	18.685	1.2715	***
2.44	6.95	20.617	1.3142	****
3.42	10.37	22.749	1.3570	******
4.65	15.00	25.102	1.3997	********
9.29	24.27	27.698	1.4424	******************
9.05	33.29	30.562	1.4852	******************
14.43	47.68	33.722	1.5279	****************************
13.45	61.10	37.209	1.5707	**************************
10.51	71.59	41.057	1.6134	********************
6.85	78.41	45.303	1.6561	************
4.89	83.29	49.987	1.6989	*********
6.36	89.63	55.157	1.7416	************
3.67	93.29	60.860	1.7843	*******
2.69	95.98	67.154	1.8271	*****
0.49	96.46	74.098	1.8698	*
0.73	97.20	81.761	1.9125	*
0.98	98.17	90.215	1.9553	**
0.24	98.41	99.544	1.9980	
0.73	99.15	109.838	2.0408	*
0.24	99.39	121.197	2.0835	
0.00	99.39	133.729	2.1262	
0.24	99.63	147.558	2.1690	
0.24	99.88	162.817	2.2117	

0 1 2 3 4

Each "*" represents approximately 2.2 observations.

16:41:07
10/13/89

TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS



LOGARITHMIC VALUES

VARIABLE = CU
UNIT = PPM
N = 409
N CI = 27

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.1462	0.0430	3.0
2	1.4382	0.0804	47.0
3	1.6333	0.0781	45.0
4	1.9303	0.1144	5.0

THRESHOLDS

Pop.		
1	1.0483	1.2441
2	1.2773	1.5991
3	1.4771	1.7895
4	1.7014	2.1591

USERS VISUAL
PARAMETER ESTIMATES

16:50:54 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ALLDAT.DOC

Variable = CU Unit = PPM N = 409
N CI = 27

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	14.002	-	12.510	3.00
		+	15.673	
2	27.429	-	22.791	47.00
		+	33.010	
3	42.986	-	35.911	45.00
		+	51.456	
4	85.167	-	65.442	5.00
		+	110.837	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	11.176	17.544
2	18.937	39.728
3	30.000	61.593
4	50.286	144.244

##########

13:26:47 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = PB Unit = PPM N = 71

Mean =	0.7881	Min =	0.6021	1st Quartile =	0.6990
Std. Dev. =	0.1325	Max =	1.1461	Median =	0.7782
CV % =	16.8105	Skewness =	0.3394	3rd Quartile =	0.8451

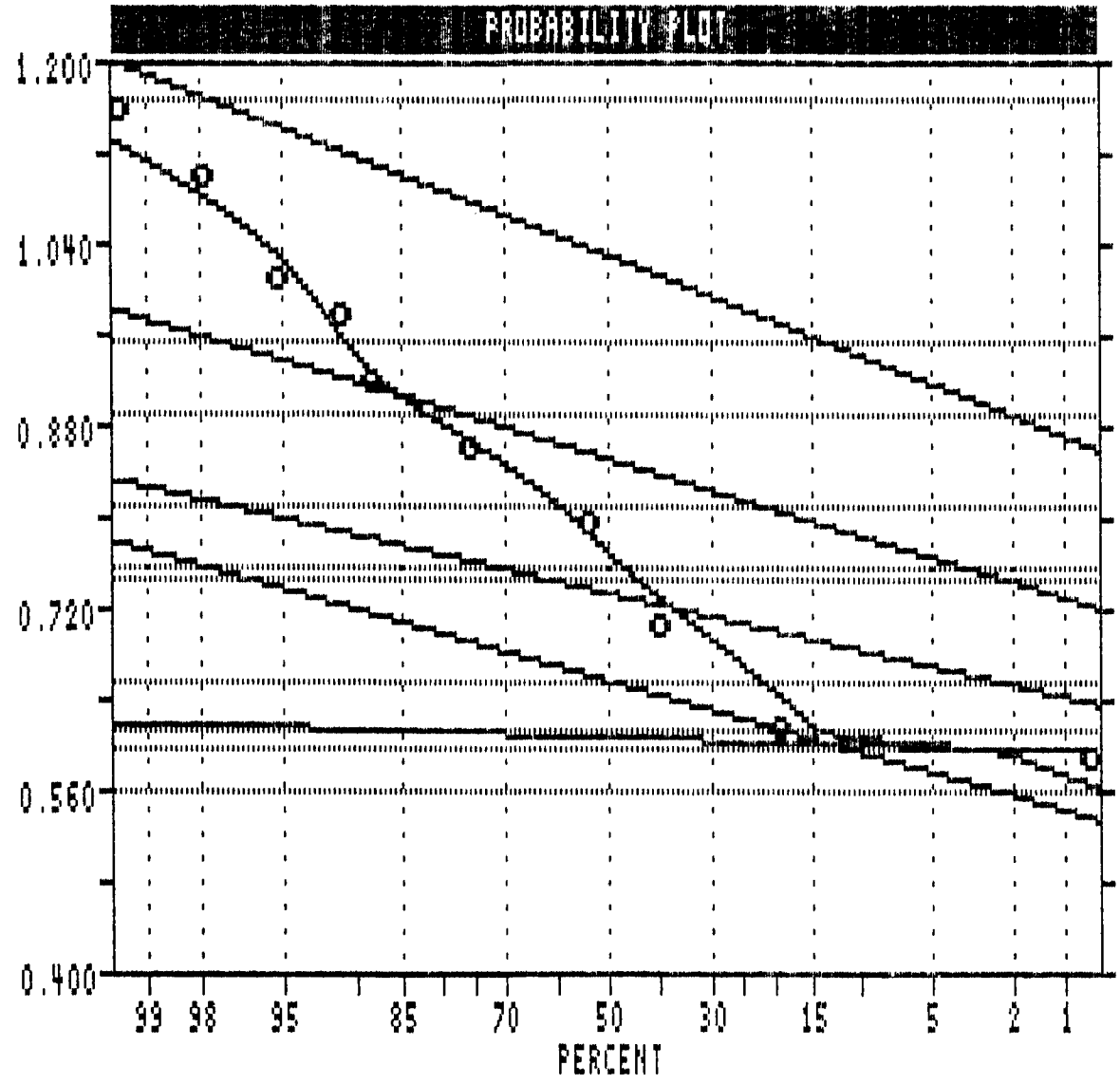
Anti-Log Mean = 6.139 Anti-Log Std. Dev. : (-) 4.525
(+) 8.329

%	cum %	antilog	cls int	(# of bins = 19 - bin size = 0.0302)
0.00	0.00	3.981	0.5869	
18.31	18.75	4.142	0.6172	**********
0.00	18.75	4.440	0.6474	
0.00	18.75	4.760	0.6776	
21.13	39.58	5.103	0.7079	**********
0.00	39.58	5.471	0.7381	
0.00	39.58	5.865	0.7683	
14.08	53.47	6.288	0.7985	**********
0.00	53.47	6.741	0.8288	
22.54	75.69	7.227	0.8590	**********
0.00	75.69	7.748	0.8892	
12.68	88.19	8.307	0.9194	**********
0.00	88.19	8.906	0.9497	
2.82	90.97	9.547	0.9799	**
4.23	95.14	10.236	1.0101	***
0.00	95.14	10.973	1.0403	
0.00	95.14	11.764	1.0706	
2.82	97.92	12.612	1.1008	**
0.00	97.92	13.521	1.1310	
1.41	99.31	14.496	1.1612	*

0 1 2 3 4

13:33:55
10/12/89

TOPPERGOLD PROPERTY - "A" GRID



LOGARITHMIC VALUES

VARIABLE = PB
UNIT = PPM
N = 71
N CI = 19

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.6021	0.0050	10.0
2	0.6540	0.0492	21.0
3	0.7306	0.0396	19.0
4	0.8470	0.0524	40.0
5	1.0266	0.0680	10.0

THRESHOLDS

Pop.		
1	0.5921	0.6121
2	0.5555	0.7524
3	0.6515	0.8098
4	0.7422	0.9518
5	0.8905	1.1627

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:AGRID.DAT

Variable = PB Unit = PPM N = 71
N CI = 19

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	4.000	-	3.954	10.00
		+	4.046	
2	4.508	-	4.025	21.00
		+	5.049	
3	5.378	-	4.910	19.00
		+	5.892	
4	7.031	-	6.232	40.00
		+	7.932	
5	10.632	-	9.090	10.00
		+	12.436	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	3.909	4.093
2	3.594	5.655
3	4.482	6.454
4	5.524	8.949
5	7.772	14.545

##

14:31:04 TOPPERGOLD PROPERTY - "B" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = PB Unit = PPM N = 61

Mean =	0.8021	Min =	0.6021	1st Quartile =	0.7782
Std. Dev. =	0.0895	Max =	1.0414	Median =	0.7782
CV % =	11.1533	Skewness =	0.0996	3rd Quartile =	0.8451

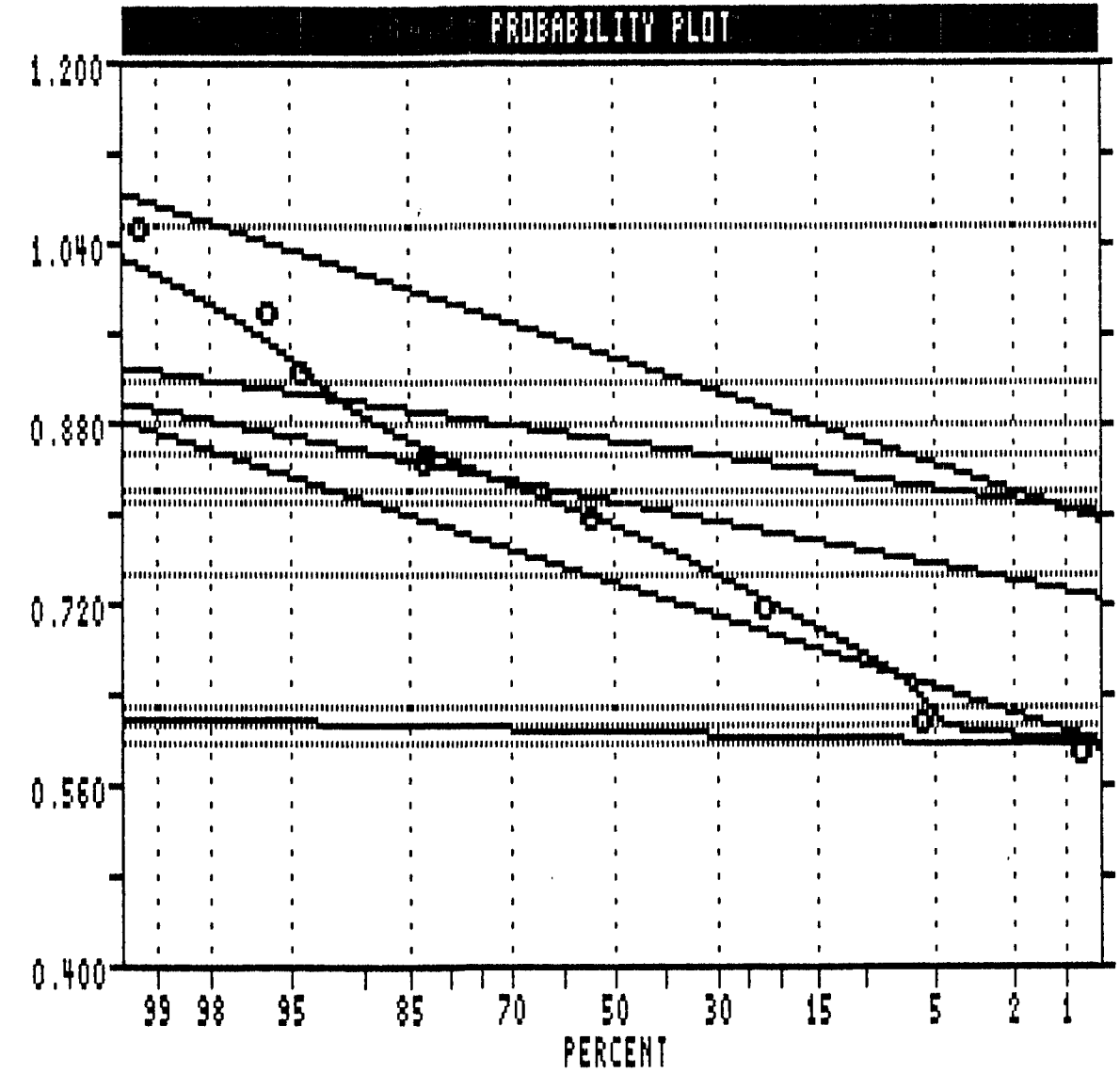
Anti-Log Mean = 6.340 Anti-Log Std. Dev. : (-) 5.160
(+) 7.791

%	cum %	artilog	cls int	(# of bins = 18 - bin size = 0.0258)
0.00	0.81	3.883	0.5891	
4.92	5.65	4.121	0.6150	***
0.00	5.65	4.373	0.6408	
0.00	5.65	4.642	0.6667	
0.00	5.65	4.926	0.6925	
16.39	21.77	5.228	0.7184	**********
0.00	21.77	5.549	0.7442	
0.00	21.77	5.889	0.7700	
32.79	54.03	6.250	0.7959	**********
0.00	54.03	6.633	0.8217	
29.51	83.06	7.040	0.8476	**********
0.00	83.06	7.472	0.8734	
0.00	83.06	7.930	0.8993	
11.48	94.35	8.416	0.9251	*******
0.00	94.35	8.932	0.9509	
1.64	95.97	9.479	0.9768	*
0.00	95.97	10.061	1.0026	
0.00	95.97	10.678	1.0285	
3.28	99.19	11.332	1.0543	**

0 1 2 3 4

17:47:21
10/12/89

TOPPERGOLD PROPERTY - "B" GRID



LOGARITHMIC VALUES

VARIABLE = PB
UNIT = PPM
N = 61
N CI = 18

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.6021	0.0050	4.0
2	0.7381	0.0567	46.0
3	0.8099	0.0339	33.0
4	0.8613	0.0266	7.0
5	0.9359	0.0579	10.0

THRESHOLDS

Pop.		
1	0.5921	0.6121
2	0.6247	0.8516
3	0.7421	0.8776
4	0.8082	0.9145
5	0.8201	1.0516

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:BGRID.DAT

Variable = PB Unit = PPM N = 61
N CI = 18

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	4.000	-	3.954	4.00
		+	4.046	
2	5.472	-	4.802	46.00
		+	6.235	
3	6.455	-	5.970	33.00
		+	6.978	
4	7.267	-	6.835	7.00
		+	7.725	
5	8.627	-	7.551	10.00
		+	9.857	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	3.909	4.093
2	4.214	7.105
3	5.522	7.544
4	6.430	8.213
5	6.609	11.261

##

15:27:52 TOPPERGOLD PROPERTY - "C" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = PB Unit = PPM N = 45

Mean =	1.0170	Min =	0.6990	1st Quartile =	0.9031
Std. Dev. =	0.1260	Max =	1.3979	Median =	1.0000
CV % =	12.3917	Skewness =	0.6336	3rd Quartile =	1.0792

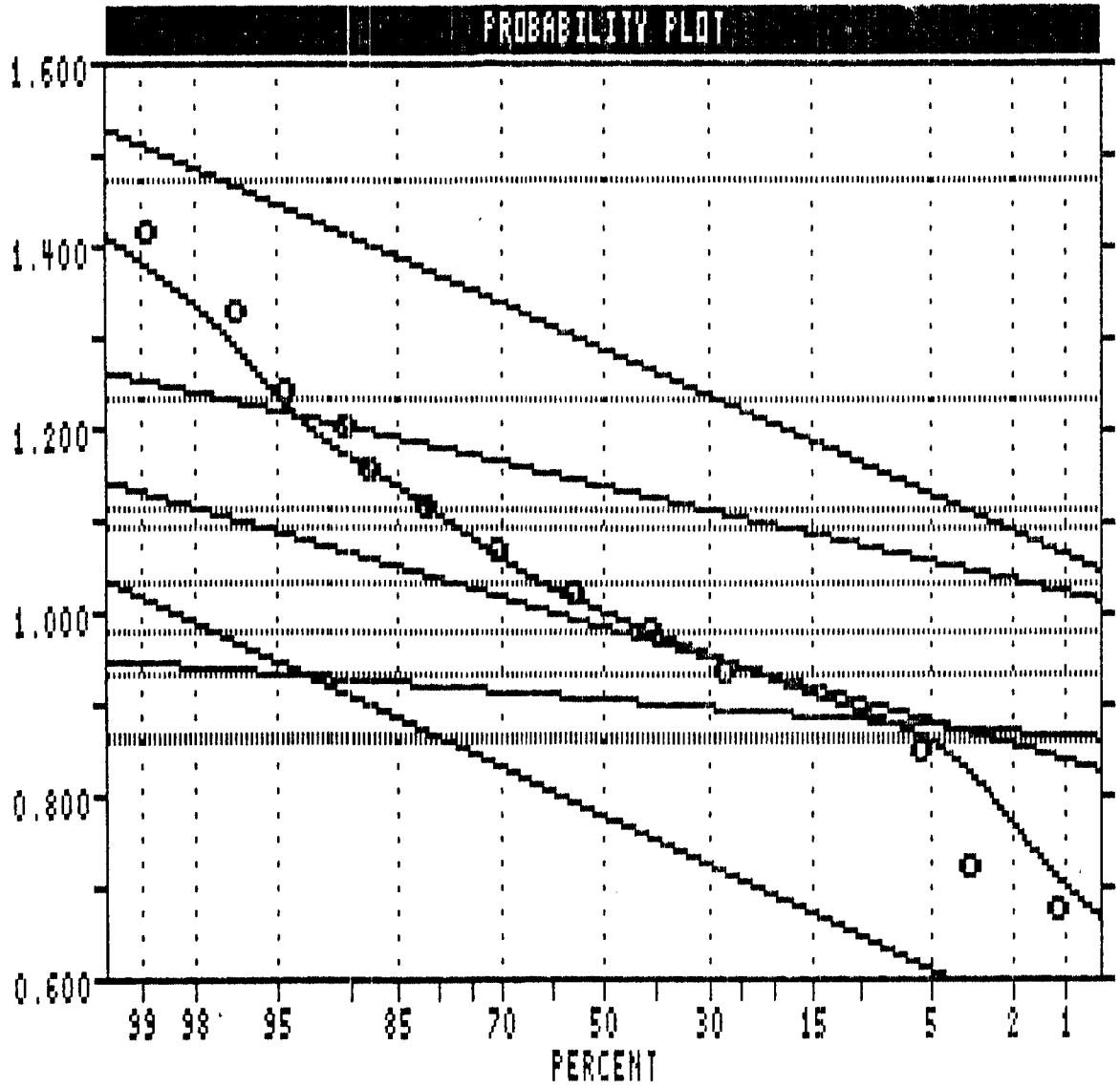
Anti-Log Mean = 10.399 Anti-Log Std. Dev. : (-) 7.779
(+) 13.899

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0437)
0.00	1.09	4.755	0.6771	
2.22	3.26	5.258	0.7208	*
0.00	3.26	5.814	0.7645	
0.00	3.26	6.430	0.8082	
2.22	5.43	7.110	0.8519	*
0.00	5.43	7.862	0.8956	
22.22	27.17	8.694	0.9392	**********
13.33	40.22	9.614	0.9829	******
15.56	55.43	10.632	1.0266	*******
15.56	70.65	11.757	1.0703	*******
11.11	81.52	13.001	1.1140	*****
6.67	88.04	14.377	1.1577	***
2.22	90.22	15.898	1.2014	*
4.44	94.57	17.581	1.2450	**
0.00	94.57	19.441	1.2887	
2.22	96.74	21.499	1.3324	*
0.00	96.74	23.774	1.3761	
2.22	98.91	26.290	1.4198	*

0 1 2 3 4

15:5?.43
10/12/89

TOPPERGOLD PROPERTY - "C" GRID



LOGARITHMIC VALUES

VARIABLE = PB
UNIT = PPM
N = 45
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.7720	0.1033	4.0
2	0.8978	0.0175	3.0
3	0.9813	0.0632	69.0
4	1.1321	0.0494	17.0
5	1.2821	0.0352	7.0

THRESHOLDS

Pop.		
1	0.5654	0.9787
2	0.8628	0.9328
3	0.8550	1.1076
4	1.0333	1.2310
5	1.0917	1.4725

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:CGRID.DAT

Variable = PB Unit = PPM N = 45
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	5.916	-	4.663	4.00
		+	7.505	
2	7.903	-	7.592	3.00
		+	8.228	
3	9.578	-	8.281	69.00
		+	11.077	
4	13.556	-	12.098	17.00
		+	15.190	
5	19.147	-	15.378	7.00
		+	23.840	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	3.676	9.521
2	7.292	8.566
3	7.161	12.810
4	10.796	17.021
5	12.351	29.683

##

16:28:05 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = PB Unit = PPM N = 42

Mean =	1.1167	Min =	0.7782	1st Quartile =	1.0000
Std. Dev. =	0.1517	Max =	1.3802	Median =	1.1139
CV % =	13.5820	Skewness =	-0.2458	3rd Quartile =	1.2041

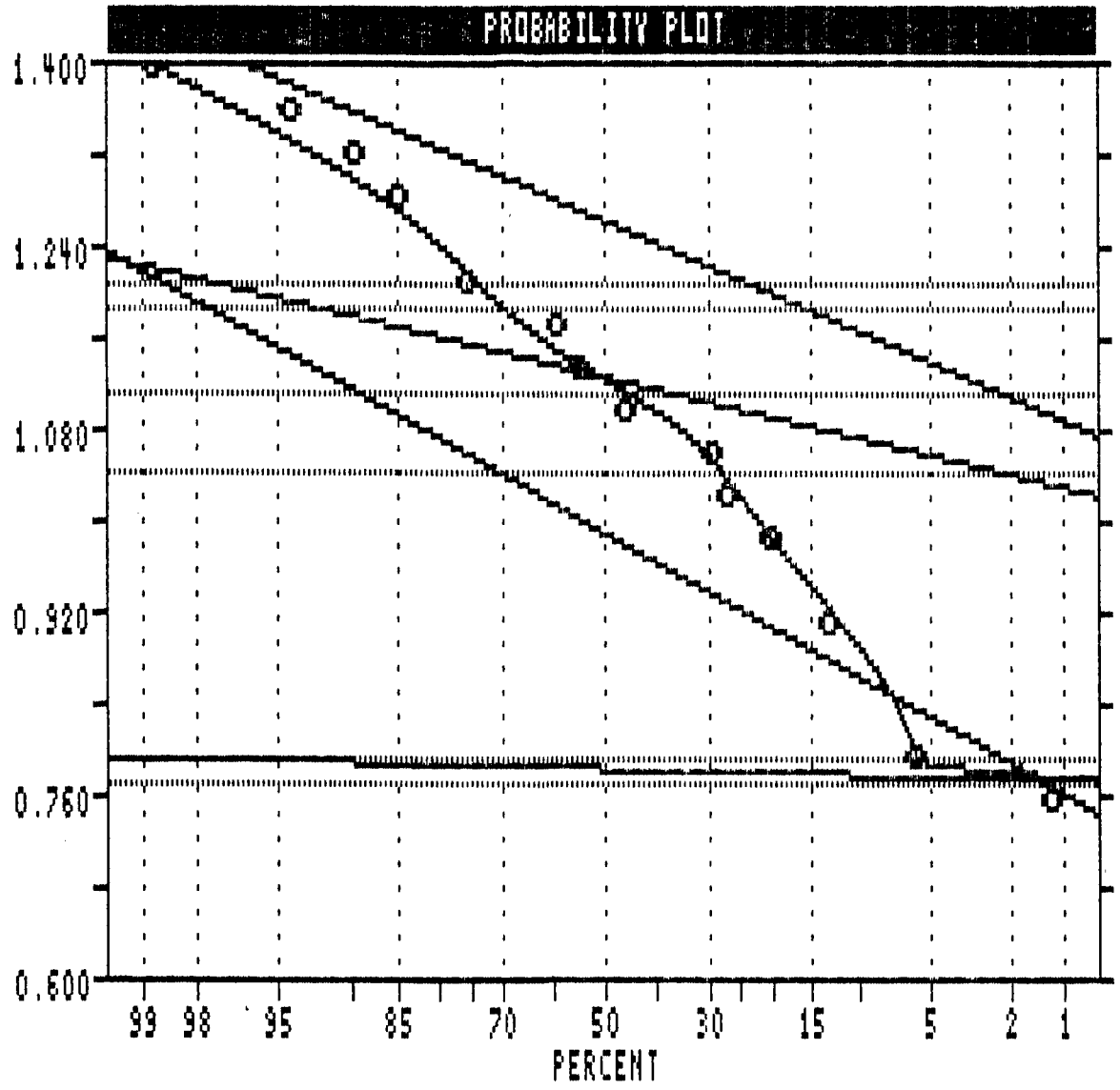
Anti-Log Mean = 13.081 Anti-Log Std. Dev. : (-) 9.226
(+) 18.549

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0376)
0.00	1.16	5.746	0.7593	
4.76	5.81	6.266	0.7970	**
0.00	5.81	6.833	0.8346	
0.00	5.81	7.451	0.8722	
7.14	12.79	8.126	0.9099	***
0.00	12.79	8.861	0.9475	
7.14	19.77	9.663	0.9851	***
7.14	26.74	10.538	1.0227	***
2.38	29.07	11.491	1.0604	*
16.67	45.35	12.531	1.0980	*******
9.52	54.65	13.665	1.1356	****
4.76	59.30	14.902	1.1733	**
16.67	75.58	16.251	1.2109	*******
0.00	75.58	17.722	1.2485	
9.52	84.88	19.326	1.2861	****
4.76	89.53	21.075	1.3238	**
4.76	94.19	22.982	1.3614	**
4.76	98.84	25.063	1.3990	**

0 1 2 3 4

16:30:34
10/12/89

TOPPERGOLD PROPERTY - "D" GRID



LOGARITHMIC VALUES

VARIABLE = PB
UNIT = PPM
N = 42
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.7782	0.0050	15.0
2	0.9855	0.0385	30.0
3	1.1213	0.0412	32.0
4	1.2604	0.0743	33.0

THRESHOLDS

Pop.		
1	0.7682	0.7882
2	0.7886	1.1824
3	1.0388	1.2037
4	1.1118	1.4091

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:DGRID.DAT

Variable = PB Unit = PPM N = 42
N CI = 17

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	6.000	-	5.931	5.00
		+	6.069	
2	9.671	-	7.709	30.00
		+	12.132	
3	13.221	-	12.024	32.00
		+	14.537	
4	18.216	-	15.351	33.00
		+	21.616	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	5.863	6.140
2	6.146	15.219
3	10.935	15.984
4	12.936	25.650

##

14:29:02 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = PB Unit = PPM N = 190

Mean =	0.9806	Min =	0.3010	1st Quartile =	0.9031
Std. Dev. =	0.1533	Max =	1.5441	Median =	1.0000
CV % =	15.6378	Skewness =	-0.0751	3rd Quartile =	1.0792

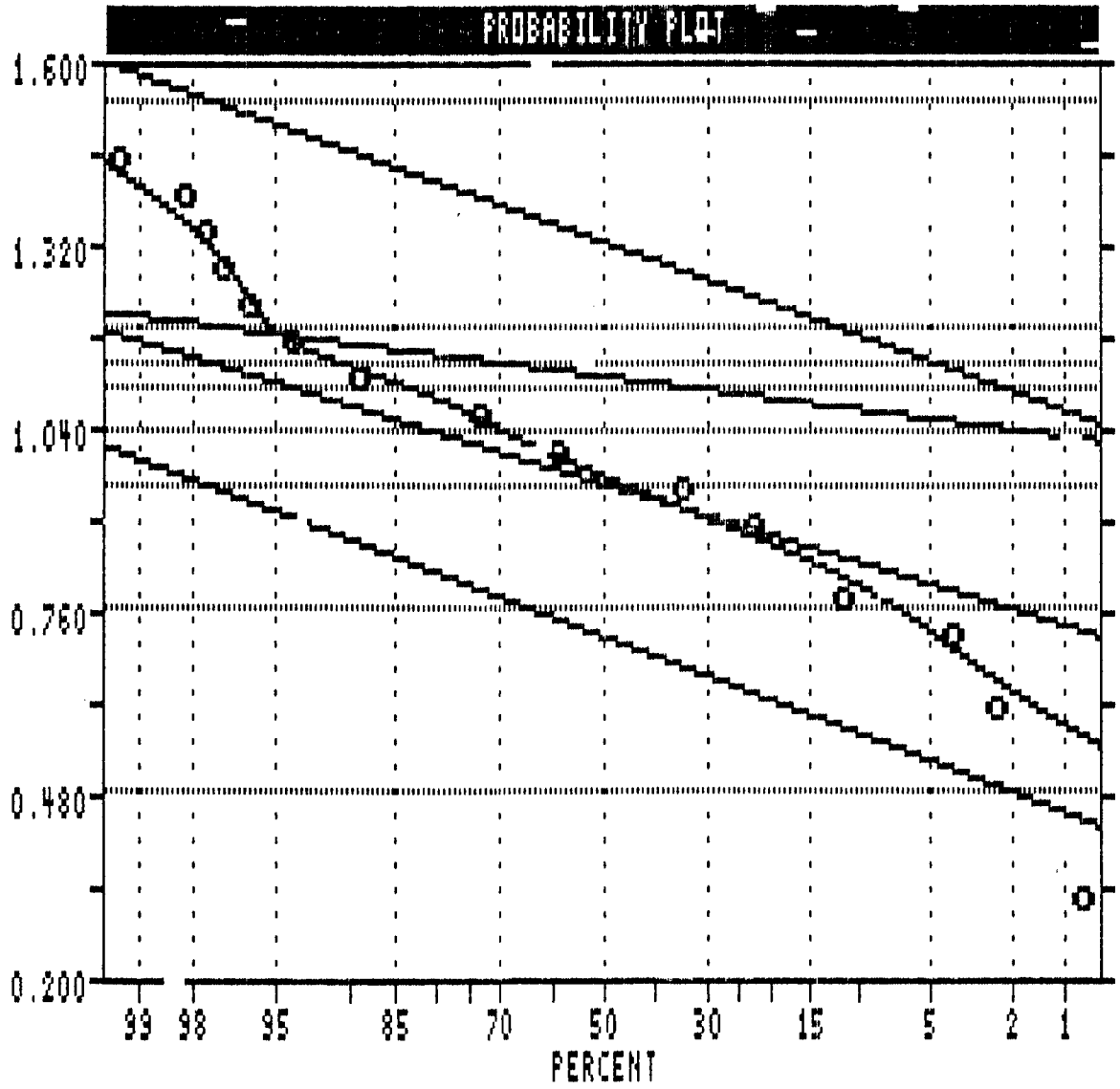
Anti-Log Mean = 9.562 Anti-Log Std. Dev. : (-) 6.718
(+) 13.611

%	cum %	antilog	cls int	(# of bins = 23 - bin size = 0.0565)
0.00	0.26	1.874	0.2728	
0.53	0.79	2.134	0.3293	*
0.00	0.79	2.431	0.3858	
0.00	0.79	2.769	0.4423	
0.00	0.79	3.153	0.4988	
0.00	0.79	3.592	0.5553	
1.58	2.36	4.091	0.6118	**
0.00	2.36	4.659	0.6683	
1.58	3.93	5.306	0.7248	**
7.37	11.26	6.044	0.7813	**********
0.00	11.26	6.883	0.8378	
11.05	22.25	7.840	0.8943	**********
12.11	34.29	8.929	0.9508	**********
24.21	58.38	10.170	1.0073	**********
14.74	73.04	11.583	1.0638	**********
15.79	88.74	13.192	1.1203	**********
5.26	93.98	15.025	1.1768	*******
2.11	96.07	17.112	1.2333	***
1.05	97.12	19.490	1.2898	*
0.53	97.64	22.198	1.3463	*
0.53	98.17	25.282	1.4028	*
1.05	99.21	28.795	1.4593	*
0.00	99.21	32.796	1.5158	
0.53	99.74	37.352	1.5723	*

0 1 2 3 4

14:34:04
10/13/89

TOPPERGOLD PROPERTY - "E" GRID



LOGARITHMIC VALUES

VARIABLE = PB
UNIT = PPM
N = 130
N CI = 23

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.7190	0.1153	8.0
2	0.9520	0.0927	74.0
3	1.1130	0.0385	13.0
4	1.3198	0.1112	5.0

Pop.	THRESHOLDS	
1	0.4884	0.9436
2	0.7666	1.1373
3	1.0360	1.1901
4	1.0974	1.5421

USERS VISUAL
PARAMETER ESTIMATES

14:37:34 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ULTIMATE.DOC

Variable = PB Unit = PPM N = 190
N CI = 23

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	5.236	-	4.015	8.00
		+	6.828	
2	8.953	-	7.233	74.00
		+	11.083	
3	12.973	-	11.871	13.00
		+	14.176	
4	20.882	-	16.166	5.00
		+	26.975	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	3.079	8.904
2	5.843	13.720
3	10.864	15.491
4	12.515	34.845

##

16:57:50 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = PB Unit = PPM N = 409

Mean =	0.9385	Min =	0.3010	1st Quartile =	0.8451
Std. Dev. =	0.1749	Max =	1.5441	Median =	0.9542
CV % =	18.6362	Skewness =	0.1758	3rd Quartile =	1.0414

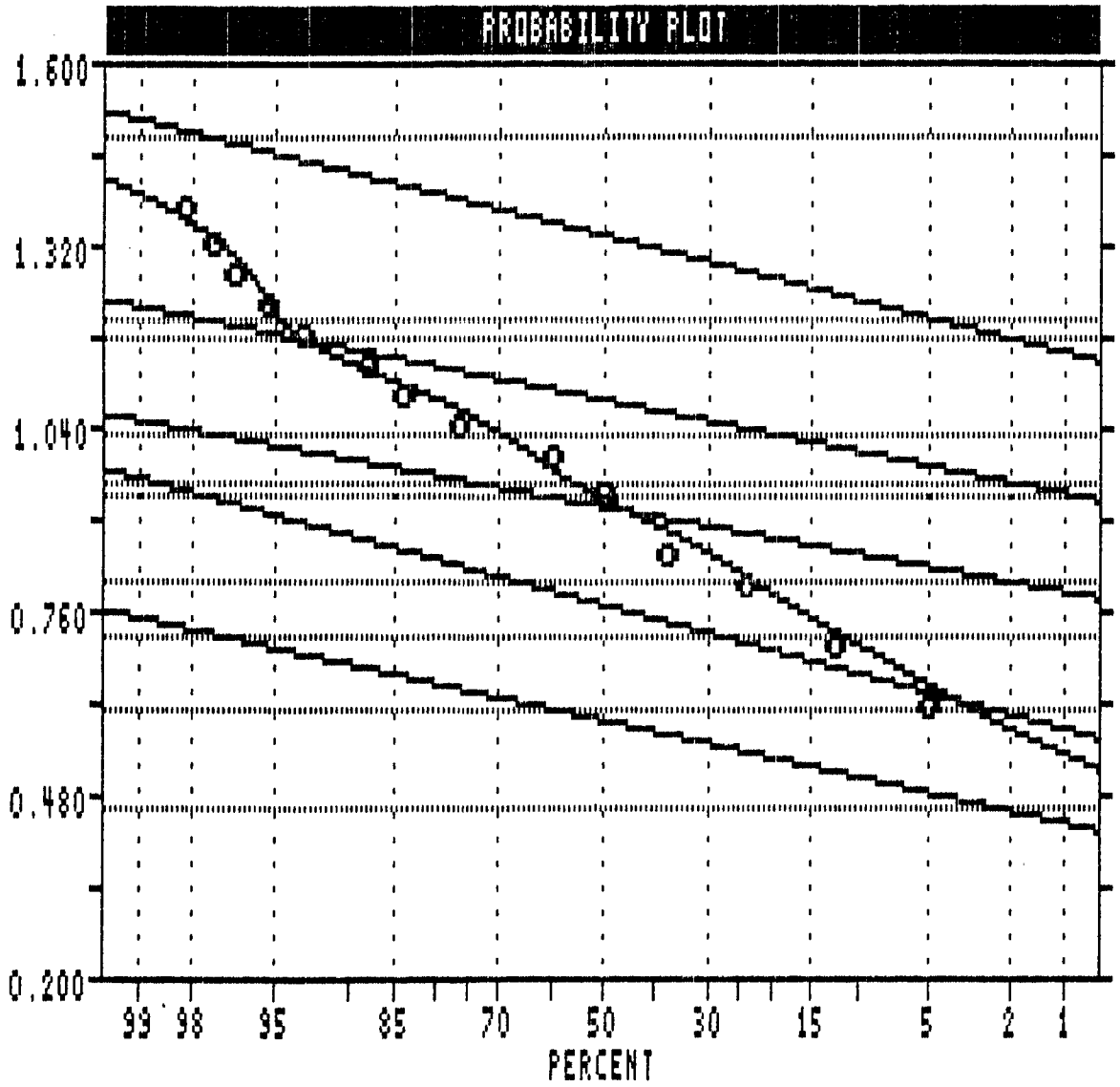
Anti-Log Mean = 8.680 Anti-Log Std. Dev. : (-) 5.802
(+) 12.984

%	cum %	antilog	cls int	(# of bins = 27 - bin size = 0.0478)
0.00	0.12	1.893	0.2771	
0.24	0.37	2.113	0.3249	
0.00	0.37	2.359	0.3727	
0.00	0.37	2.634	0.4206	
0.00	0.37	2.940	0.4684	
0.00	0.37	3.282	0.5162	
0.00	0.37	3.664	0.5640	
4.65	5.00	4.091	0.6118	********
0.00	5.00	4.567	0.6596	
7.09	12.07	5.098	0.7074	**********
0.00	12.07	5.691	0.7552	
11.25	23.29	6.354	0.8030	**********
13.69	36.95	7.093	0.8508	**********
0.00	36.95	7.919	0.8986	
12.71	49.63	8.840	0.9465	**********
10.02	59.63	9.869	0.9943	**********
16.63	76.22	11.017	1.0421	**********
7.82	84.02	12.299	1.0899	**********
3.91	87.93	13.731	1.1377	*******
5.38	93.29	15.328	1.1855	**********
1.96	95.24	17.112	1.2333	****
1.47	96.71	19.104	1.2811	***
0.73	97.44	21.327	1.3289	*
0.73	98.17	23.809	1.3767	*
1.47	99.63	26.579	1.4245	***
0.00	99.63	29.673	1.4724	
0.00	99.63	33.126	1.5202	
0.24	99.88	36.980	1.5680	

0 1 2 3 4

17:02:32
10/13/89

TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS



LOGARITHMIC VALUES

VARIABLE = PB
UNIT = PPM
N = 409
N CI = 27

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	0.5870	0.0673	4.0
2	0.7655	0.0818	26.0
3	0.9129	0.0561	33.0
4	1.0762	0.0615	32.0
5	1.3318	0.0769	5.0

THRESHOLDS

Pop.		
1	0.4524	0.7216
2	0.6018	0.9292
3	0.8007	1.0251
4	0.9533	1.1991
5	1.1781	1.4856

USERS VISUAL
PARAMETER ESTIMATES

17:08:52 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ALLDAT.DOC

Variable = PB Unit = PPM N = 409
N CI = 27

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	3.864	-	3.309	4.00
		+	4.511	
2	5.828	-	4.827	26.00
		+	7.037	
3	8.183	-	7.191	33.00
		+	9.311	
4	11.919	-	10.346	32.00
		+	13.730	
5	21.470	-	17.987	5.00
		+	25.627	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	2.834	5.268
2	3.998	8.496
3	6.320	10.595
4	8.981	15.817
5	15.069	30.588

##########

13:39:03 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

##
SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = ZN Unit = PPM N = 71

Mean =	2.0428	Min =	1.8195	1st Quartile =	1.9731
Std. Dev. =	0.1158	Max =	2.4472	Median =	2.0211
CV % =	5.6707	Skewness =	0.8230	3rd Quartile =	2.1139

Anti-Log Mean = 110.356 Anti-Log Std. Dev. : (-) 84.519
(+) 144.090

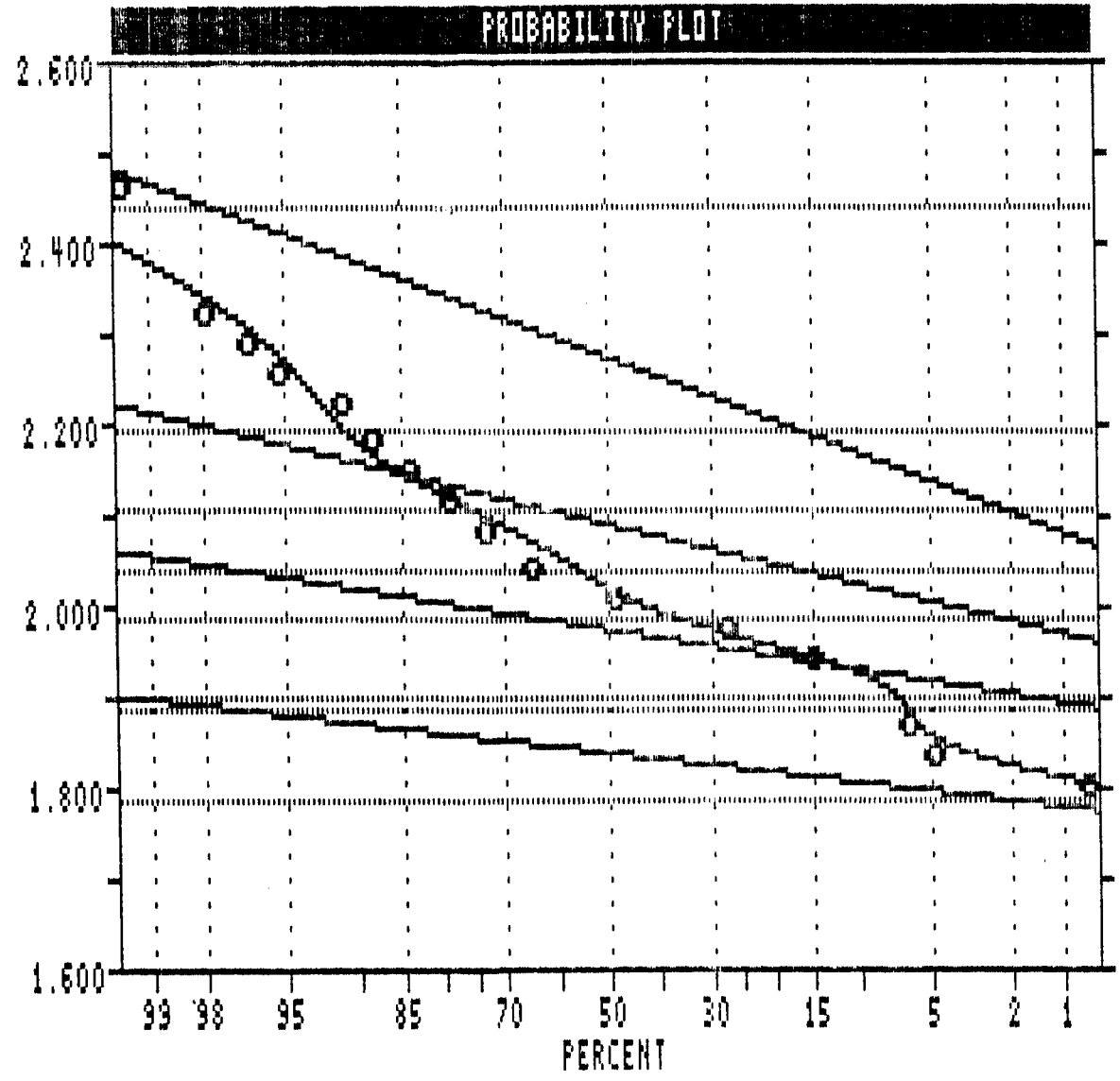
%	cum %	antilog	cls int	(# of bins = 19 - bin size = 0.0349)
0.00	0.00	63.402	1.8021	
4.23	4.86	68.703	1.8370	***
1.41	6.25	74.447	1.8718	*
0.00	6.25	80.670	1.9067	
8.45	14.58	87.414	1.9416	******
12.68	27.08	94.721	1.9764	*********
21.13	47.92	102.640	2.0113	**********
16.90	64.58	111.220	2.0462	**********
8.45	72.92	120.517	2.0810	******
5.63	78.47	130.592	2.1159	****
5.63	84.03	141.509	2.1508	****
4.23	88.19	153.339	2.1857	***
2.82	90.97	166.157	2.2205	**
4.23	95.14	180.047	2.2554	***
1.41	96.53	195.099	2.2903	*
1.41	97.92	211.408	2.3251	*
0.00	97.92	229.081	2.3600	
0.00	97.92	248.231	2.3949	
0.00	97.92	268.983	2.4297	
1.41	99.31	291.469	2.4646	*

0 1 2 3 4

##

13:43:14
10/12/89

TOPPERGOLD PROPERTY - "A" GRID



LOGARITHMIC VALUES

VARIABLE = ZN
UNIT = PPM
N = 71
N CI = 19

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.8320	0.0248	6.0
2	1.9692	0.0347	43.0
3	2.0866	0.0520	41.0
4	2.2713	0.0833	10.0

THRESHOLDS

Pop.		
1	1.7823	1.8817
2	1.8999	2.0385
3	1.9827	2.1905
4	2.1047	2.4378

USERS VISUAL
PARAMETER ESTIMATES

13:47:52 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:AGRID.DAT

Variable = ZN Unit = PPM N = 71
N CI = 19

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	67.915	-	64.139	6.00
		+	71.913	
2	93.156	-	86.009	43.00
		+	100.898	
3	122.069	-	108.306	41.00
		+	137.582	
4	186.747	-	154.166	10.00
		+	226.215	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	60.573	76.147
2	79.410	109.282
3	96.094	155.066
4	127.269	274.023

##########

14:52:38 TOPPERGOLD PROPERTY - "B" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = ZN Unit = PPM N = 61

Mean =	2.0257	Min =	1.7993	1st Quartile =	1.9708
Std. Dev. =	0.0980	Max =	2.2788	Median =	2.0212
CV % =	4.8400	Skewness =	-0.0791	3rd Quartile =	2.0792

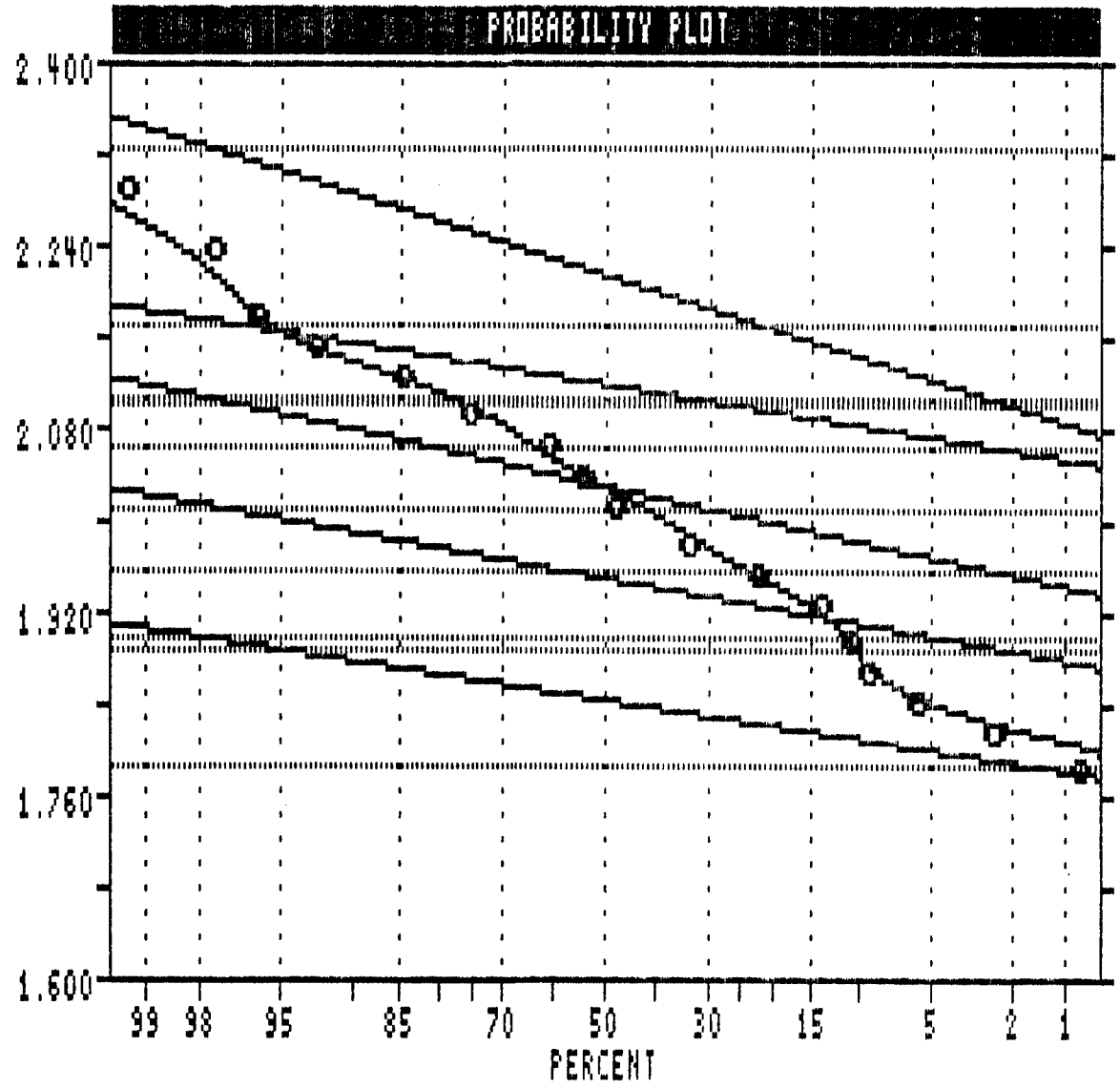
Anti-Log Mean = 106.093 Anti-Log Std. Dev. : (-) 84.653
(+) 132.963

%	cum %	antilog	cls int	(# of bins = 18 - bin size = 0.0282)
0.00	0.81	60.987	1.7852	
1.64	2.42	65.079	1.8134	*
3.28	5.65	69.445	1.8416	**
3.28	8.87	74.104	1.8698	**
1.64	10.48	79.076	1.8980	*
3.28	13.71	84.381	1.9262	**
8.20	21.77	90.042	1.9544	*****
11.48	33.06	96.083	1.9826	*******
14.75	47.58	102.529	2.0108	*********
6.56	54.03	109.407	2.0390	****
6.56	60.48	116.748	2.0672	****
14.75	75.00	124.580	2.0954	*********
9.84	84.68	132.938	2.1236	******
8.20	92.74	141.857	2.1519	*****
3.28	95.97	151.374	2.1801	**
0.00	95.97	161.529	2.2083	
1.64	97.58	172.366	2.2365	*
0.00	97.58	183.930	2.2647	
1.64	99.19	196.270	2.2929	*

0 1 2 3 4

14:55:58
10/12/89

TOPPERGOLD PROPERTY - "B" GRID



LOGARITHMIC VALUES

VARIABLE = ZN
UNIT = PPM
N = 61
N CI = 18

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.8392	0.0272	10.0
2	1.9458	0.0306	20.0
3	2.0281	0.0370	40.0
4	2.1139	0.0270	25.0
5	2.2102	0.0553	5.0

Pop.	THRESHOLDS	
1	1.7848	1.8935
2	1.8847	2.0069
3	1.9540	2.1022
4	2.0599	2.1679
5	2.0996	2.3207

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:BGRID.DAT

Variable = ZN Unit = PPM N = 61
N CI = 18

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	69.054	-	64.865	10.00
		+	73.514	
2	88.264	-	82.267	20.00
		+	94.699	
3	106.689	-	97.966	40.00
		+	116.189	
4	129.999	-	122.164	25.00
		+	138.336	
5	162.251	-	142.860	5.00
		+	184.274	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	60.930	78.262
2	76.677	101.603
3	89.956	126.535
4	114.802	147.208
5	125.786	209.287

##

15:38:03 TOPPERGOLD PROPERTY - "C" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = ZN Unit = PPM N = 45

Mean =	2.1432	Min =	1.6990	1st Quartile =	2.0310
Std. Dev. =	0.1709	Max =	2.5911	Median =	2.1319
CV % =	7.9756	Skewness =	0.2805	3rd Quartile =	2.2081

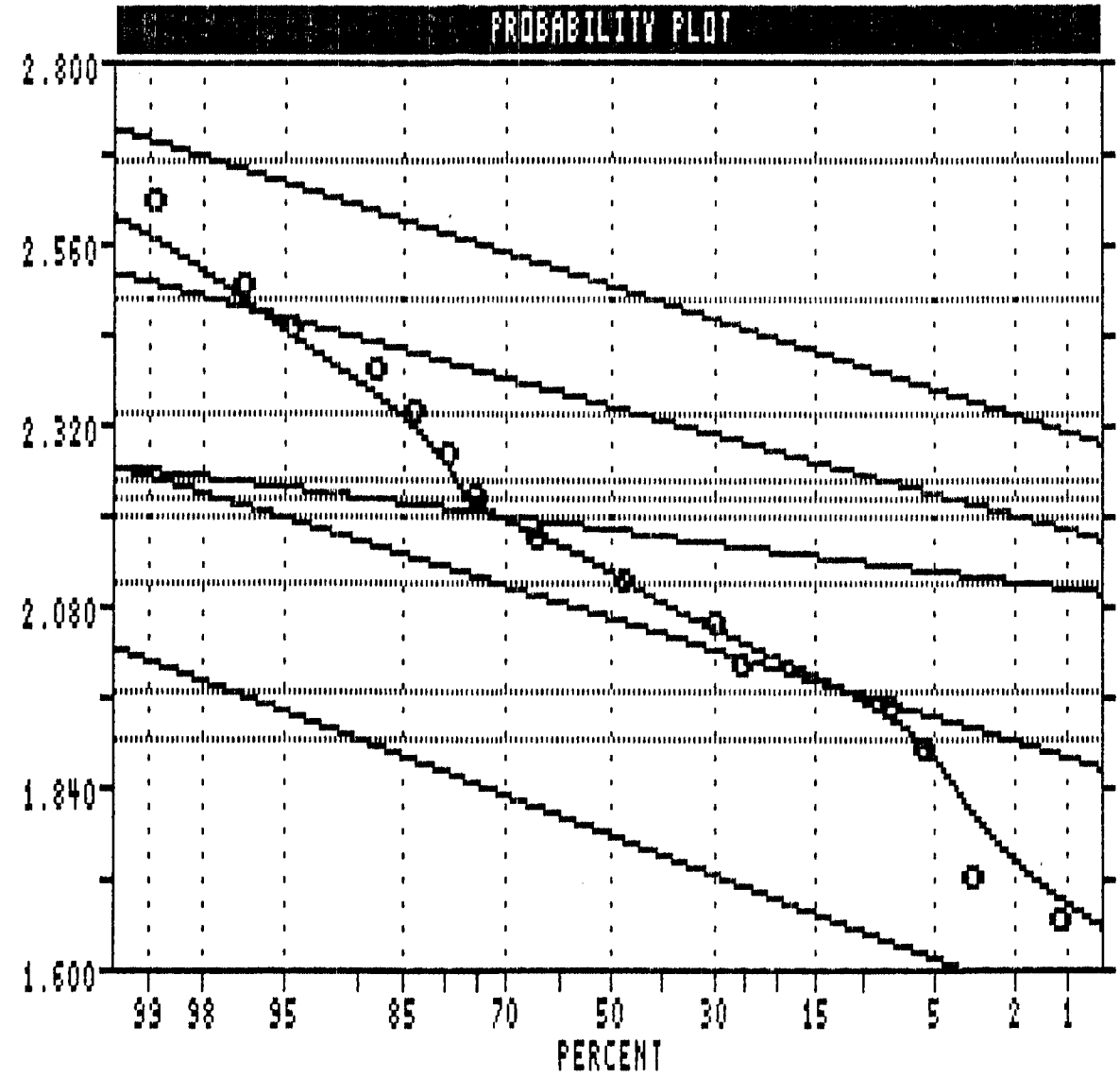
Anti-Log Mean = 139.054 Anti-Log Std. Dev. : (-) 93.811
(+) 206.117

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0558)
0.00	1.09	46.891	1.6711	
2.22	3.26	53.315	1.7268	*
0.00	3.26	60.618	1.7826	
0.00	3.26	68.922	1.8384	
2.22	5.43	78.364	1.8941	*
2.22	7.61	89.099	1.9499	*
17.78	25.00	101.304	2.0056	********
4.44	29.35	115.182	2.0614	**
17.78	46.74	130.960	2.1171	********
17.78	64.13	148.900	2.1729	********
11.11	75.00	169.298	2.2287	*****
4.44	79.35	192.490	2.2844	**
4.44	83.70	218.858	2.3402	**
4.44	88.04	248.839	2.3959	**
6.67	94.57	282.927	2.4517	***
2.22	96.74	321.685	2.5074	*
0.00	96.74	365.752	2.5632	
2.22	98.91	415.856	2.6189	*

0 1 2 3 4

15:42:45
10/12/89

TOPPERGOLD PROPERTY - "C" GRID



LOGARITHMIC VALUES

VARIABLE = ZN
UNIT = PPM
N = 45
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.7683	0.0989	5.0
2	2.0582	0.0793	55.0
3	2.1749	0.0330	17.0
4	2.3394	0.0717	18.0
5	2.4998	0.0822	5.0

THRESHOLDS

Pop.		
1	1.5711	1.9667
2	1.8996	2.2168
3	2.1090	2.2409
4	2.1959	2.4829
5	2.3354	2.6643

USERS VISUAL
PARAMETER ESTIMATES

15:59:47 TOPPERGOLD PROPERTY - "C" GRID 10/12/89

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:CGRID.DAT

Variable = ZN Unit = PPM N = 45
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	58.737	-	46.774	5.00
		+	73.760	
2	114.339	-	95.257	55.00
		+	137.242	
3	149.600	-	138.660	17.00
		+	161.403	
4	218.479	-	185.216	18.00
		+	257.716	
5	316.118	-	261.583	5.00
		+	382.024	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	37.247	92.625
2	79.360	164.734
3	128.520	174.137
4	157.018	303.999
5	216.455	461.670

##

16:35:19 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

##
SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = ZN Unit = PPM N = 42

Mean =	2.0918	Min =	1.6128	1st Quartile =	1.9685
Std. Dev. =	0.2028	Max =	2.6812	Median =	2.0492
CV % =	9.6946	Skewness =	0.7299	3rd Quartile =	2.1832

Anti-Log Mean = 123.538 Anti-Log Std. Dev. : (-) 77.448
(+) 197.056

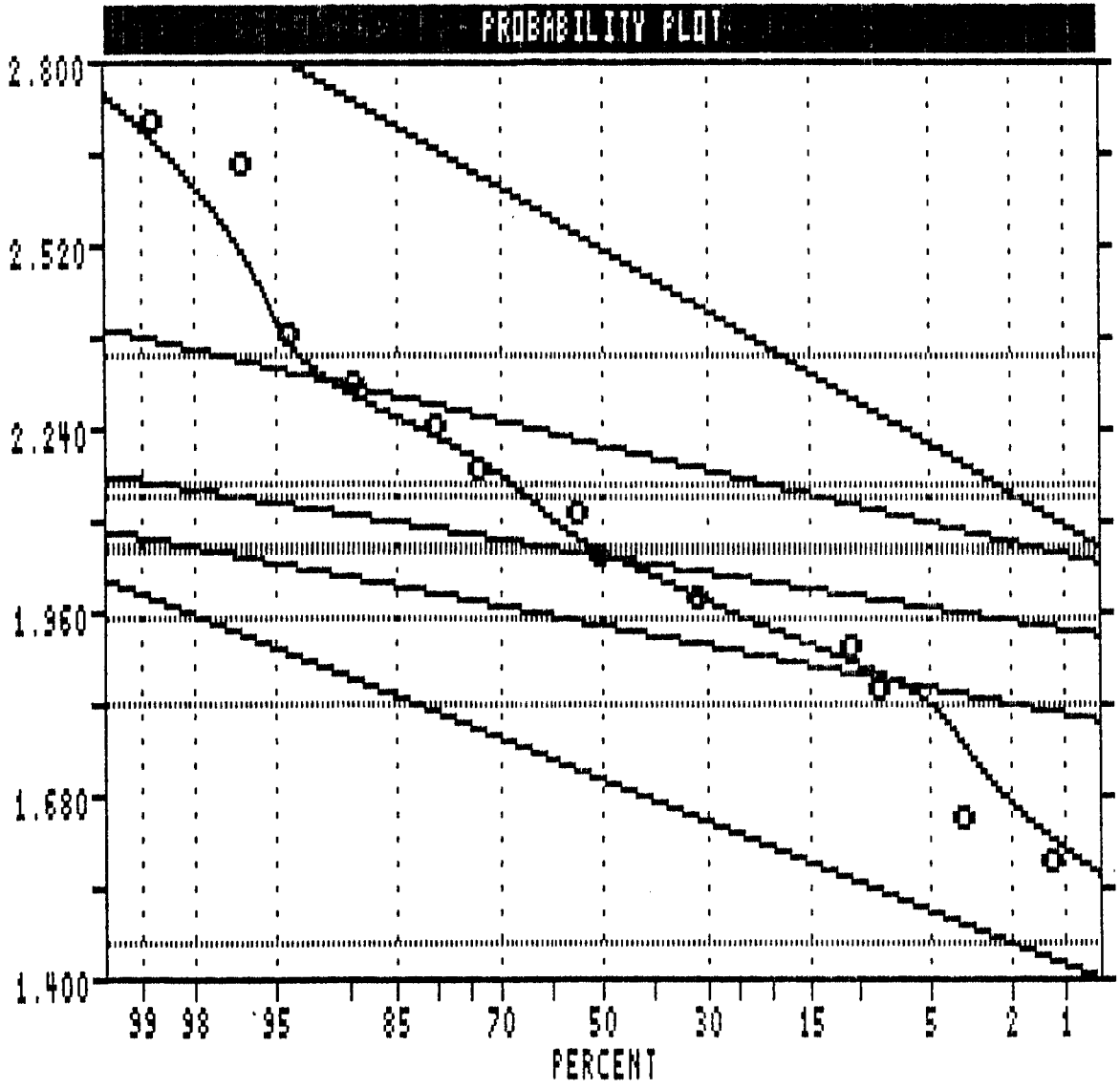
%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0668)
0.00	1.16	37.966	1.5794	
2.38	3.49	44.276	1.6462	*
0.00	3.49	51.636	1.7130	
0.00	3.49	60.219	1.7797	
4.76	8.14	70.228	1.8465	**
2.38	10.47	81.901	1.9133	*
21.43	31.40	95.514	1.9801	*********
19.05	50.00	111.390	2.0468	********
4.76	54.65	129.904	2.1136	**
19.05	73.26	151.496	2.1804	********
7.14	80.23	176.677	2.2472	***
9.52	89.53	206.044	2.3140	****
4.76	94.19	240.291	2.3807	**
0.00	94.19	280.231	2.4475	
0.00	94.19	326.810	2.5143	
0.00	94.19	381.130	2.5811	
2.38	96.51	444.480	2.6479	*
2.38	98.84	518.359	2.7146	*

0 1 2 3 4

##

16:42:45
10/12/89

TOPPERGOLD PROPERTY - "D" GRID



LOGARITHMIC VALUES

VARIABLE = ZN
UNIT = PPM
N = 42
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.6931	0.1220	5.0
2	1.9317	0.0590	30.0
3	2.0393	0.0481	25.0
4	2.2059	0.0721	33.0
5	2.5072	0.1800	7.0

THRESHOLDS

Pop.		
1	1.4550	1.9431
2	1.8137	2.0497
3	1.9431	2.1355
4	2.0617	2.3502
5	2.1473	2.8672

USERS VISUAL
PARAMETER ESTIMATES

16:46:11 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:DGRID.DAT

Variable = ZN Unit = PPM N = 42
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	50.010	-	37.761	5.00
		+	66.232	
2	85.449	-	74.596	30.00
		+	97.881	
3	109.467	-	97.988	25.00
		+	122.291	
4	160.671	-	136.083	33.00
		+	189.701	
5	321.522	-	212.442	7.00
		+	486.611	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	28.513	87.715
2	65.122	112.122
3	87.712	136.617
4	115.258	223.977
5	140.368	736.467

##

14:38:48 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = ZN Unit = PPM N = 190

Mean =	1.9951	Min =	1.7404	1st Quartile =	1.8921
Std. Dev. =	0.1595	Max =	2.6532	Median =	1.9638
CV % =	7.9954	Skewness =	1.5338	3rd Quartile =	2.0414

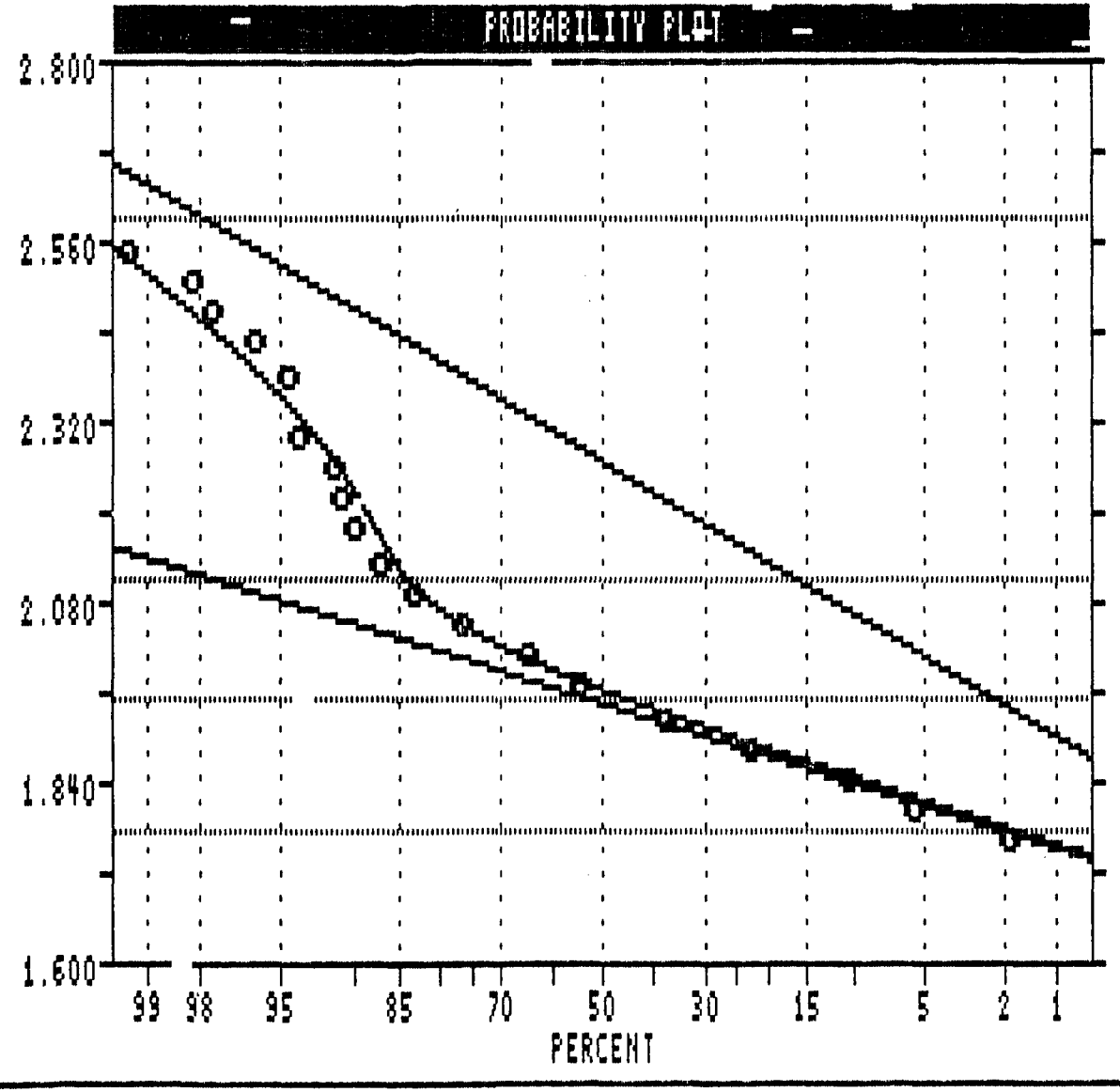
Anti-Log Mean = 98.881 Anti-Log Std. Dev. : (-) 68.485
(+) 142.767

%	cum %	antilog	cls int	(# of bins = 23 - bin size = 0.0415)
0.00	0.26	52.434	1.7196	
1.58	1.83	57.691	1.7611	**
3.68	5.50	63.475	1.8026	*****
4.74	10.21	69.839	1.8441	******
12.11	22.25	76.840	1.8856	**********
14.74	36.91	84.544	1.9271	**********
17.37	54.19	93.020	1.9686	**********
10.53	64.66	102.345	2.0101	**********
11.58	76.18	112.606	2.0516	**********
6.84	82.98	123.895	2.0931	*********
4.21	87.17	136.316	2.1345	******
2.63	89.79	149.983	2.1760	****
1.05	90.84	165.019	2.2175	*
0.53	91.36	181.563	2.2590	*
2.63	93.98	199.766	2.3005	****
0.00	93.98	219.793	2.3420	
0.53	94.50	241.828	2.3835	*
1.58	96.07	266.073	2.4250	**
1.58	97.64	292.748	2.4665	**
0.53	98.17	322.097	2.5080	*
1.05	99.21	354.388	2.5495	*
0.00	99.21	389.918	2.5910	
0.00	99.21	429.009	2.6325	
0.53	99.74	472.019	2.6740	*

0 1 2 3 4

14:43:13
10/13/89

TOPPERGOLD PROPERTY - "E" GRID



LOGARITHMIC VALUES

VARIABLE = ZN
UNIT = PPM
N = 130
N CI = 23

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.9390	0.0828	83.0
2	2.2668	0.1589	17.0

THRESHOLDS

Pop.		
1	1.7733	2.1047
2	1.9490	2.5845

USERS VISUAL
PARAMETER ESTIMATES

14:46:57 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ULTIMATE.DOC

Variable = ZN Unit = PPM N = 190
N CI = 23

Transform = Logarithmic Number of Populations = 2

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	86.891	-	71.802	83.00
		+	105.151	
2	184.828	-	128.206	17.00
		+	266.459	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	59.333	127.248
2	88.930	384.142

##

17:10:31 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = ZN Unit = PPM N = 409

Mean =	2.0342	Min =	1.6128	1st Quartile =	1.9294
Std. Dev. =	0.1587	Max =	2.6812	Median =	2.0000
CV % =	7.7998	Skewness =	1.0960	3rd Quartile =	2.1139

Anti-Log Mean = 108.186 Anti-Log Std. Dev. : (-) 75.077
(+) 155.895

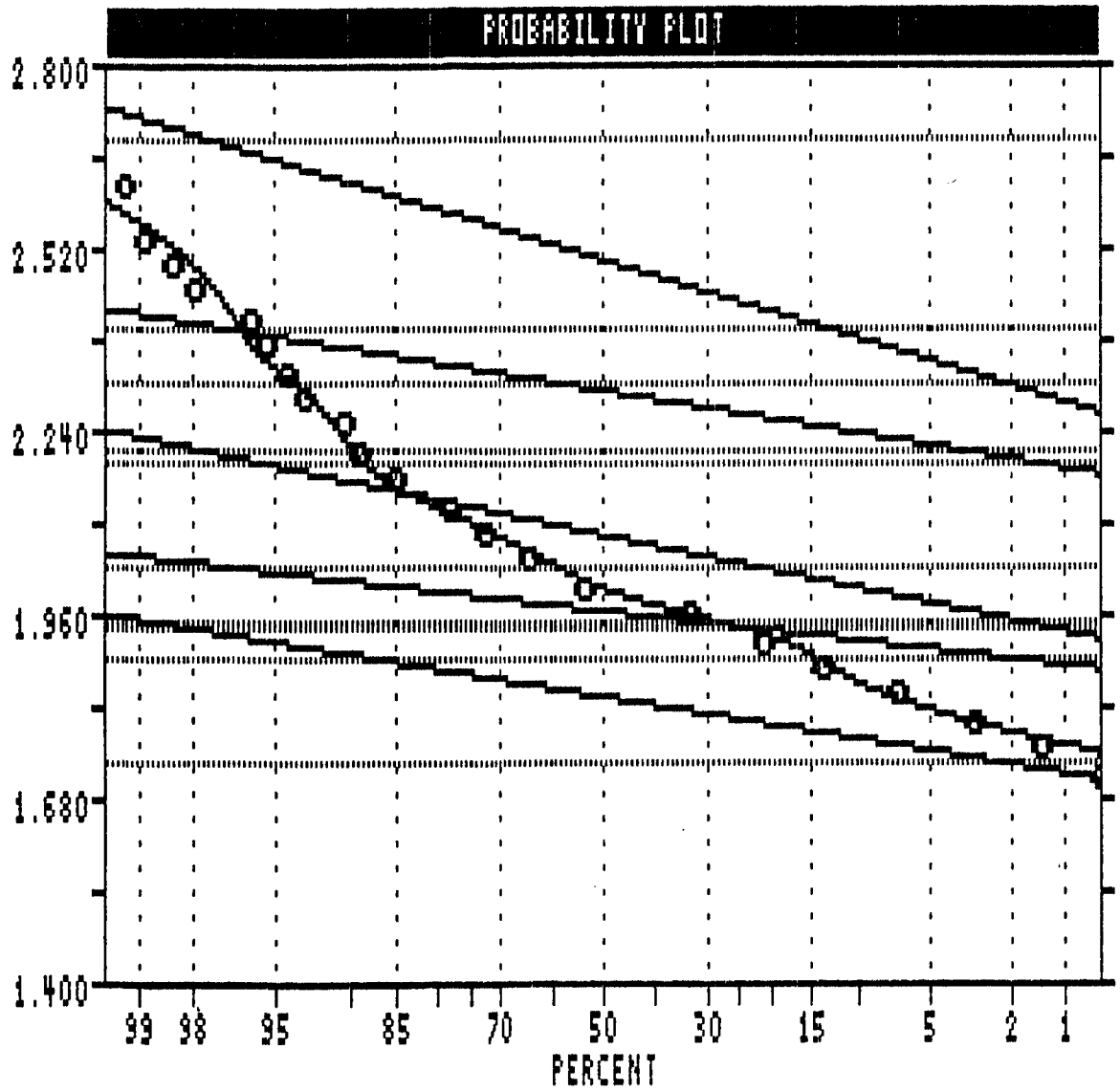
%	cum %	antilog	cls int	(# of bins = 27 - bin size = 0.0411)
0.00	0.12	39.105	1.5922	
0.24	0.37	42.986	1.6333	
0.00	0.37	47.253	1.6744	
0.24	0.61	51.942	1.7155	
0.73	1.34	57.097	1.7566	*
1.71	3.05	62.764	1.7977	***
3.91	6.95	68.993	1.8388	*******
6.36	13.29	75.840	1.8799	**********
7.33	20.61	83.367	1.9210	**********
12.22	32.80	91.640	1.9621	**********
20.05	52.80	100.735	2.0032	**********
11.00	63.78	110.733	2.0443	**********
8.31	72.07	121.722	2.0854	**********
5.87	77.93	133.803	2.1265	**********
7.09	85.00	147.082	2.1676	**********
3.67	88.66	161.679	2.2087	*******
1.47	90.12	177.725	2.2497	***
2.93	93.05	195.363	2.2908	*****
1.22	94.27	214.752	2.3319	**
0.98	95.24	236.065	2.3730	**
0.73	95.98	259.494	2.4141	*
1.96	97.93	285.247	2.4552	****
0.49	98.41	313.557	2.4963	*
0.49	98.90	344.676	2.5374	*
0.00	98.90	378.883	2.5785	
0.24	99.15	416.485	2.6196	
0.49	99.63	457.819	2.6607	*
0.24	99.88	503.255	2.7018	

0 1 2 3 4

Each "*" represents approximately 2.2 observations.

17:14:27
10/13/89

TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS



LOGARITHMIC VALUES

VARIABLE = ZN
UNIT = PPM
N = 409
N CI = 27

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	1.8323	0.0501	15.0
2	1.9585	0.0344	35.0
3	2.0782	0.0645	40.0
4	2.2940	0.0504	6.0
5	2.4959	0.0926	4.0

Pop.	THRESHOLDS	
1	1.7320	1.9326
2	1.8896	2.0273
3	1.9491	2.2072
4	2.1932	2.3948
5	2.3107	2.6811

USERS VISUAL
PARAMETER ESTIMATES

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ALLDAT.DOC

Variable = ZN Unit = PPM N = 409
N CI = 27

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	67.969	-	60.557	15.00
		+	76.287	
2	90.877	-	83.952	35.00
		+	98.373	
3	119.718	-	103.186	40.00
		+	138.897	
4	196.788	-	175.224	6.00
		+	221.005	
5	313.290	-	253.131	4.00
		+	387.746	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	53.953	85.624
2	77.554	106.488
3	88.938	161.150
4	156.024	248.203
5	204.524	479.897

##########

14:06:03 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AG Unit = PPM N = 71

Mean =	-0.5939	Min =	-1.0000	1st Quartile =	-0.6990
Std. Dev. =	0.2892	Max =	0.3424	Median =	-0.6990
CV % =	48.6957	Skewness =	0.7075	3rd Quartile =	-0.5229

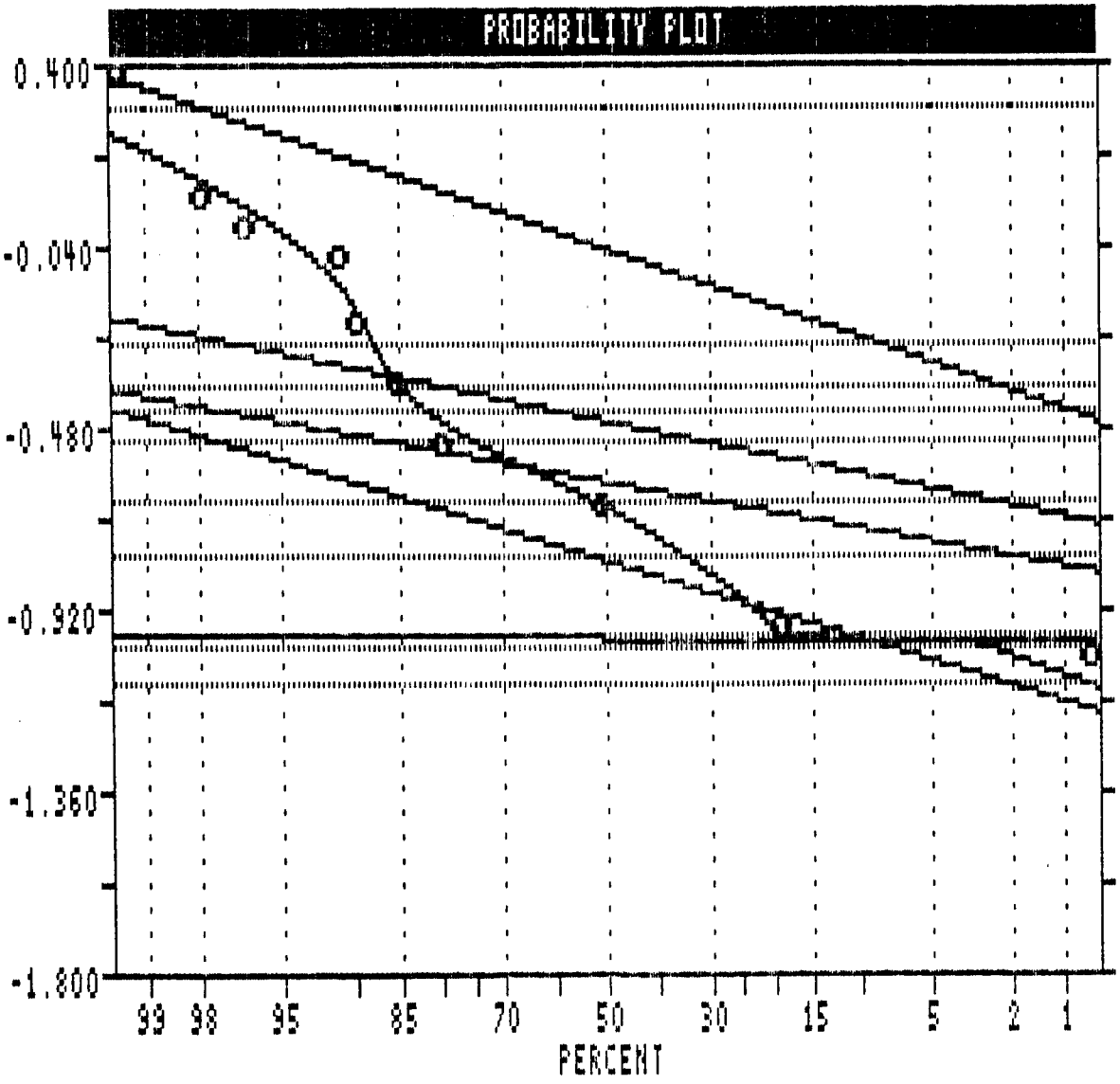
Anti-Log Mean = 0.255 Anti-Log Std. Dev. : (-) 0.131
(+) 0.496

%	cum %	antilog	cls int	(# of bins = 19 - bin size = 0.0746)
0.00	0.69	0.092	-1.0373	
18.31	18.75	0.109	-0.9627	**********
0.00	18.75	0.129	-0.8881	
0.00	18.75	0.154	-0.8136	
0.00	18.75	0.182	-0.7390	
32.39	50.69	0.217	-0.6644	************************
0.00	50.69	0.257	-0.5898	
29.58	79.86	0.305	-0.5152	**********************
0.00	79.86	0.363	-0.4407	
5.63	85.42	0.430	-0.3661	****
0.00	85.42	0.511	-0.2915	
4.23	89.58	0.607	-0.2169	***
0.00	89.58	0.721	-0.1423	
1.41	90.97	0.856	-0.0678	*
5.63	96.53	1.016	0.0068	****
1.41	97.92	1.206	0.0814	*
0.00	97.92	1.432	0.1560	
0.00	97.92	1.700	0.2306	
0.00	97.92	2.019	0.3051	
1.41	99.31	2.397	0.3797	*

0 1 2 3 4

14:10:08
10/12/89

TOPPERGOLD PROPERTY - "A" GRID



LOGARITHMIC VALUES

VARIABLE = AG
UNIT = PPM
N = 71
N CI = 19

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	-1.0000	0.0050	15.0
2	-0.8077	0.1466	35.0
3	-0.6149	0.0890	25.0
4	-0.4728	0.0989	12.0
5	-0.0516	0.1685	13.0

Pop.	THRESHOLDS	
1	-1.0100	-0.9300
2	-1.1010	-0.5144
3	-0.7929	-0.4370
4	-0.6705	-0.2750
5	-0.3887	0.2855

USERS VISUAL
PARAMETER ESTIMATES

14:13:43 TOPPERGOLD PROPERTY - "A" GRID 10/12/89

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:AGRID.DAT

Variable = AG Unit = PPM N = 71
N CI = 19

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.100	-	0.099	15.00
		+	0.101	
2	0.158	-	0.111	35.00
		+	0.218	
3	0.248	-	0.198	25.00
		+	0.298	
4	0.337	-	0.268	12.00
		+	0.423	
5	0.888	-	0.602	13.00
		+	1.309	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.098	0.102
2	0.079	0.306
3	0.161	0.366
4	0.214	0.531
5	0.409	1.930

##########

15:01:16 TOPPERGOLD PROPERTY - "B" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AG Unit = PPM N = 61

Mean =	-0.5819	Min =	-1.0000	1st Quartile =	-0.6990
Std. Dev. =	0.3033	Max =	0.3424	Median =	-0.6109
CV % =	52.1262	Skewness =	0.4132	3rd Quartile =	-0.3979

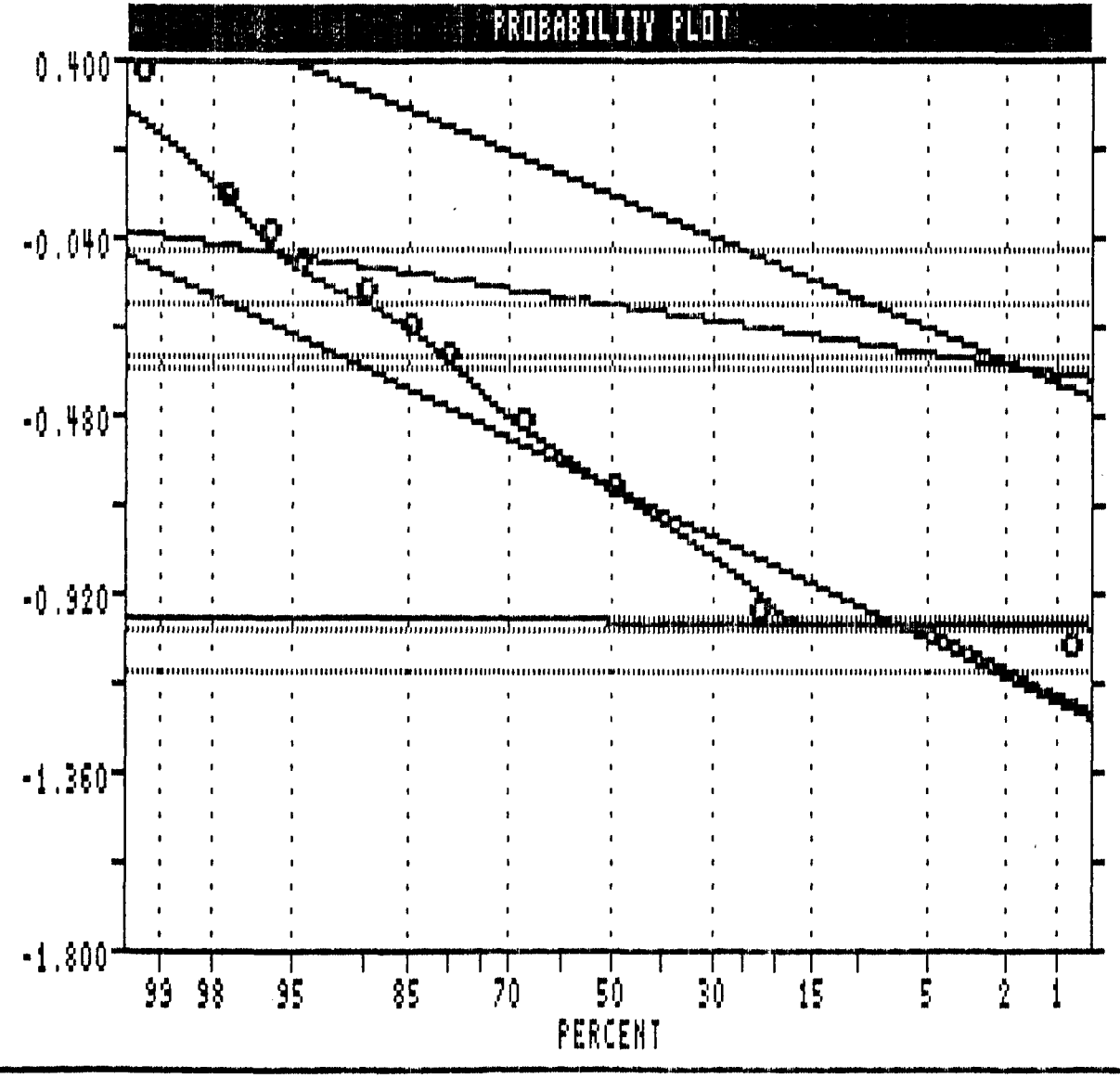
Anti-Log Mean = 0.262 Anti-Log Std. Dev. : (-) 0.130
(+) 0.527

%	cum %	antilog	cls int	(# of bins = 18 - bin size = 0.0790)
0.00	0.81	0.091	-1.0395	
21.31	21.77	0.110	-0.9605	**********
0.00	21.77	0.131	-0.8816	
0.00	21.77	0.158	-0.8026	
0.00	21.77	0.189	-0.7236	
27.87	49.19	0.227	-0.6447	**********
0.00	49.19	0.272	-0.5657	
18.03	66.94	0.326	-0.4867	**********
0.00	66.94	0.391	-0.4078	
13.11	79.84	0.469	-0.3288	********
4.92	84.68	0.563	-0.2498	***
4.92	89.52	0.675	-0.1709	***
4.92	94.35	0.809	-0.0919	***
1.64	95.97	0.971	-0.0129	*
1.64	97.58	1.164	0.0660	*
0.00	97.58	1.396	0.1450	
0.00	97.58	1.675	0.2240	
0.00	97.58	2.009	0.3029	
1.64	99.19	2.409	0.3819	*

0 1 2 3 4

15:06:21
10/12/89

TOPPERGOLD PROPERTY - "B" GRID



LOGARITHMIC VALUES

VARIABLE = AG
UNIT = PPM
N = 61
N CI = 18

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	-1.0000	0.0050	12.0
2	-0.6677	0.2287	73.0
3	-0.2195	0.0736	10.0
4	0.0499	0.1990	5.0

Pop.	THRESHOLDS	
1	-1.0100	-0.9900
2	-1.1252	-0.2102
3	-0.3667	-0.0723
4	-0.3480	0.4479

USERS VISUAL
PARAMETER ESTIMATES

15:12:18 TOPPERGOLD PROPERTY - "B" GRID 10/12/89

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:BGRID.DAT

Variable = AG Unit = PPM N = 61
N CI = 18

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.100	-	0.099	12.00
		+	0.101	
2	0.215	-	0.127	73.00
		+	0.364	
3	0.603	-	0.509	10.00
		+	0.715	
4	1.122	-	0.710	5.00
		+	1.774	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.098	0.102
2	0.075	0.616
3	0.430	0.847
4	0.449	2.805

##

16:05:40 TOPPERGOLD PROPERTY - "C" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AG Unit = PPM N = 45

Mean =	-0.2211	Min =	-1.0000	1st Quartile =	-0.3979
Std. Dev. =	0.3884	Max =	0.5798	Median =	-0.2218
CV % =	175.6877	Skewness =	-0.4211	3rd Quartile =	0.0000

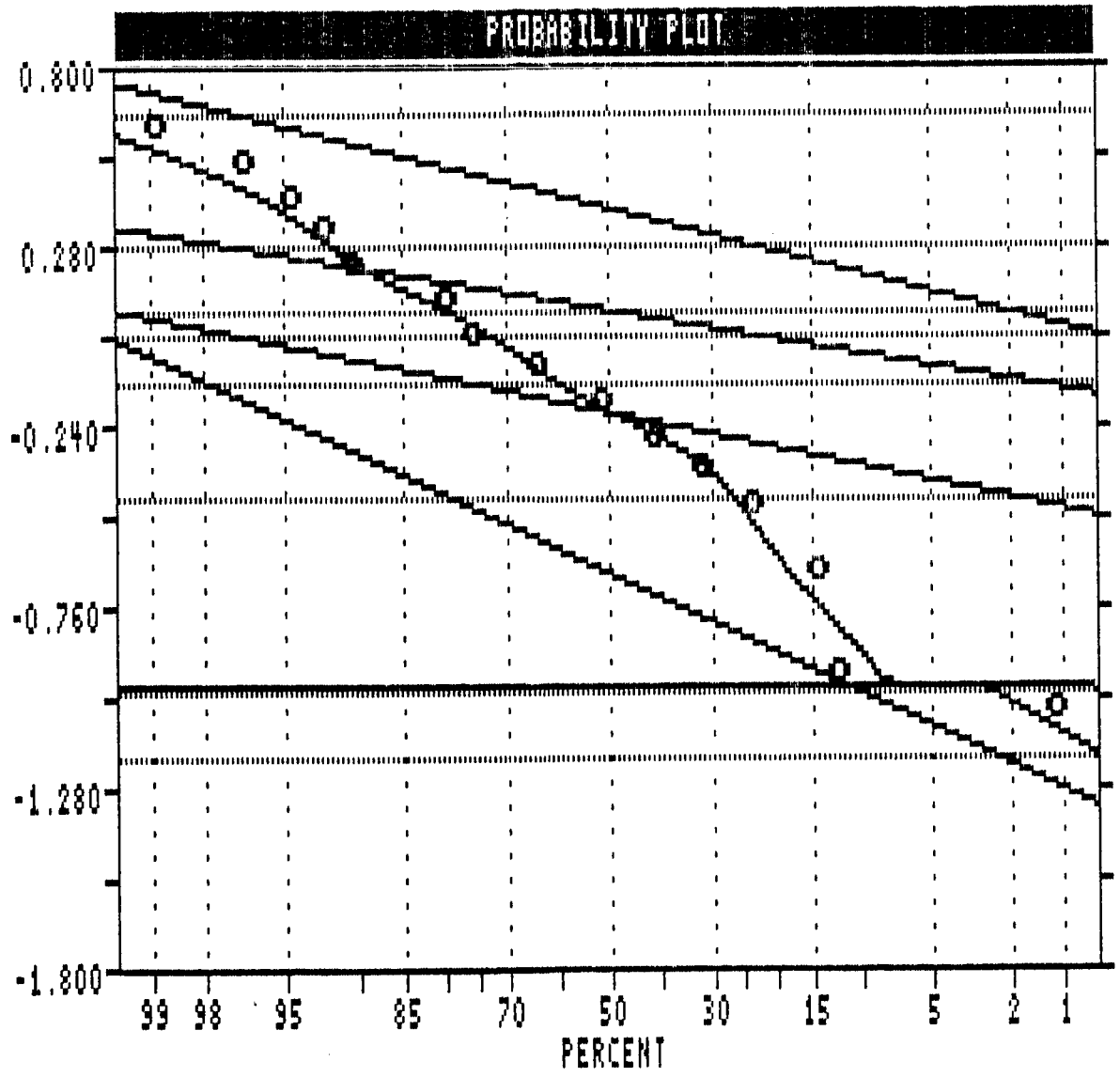
Anti-Log Mean = 0.601 Anti-Log Std. Dev. : (-) 0.246
(+) 1.470

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0987)
0.00	1.09	0.089	-1.0494	
11.11	11.96	0.112	-0.9506	*****
0.00	11.96	0.141	-0.8519	
0.00	11.96	0.177	-0.7532	
2.22	14.13	0.222	-0.6544	*
0.00	14.13	0.278	-0.5557	
8.89	22.83	0.349	-0.4569	****
8.89	31.52	0.438	-0.3582	****
8.89	40.22	0.550	-0.2595	****
11.11	51.09	0.691	-0.1607	*****
13.33	64.13	0.867	-0.0620	******
11.11	75.00	1.088	0.0367	*****
4.44	79.35	1.366	0.1355	**
11.11	90.22	1.715	0.2342	*****
2.22	92.39	2.152	0.3329	*
2.22	94.57	2.702	0.4317	*
2.22	96.74	3.392	0.5304	*
2.22	98.91	4.257	0.6292	*

0 1 2 3 4

16:12:23
10/12/89

TOPPERGOLD PROPERTY - "C" GRID



LOGARITHMIC VALUES

VARIABLE = AG
UNIT = PPM
N = 45
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	-1.0000	0.0050	5.0
2	-0.6702	0.2672	25.0
3	-0.2207	0.1178	38.0
4	0.0780	0.0989	22.0
5	0.3710	0.1444	10.0

THRESHOLDS

Pop.		
1	-1.0100	-0.9300
2	-1.2045	-0.1358
3	-0.4563	0.0148
4	-0.1197	0.2757
5	0.0823	0.6597

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:CGRID.DAT

Variable = AG Unit = PPM N = 45
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.100	-	0.099	5.00
		+	0.101	
2	0.214	-	0.116	25.00
		+	0.395	
3	0.602	-	0.459	38.00
		+	0.789	
4	1.197	-	0.953	22.00
		+	1.502	
5	2.350	-	1.685	10.00
		+	3.276	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.098	0.102
2	0.062	0.731
3	0.350	1.035
4	0.759	1.887
5	1.209	4.568

##

16:47:40 TOPPERGOLD PROPERTY - "D" GRID 10/12/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AG Unit = PPM N = 42

Mean =	-0.4098	Min =	-1.0000	1st Quartile =	-0.6990
Std. Dev. =	0.3914	Max =	0.5911	Median =	-0.3979
CV % =	95.5049	Skewness =	0.3586	3rd Quartile =	-0.1884

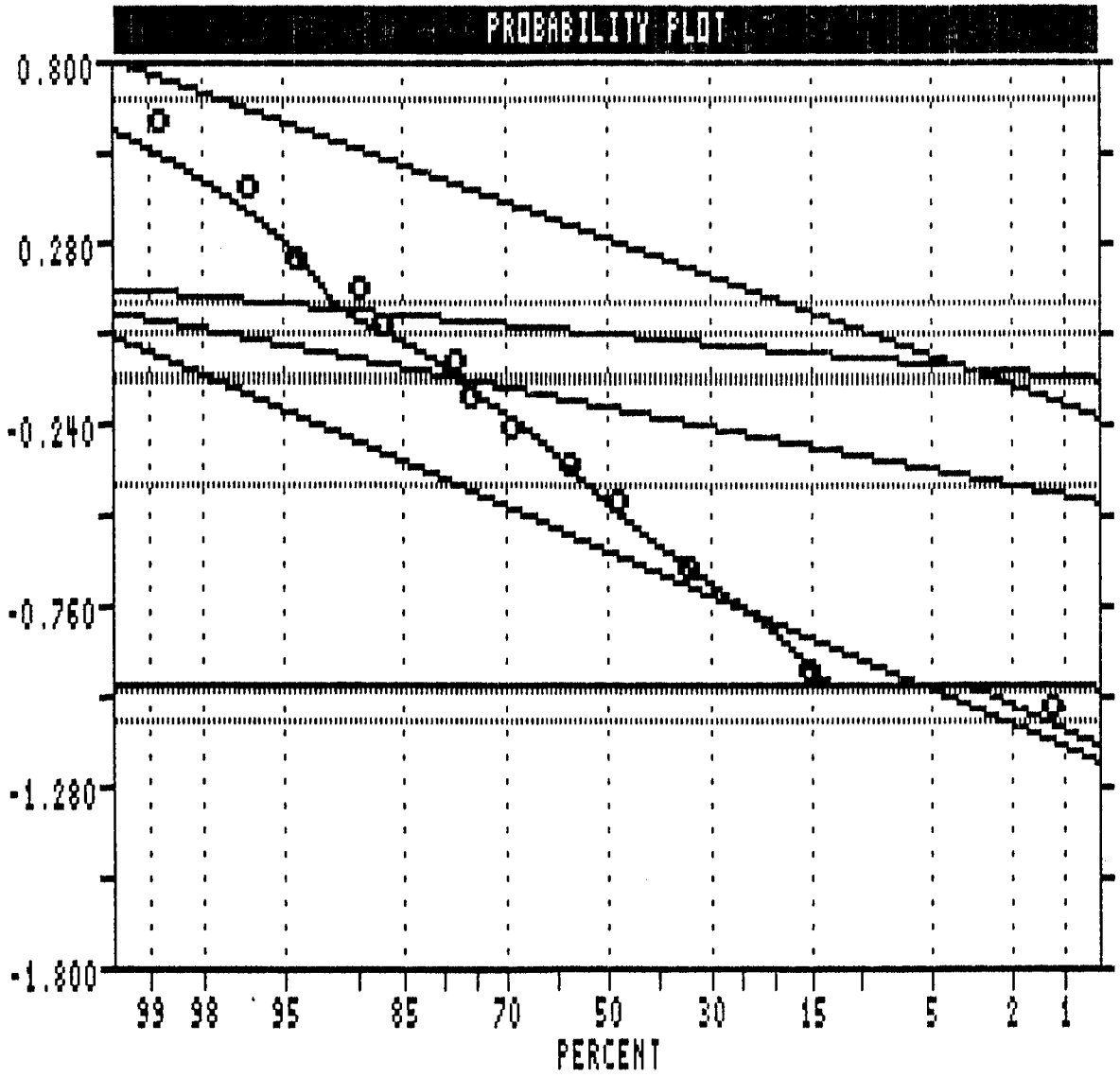
Anti-Log Mean = 0.389 Anti-Log Std. Dev. : (-) 0.158
(+) 0.958

%	cum %	antilog	cls int	(# of bins = 17 - bin size = 0.0994)
0.00	1.16	0.089	-1.0497	
14.29	15.12	0.112	-0.9503	******
0.00	15.12	0.141	-0.8508	
0.00	15.12	0.177	-0.7514	
19.05	33.72	0.223	-0.6520	********
0.00	33.72	0.280	-0.5525	
14.29	47.67	0.352	-0.4531	******
9.52	56.98	0.443	-0.3536	****
11.90	68.60	0.557	-0.2542	*****
7.14	75.58	0.700	-0.1547	***
2.38	77.91	0.880	-0.0553	*
9.52	87.21	1.107	0.0441	****
2.38	89.53	1.392	0.1436	*
4.76	94.19	1.750	0.2430	**
0.00	94.19	2.200	0.3425	
2.38	96.51	2.766	0.4419	*
0.00	96.51	3.478	0.5413	
2.38	98.84	4.373	0.6408	*

0 1 2 3 4

16:51:33
10/12/89

TOPPERGOLD PROPERTY - "D" GRID



LOGARITHMIC VALUES

VARIABLE = AG
UNIT = PPM
N = 42
N CI = 17

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	-1.0000	0.0050	10.0
2	-0.6147	0.2448	55.0
3	-0.2084	0.1056	17.0
4	-0.0025	0.0511	8.0
5	0.2801	0.2066	10.0

Pop.	THRESHOLDS	
1	-1.0100	-0.9900
2	-1.1043	-0.1251
3	-0.4195	0.0028
4	-0.1046	0.0996
5	-0.1332	0.6934

USERS VISUAL
PARAMETER ESTIMATES

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:DGRID.DAT

Variable = AG Unit = PPM N = 42
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.100	-	0.099	10.00
		+	0.101	
2	0.243	-	0.138	55.00
		+	0.427	
3	0.619	-	0.485	17.00
		+	0.789	
4	0.994	-	0.884	8.00
		+	1.118	
5	1.906	-	1.184	10.00
		+	3.068	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.098	0.102
2	0.079	0.750
3	0.381	1.006
4	0.786	1.258
5	0.736	4.937

##

##

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:DGRID.DAT

Variable = AG Unit = PPM N = 42
N CI = 17

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.100	-	0.099	10.00
		+	0.101	
2	0.243	-	0.138	55.00
		+	0.427	
3	0.619	-	0.485	17.00
		+	0.789	
4	0.994	-	0.884	8.00
		+	1.118	
5	1.906	-	1.184	10.00
		+	3.068	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.098	0.102
2	0.079	0.750
3	0.381	1.006
4	0.786	1.258
5	0.736	4.937

##

14:56:33 TOPPERGOLD PROPERTY - "E" GRID 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AG Unit = PPM N = 190

Mean =	-0.0296	Min =	-1.0000	1st Quartile =	-0.2218
Std. Dev. =	0.3016	Max =	0.8388	Median =	-0.0969
CV % =	1018.9937	Skewness =	0.2182	3rd Quartile =	0.1461

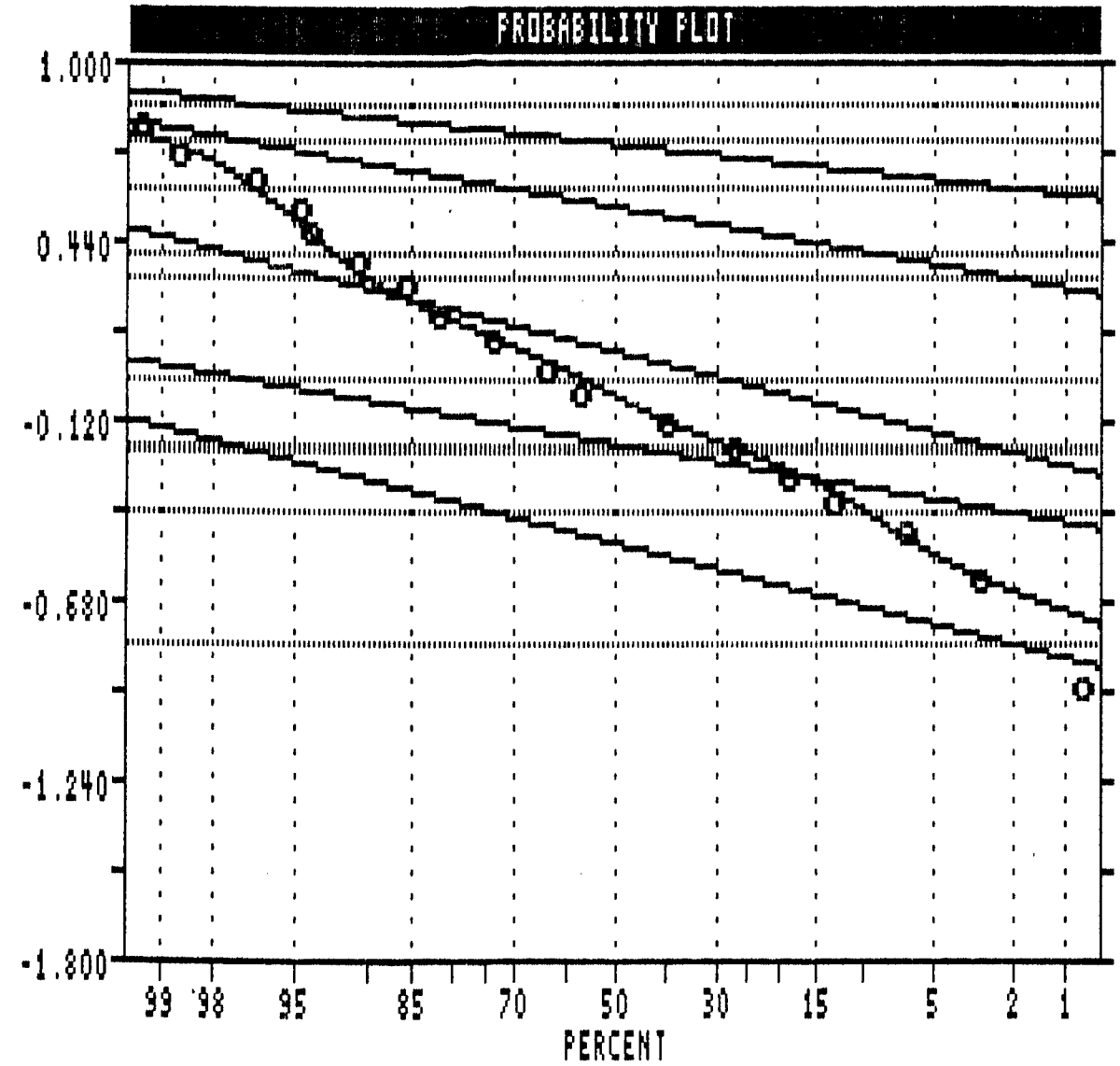
Anti-Log Mean = 0.934 Anti-Log Std. Dev. : (-) 0.466
(+) 1.871

%	cum %	antilog	cls int	(# of bins = 23 - bin size = 0.0836)
0.00	0.26	0.091	-1.0418	
0.53	0.79	0.110	-0.9582	*
0.00	0.79	0.133	-0.8746	
0.00	0.79	0.162	-0.7910	
0.00	0.79	0.196	-0.7075	
2.11	2.88	0.238	-0.6239	***
0.00	2.88	0.288	-0.5403	
3.68	6.54	0.349	-0.4567	*****
6.32	12.83	0.424	-0.3731	********
5.26	18.06	0.513	-0.2895	*******
8.42	26.44	0.622	-0.2060	**********
12.63	39.01	0.754	-0.1224	**********
17.89	56.81	0.915	-0.0388	**********
6.84	63.61	1.109	0.0448	*********
9.47	73.04	1.344	0.1284	**********
8.42	81.41	1.629	0.2120	**********
4.21	85.60	1.975	0.2956	******
4.74	90.31	2.394	0.3791	******
3.68	93.98	2.902	0.4627	*****
0.53	94.50	3.518	0.5463	*
2.11	96.60	4.265	0.6299	***
2.11	98.69	5.170	0.7135	***
0.53	99.21	6.267	0.7971	*
0.53	99.74	7.597	0.8806	*

0 1 2 3 4

11:39:12
10/13/89

TOPPERGOLD PROPERTY - "E" GRID



LOGARITHMIC VALUES

VARIABLE = AG
UNIT = PPM
N = 130
N CI = 23

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	-0.5096	0.1525	12.0
2	-0.2021	0.1019	30.0
3	0.0860	0.1536	51.0
4	0.5299	0.1075	5.0
5	0.7345	0.0674	2.0

Pop.	THRESHOLDS	
1	-0.8146	-0.2047
2	-0.4060	0.0018
3	-0.2212	0.3931
4	0.3149	0.7448
5	0.5998	0.8692

USERS VISUAL
PARAMETER ESTIMATES

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ULTIMATE.DOC

Variable = AG Unit = PPM N = 190
N CI = 23

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.309	-	0.218	12.00
		+	0.439	
2	0.628	-	0.497	30.00
		+	0.794	
3	1.219	-	0.856	51.00
		+	1.736	
4	3.387	-	2.645	5.00
		+	4.339	
5	5.426	-	4.646	2.00
		+	6.336	

==========

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.153	0.624
2	0.393	1.004
3	0.601	2.472
4	2.065	5.557
5	3.979	7.399

##########

17:43:58 TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS 10/13/89

SUMMARY STATISTICS and HISTOGRAM LOGARITHMIC VALUES

Variable = AG Unit = PPM N = 409

Mean =	-0.2700	Min =	-1.0000	1st Quartile =	-0.5229
Std. Dev. =	0.4045	Max =	0.8388	Median =	-0.2218
CV % =	149.8124	Skewness =	0.0361	3rd Quartile =	0.0000

Anti-Log Mean = 0.537 Anti-Log Std. Dev. : (-) 0.212
(+) 1.363

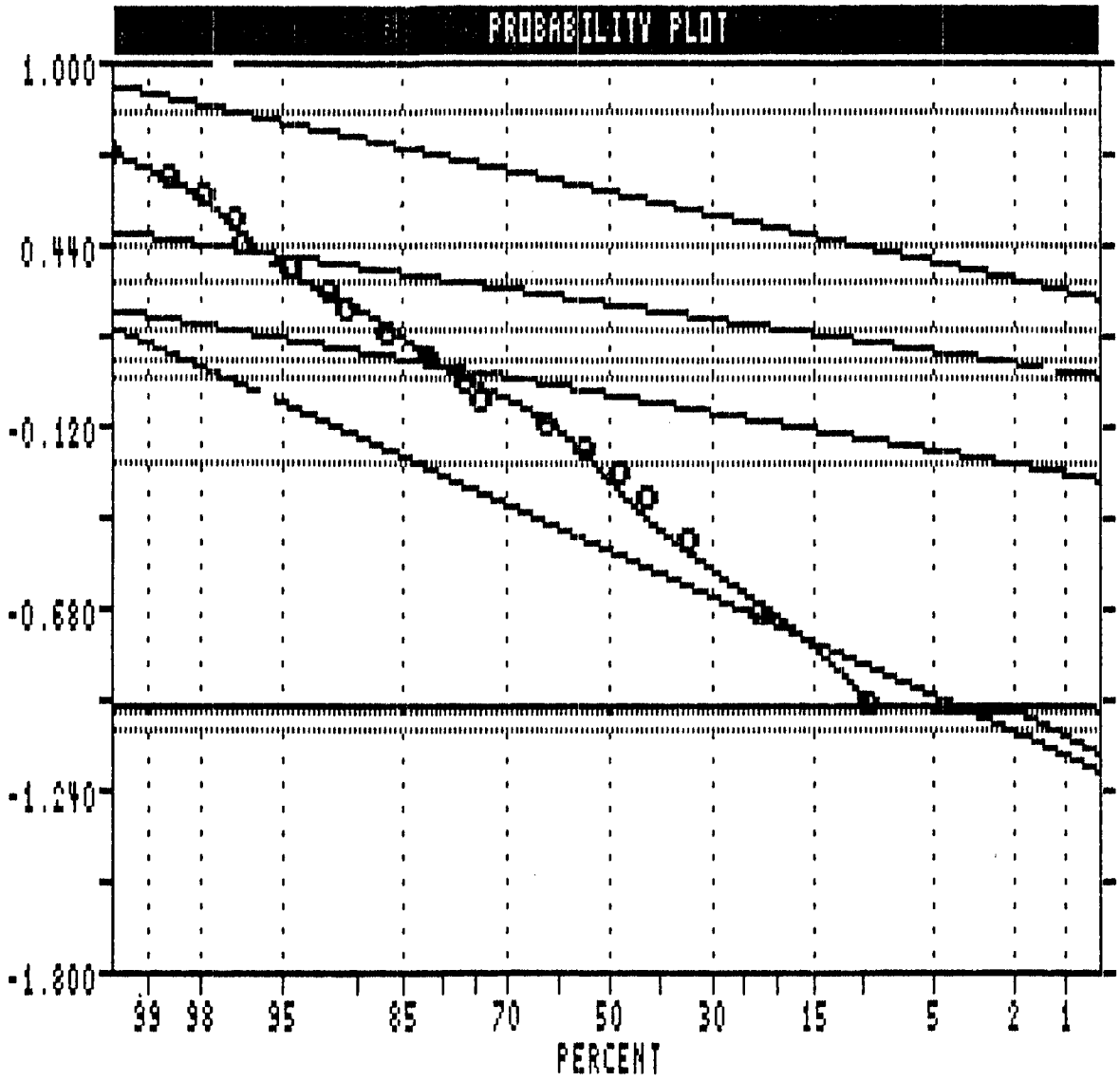
%	cum %	antilog	cls int	(# of bins = 27 - bin size = 0.0707)
0.00	0.12	0.092	-1.0354	
9.29	9.39	0.108	-0.9646	******************
0.00	9.39	0.128	-0.8939	
0.00	9.39	0.150	-0.8232	
0.00	9.39	0.177	-0.7525	
12.96	22.32	0.208	-0.6817	*************************
0.00	22.32	0.245	-0.6110	
0.00	22.32	0.288	-0.5403	
11.98	34.27	0.339	-0.4696	**********************
0.00	34.27	0.399	-0.3988	
7.82	42.07	0.470	-0.3281	**************
5.38	47.44	0.553	-0.2574	**********
7.09	54.51	0.651	-0.1867	*************
7.58	62.07	0.766	-0.1159	**************
11.74	73.78	0.901	-0.0452	**********************
2.69	76.46	1.061	0.0255	*****
5.38	81.83	1.248	0.0962	**********
4.89	86.71	1.469	0.1670	*********
3.91	90.61	1.729	0.2377	*******
1.47	92.07	2.034	0.3084	***
2.44	94.51	2.394	0.3791	****
2.20	96.71	2.817	0.4499	****
0.24	96.95	3.316	0.5206	
0.98	97.93	3.902	0.5913	**
0.73	98.66	4.592	0.6620	*
0.73	99.39	5.405	0.7328	*
0.24	99.63	6.360	0.8035	
0.24	99.88	7.485	0.8742	

0 1 2 3 4

Each "*" represents approximately 2.2 observations.

00:07:38
01/01/80

TOPPERGOLD PROPERTY - "A" THROUGH "E" GRIDS



LOGARITHMIC VALUES

VARIABLE = AG
UNIT = PPM
N = 409
N CI = 27

POPULATIONS

Pop.	Mean	Std.Dev.	%
1	-1.0000	0.0050	7.0
2	-0.5168	0.2718	53.0
3	-0.0334	0.1021	25.0
4	0.2506	0.0887	11.0
5	0.5804	0.1306	4.0

Pop.	THRESHOLDS	
1	-1.0100	-0.9900
2	-1.0604	0.0269
3	-0.2376	0.1707
4	0.0731	0.4280
5	0.3192	0.8415

USERS VISUAL
PARAMETER ESTIMATES

##########

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = B:ALLDAT.DOC

Variable = AG Unit = PPM N = 409
N CI = 27

Transform = Logarithmic Number of Populations = 5

# of Missing Observations = 0.

==========

Users Visual Parameter Estimates

Population	Mean		Std Dev	Percentage
1	0.100	-	0.099	7.00
		+	0.101	
2	0.304	-	0.163	53.00
		+	0.569	
3	0.926	-	0.732	25.00
		+	1.171	
4	1.781	-	1.452	11.00
		+	2.184	
5	3.805	-	2.817	4.00
		+	5.140	

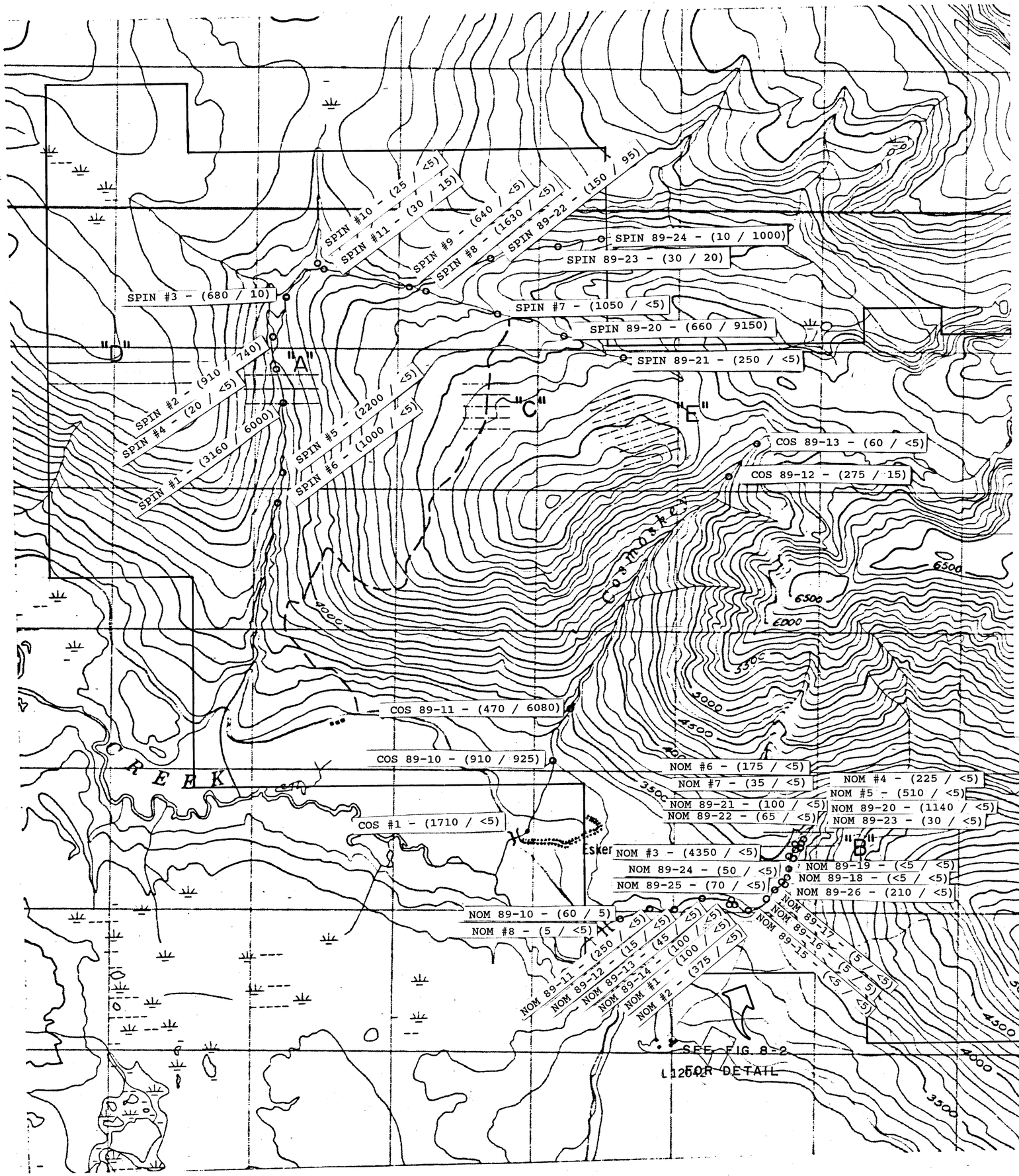
==========

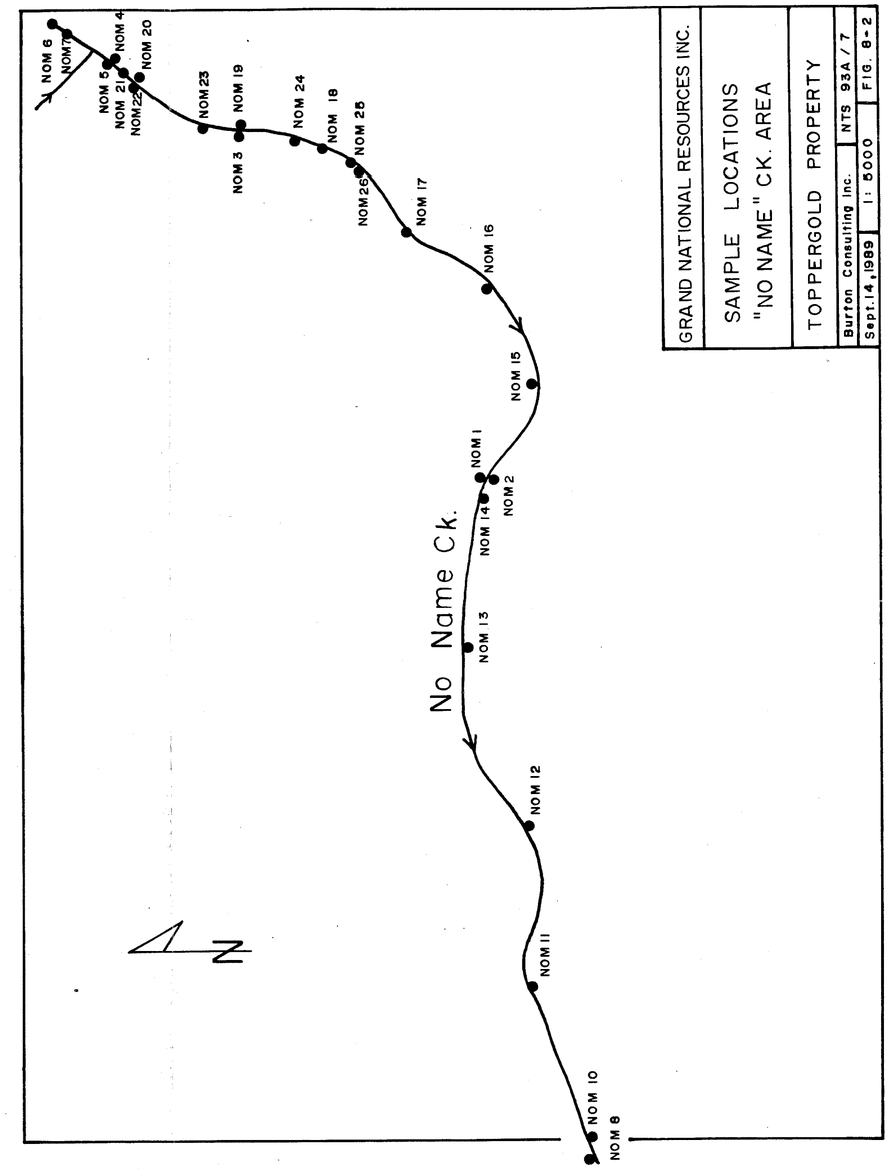
Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds	
1	0.098	0.102
2	0.087	1.064
3	0.579	1.482
4	1.183	2.679
5	2.086	6.943

##########





GRAND NATIONAL RESOURCES INC.

SAMPLE LOCATIONS
"NO NAME" CK. AREA

TOPPERGOLD PROPERTY

Burton Consulting Inc.	NTS 93A/7	
Sept.14,1989	1:5000	FIG. 8-2

GRAND NATIONAL RESOURCES INC.

GRID & SAMPLE PLAN

TOPPERGOLD PROPERTY

Burton Consulting Inc.	NTS 93A/7	
Sept. 14, 1989	1:20,000	FIG. 8-1