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11,673

GEOCHEMICAL ASSESSMENT REPORT
on the
COLE CLAIM

(Total 20 units)

SKEENA MINING DIVISION

N.T.S. 104B/7E & 10E

Latitude 56° 30' N Longitude 130° 38' W

OWNER OF THE CLAIM:

Dupont of Canada Exploration Limited

OPTIONED BY:

Placer Development Limited
Skyline Exploration Limited

OPERATOR:

Placer Development Limited

M.B. Gareau **November, 1983**

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FIGURES AND APPENDICES

1.0 SUMMARY AND CONCLUSIONS

Placer Development Limited explored the Cole claim in August 1983 for the potential of economic gold and copper mineralization. Geochemical surveys were the main thrust of this investigation and included stream, soil and rock sampling. The main aims were to discover the source of a previously delineated gold - copper soil anomaly, and to expand possible target areas.

Heavy mineral stream sediment sampling effectively focuses attention on the central portion of the claim with its known indications of mineralization, and reduces the priority of further exploration on the remainder of the property. Soil sampling defined a new northwest trending gold - copper anomaly, which is probably structurally controlled. It also put some limits on the westward extension of the existing gold-copper anomaly. Rock sampling indicates that the previously delineated gold soil anomaly may be caused by low gold values associated with quartz-pyrite veining. It is interpreted that this veining and gold mineralization may be localized along major north-south faults.

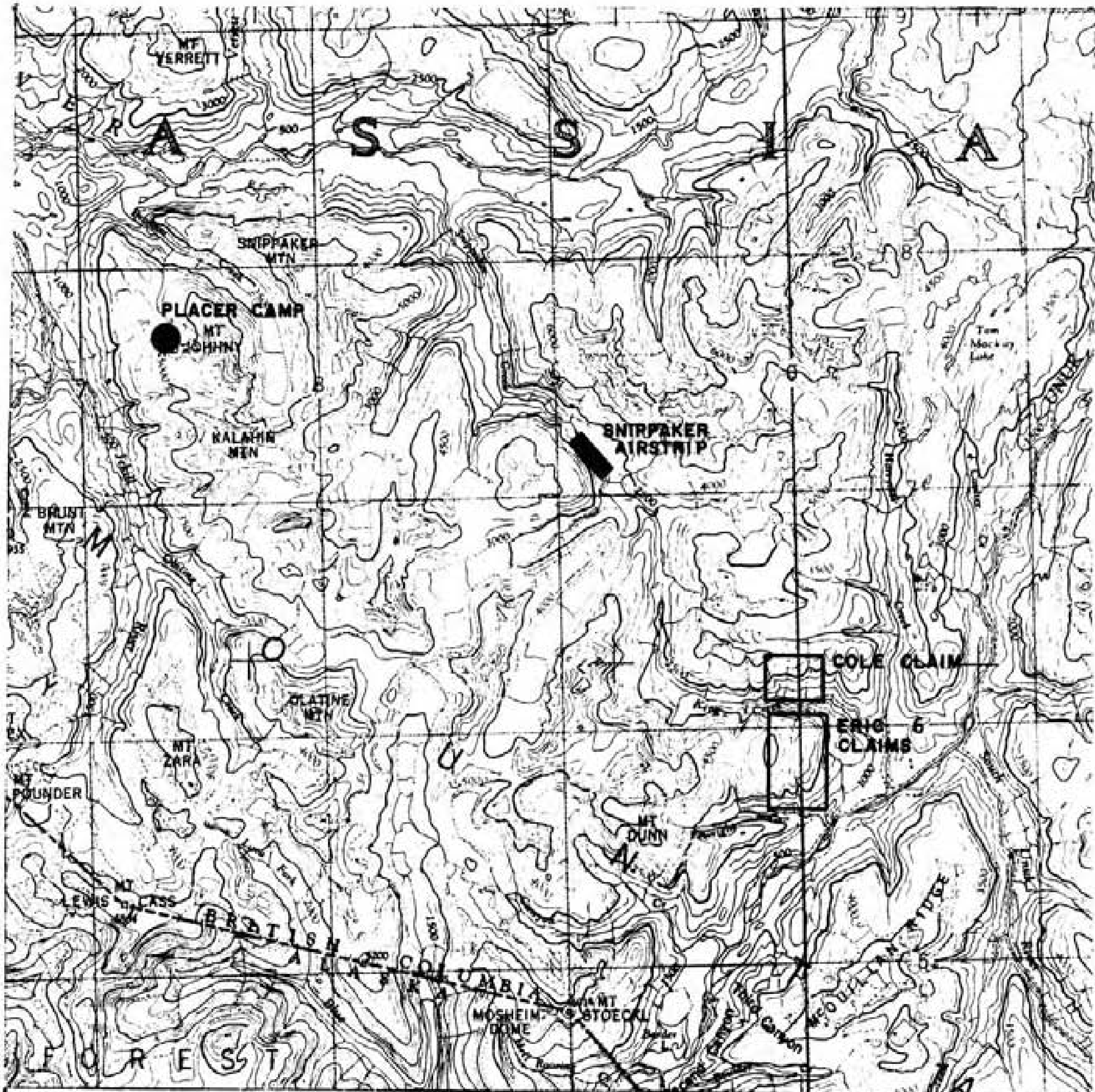
2.0 INTRODUCTION

2.1 Location, Access and Physiography

The Cole claim lies within the Skeena Mining Division just east of the Alaska-British Columbia Boundary at approximately latitude 56° 30'N and longitude 130° 38'W. The southern boundary of the claim follows along King Creek which drains southerasterly for 6 kilometers emptying into the Unuk River (Figure 1).

Access to the claim during the summer season is by helicopter from the Snippaker airstrip located approximately 11 kilometers to the northwest. The Snippaker airstrip is serviced from Terrace by Trans Provincial Airlines on a reservation basis.

Physiographically, the Cole claim is located in the Boundary Range of the Coast Mountain Region. The general terrain is quite rugged with steep sided valleys and snow covered peaks. Within the claim the elevation ranges from 325 meters to 1575 meters



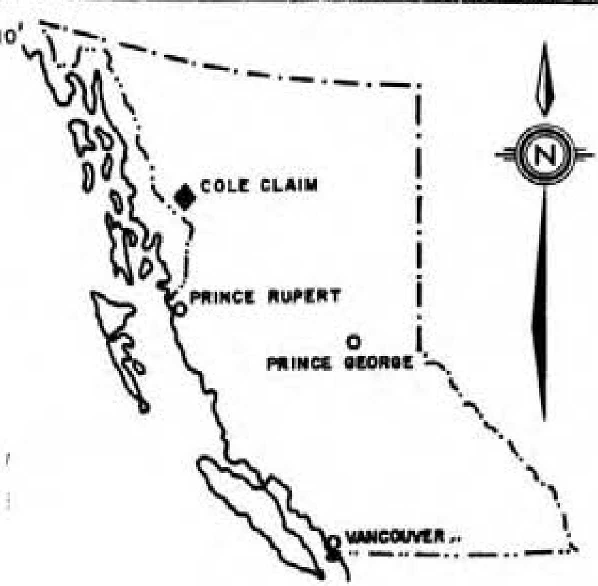


FIGURE 1

LOCATION OF COLE CLAIM

NTS 104 B

SCALE: 1:250000

0 5 10 15

KILOMETERS

(a.s.l.), south to north. Drainage on the property consists of four steep and deeply incised creeks which flow southward into King Creek. King Creek flows east at this point and has cut a narrow 'V-shaped valley' through overburden and bedrock. Tree-line is at approximately 1200 meters elevation in this valley.

2.2 Property Definition

The Cole property consists of a single 20 unit claim. It is owned by Dupont of Canada Exploration Ltd. In February 1983 Placer Development Ltd. and Skyline Exploratin Ltd. jointly optioned the property from Dupont. Pertinent data for the claim is given below:

Claim Name:	Cole
Record Number:	2436
Tag Number:	64778
Anniversary Date:	July 14

Earlier exploration in this area dates to the 1920's. Minor copper-lead-zinc-silver mineralization has been observed at a sediment-volcanic contact to the northeast of the property. Porphyry style copper-molybdenum-silver bearing quartz veins in a diorite stock occur on the Eric claims immediately to the south.

Anomalous results from a region stream sediment survey prompted Dupont to stake the Cole claim in 1980. Since then Dupont has carried out exploration consisting of geological mapping; limited ground magnetice and VLF-EM; and stream, soil, and rock sampling. Their work has identified a number of gossan zones. One of these zones has relatively high copper and gold soil sample values associated with it (Figure 2). However to date metal values in bedrock samples have been low. The most significant discovery on the property is a single piece of massive pyrite float which returned 7.13 ppm gold. Some of Dupont's work can be obtained from Assessment Report #10474, 1981.

2.3 Summary of Work

From 7-9 August, 1983 a total of five man-days was spent working on the Cole claim. The program had several objectives:

(a) to investigate an area of relatively high Au-Cu soil sample values outlined by Dupont's work;

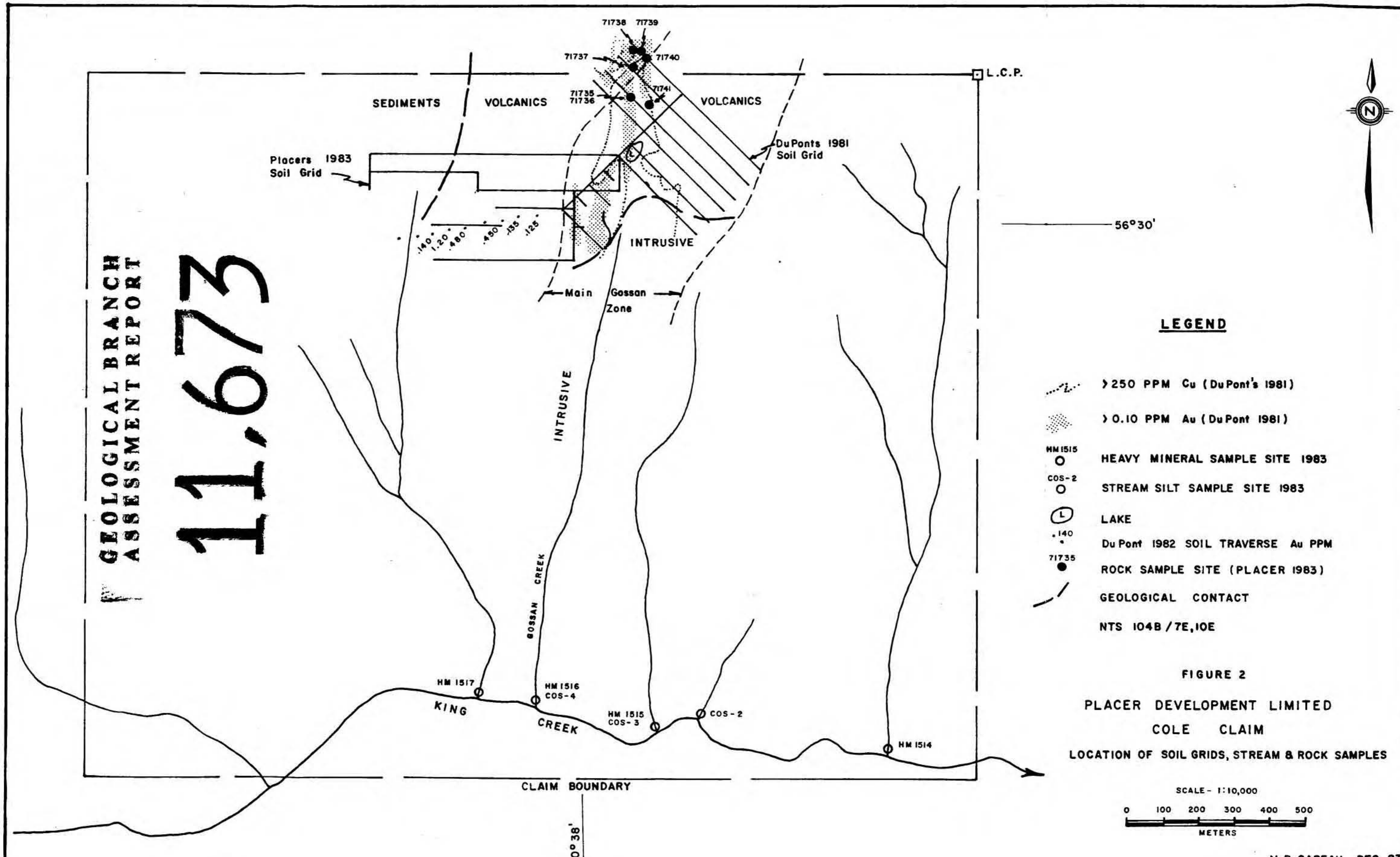


FIGURE 2

PLACER DEVELOPMENT LIMITED

COLE CLAIM

LOCATION OF SOIL GRIDS, STREAM & ROCK SAMPLES

M.B. GAREAU DEC. 83

(b) to extend the soil grid coverage over an area where a single soil traverse had revealed high gold values; and

(c) to establish new exploration targets by taking heavy mineral samples from the main drainages on the property.

A total of 4 heavy mineral stream sediment, 3 stream silt, 90 soil and 7 rock samples were collected from the Cole claim and analyzed for Cu, Zn, Pb, Ag, Au and As.

Field operations were conducted from Placer's camp located near Johnny Mountain, approximately 30 kilometers to the northwest of the Cole property. Helicopter transportion from the camp was required to support this work.

3.0 GEOLOGICAL SETTING

The regional geology presented on G.S.C. Map 1418A (1979; scale 1:1,000,000) shows the Cole property underlain by a package of Mesozoic fine grained clastic sediments and acid to intermediate volcanics that have been cut by a Tertiary felsic intrusive. Property mapping by Dupont provides information on the property geology (company report, April 1982). Their geologists recognize seven lithologic units.

Unit 7	Dacite - quartz monzonite; fine to coarse grained
Unit 6	Rhyolite; cherty
Unit 5	Limestone; banded
Unit 4	Chert; massive and banded
Unit 3	Andesitic tuff; lapilli and fine grained
Unit 2	Andesite
Unit 1	Dacite; fine to coarse grained(may relate to Unit 7)

A synopsis of the property geology is taken from their report:

> "the property is underlain by a series of predominantly northeasterly striking andesitic to rhyolitic flows and tuffs, chert and lesser limestone. The central portion of the claim, ... hosts a dacite - quartz monzonite. The unit may represent a subvolcanic occurrence, related to the finer grained dacite unit".

To aid interpretation of the geochemical results given herein, the contacts between volcanic, intrusive and sedimentary rocks have been plotted on Figure 2.

Limited data on bedding attitudes have been interpreted by Dupont geologists to suggest that the volcanic and sedimentary rock units have been folded into NE trending anticlinal and synclinal structures. Examination of aerial photographs for this area indicate a strong N-S linear structural component. Northwest and northeast trending linears form a secondary, less developed structural fabric. It is interesting to note that the N-S faults which bound the mineralized intrusive on the Eric claims (Assess. Rpt. #5616) extend north through the Cole claim where they are spatially associated with the "Main Gossan" zone mapped by Dupont. The intrusive occurring on the Cole property may also be spatially related to this fault system. One caution with this observation stems from the limited mapping that has been completed to date. Despite this the suggestion is put forth that the fault system, intrusives and mineralization on th Eric and cole claims are all related. Available descriptions of the two intrusive occurrences are not rigorous enough to support or disallow this contention.

Mineralization reported by Dupont and observed in the field by the writer includes pyrite and chalcopyrite. The gossans found on the property can be attributed to the chemical weathering of pyrite occurrences. Within the main gossan zone, which encompasses Dupont's area of higher gold and copper soil values, pyrite is present predominantly as disseminations and fracture filling in intrusive and volcanic rocks, and to a lesser extent as scattered clusters. Quartz microveining is present but not abundant, and in some instances carries clots and disseminations of pyrite. The overall pyrite content is variable from 1 to 3% and locally may reach 5%.

The strongest mineralization and the only indication of copper observed by the writer consists of a rusty, malachite-stained, 5 cm wide fracture filled with massive pyrite. A number of thinner (< 1 cm) pyrite filled fractures were noted in the nearby. This occurrence is located at the south end of the small alpine lake that drains into Gossan Creek.

4.0 GEOCHEMISTRY

4.1 Heavy Mineral and Stream Silt Sampling

Heavy mineral and silt samples were collected from five creeks as part of the overall evaluation of the Cole claim. The sample locations are given on Figure 2. Descriptions of each sample site as well as the analytical results are presented in Appendix 1.

In this rugged mountainous terrain drainage channels on steep slopes, such as those found on the cole property, have developed as rock chutes that cut down through both overburden and bedrock. With these steep gradients, dispersion of metals down streams comes essentially from mechanical transport of clastic material as part of the stream bedload. Hydromorphic dispersion is probably of minor consequence.

4.1.1 Sample Collection, Preparation and Analysis

For stream silt samples, fine clastic material was collected into kraft paper bags using a plastic spoon. Heavy mineral samples were collected by wet sieving clastic material through a -20 mesh stainless steel screen. A steel shovel was used to obtain the raw material. The sieved fraction was retained in a large plastic bag. Approximately 7-8 kg of sieved material was collected for each heavy mineral sample. Sample sites for both silts and heavy minerals were chosen to take advantage of natures concentration of heavy minerals (i.e. native gold, sulphides) within specific flow regimes of the active streams.

The silt samples were forwarded to Placer's analytical laboratory in Vancouver where they were oven-dried and then sieved to a -80 mesh size fraction for analysis. The heavy mineral samples were shipped to C.F. Minerals in Kelowna, B.C. for preparation into 18 different fractions for each sample. These fractions were made from the original sample by separation first on size (sieving), second on specific gravity (heavy liquid) and finally on magnetic susceptibility (electro magnetic separater). Explanation of the code for the heavy mineral separates is given with the results in Appendix 1. The heavy mineral fractions were returned to Placer's laboratory for analysis.

The silt samples and fine heavy mineral fractions were treated similarly at the laboratory - a subsample was weighed, digested and analyzed. The coarse heavy mineral fractions must be crushed prior to weighing. All the silt samples and heavy mineral fractions were analyzed for Cu, Zn, Pb, Ag, Au and As.

Digestion and detection procedures used by Placer's laboratory are given in Table 1. The small sample size for many of the heavy mineral fractions necessitated that analysis for gold be done by neutron activation. Neutron Activation Services in Hamilton, Ontario were used for the heavy mineral gold analyses.

4.1.2 Results

There are too few samples for statistical evaluation of this data. In addition the heavy mineral results do not lend themselves to such mathematical manipulations.

Two of the silt samples (COS -3 & 4) give elevated values for gold (1.13 and 0.85 ppm, respectively). The remaining elements, however do not give any particularly outstanding results. Both creeks drain the gossan zone delineated by Dupont.

TABLE 1

EXTRACTION AND ANALYTICAL METHODS

Element	Units	Weight (grams)	Extraction Procedure Attack Used	Time	Analytical Method	Detection Range
Cu	ppm	0.5	Conc. $HClO_4/HNO_3$	4 hrs.	Atomic Absorption	2-4000
Zn	ppm	0.5	Conc. $HClO_4/HNO_3$	4 hrs.	Atomic Absorption	2-3000
Pb	ppm	0.5	Conc. $HClO_4/HNO_3$	4 hrs.	A.A. Background Corrected	2-3000
Ag	ppm	0.5	Conc. $HClO_4/HNO_3$	4 hrs.	A.A. Background Corrected	0.2-20
Au	ppm	10.0	Aqua Regia	3 hrs.	A.A. Solvent Extraction	0.2-4.00
As	ppm	0.5	Conc. $HClO_4/HNO_3$	4 hrs.	A.A. Background Corrected	2-1000

Table 2 is a comparative summary of the heavy mineral results. This summation takes into consideration 1) the range of values obtained for each element within the 18 fractions for each sample; 2) the persistence of values for a certain range; and 3) the expected restriction of value ranges in specific fractions resulting from mineralogical sorting during sample preparation.

TABLE 2

Comparative Summary of Heavy Mineral Results

Sample No.	Cu	Zn	Pb	Ag	Au	As
HM 1514	M	L-M	L	L	L	L
HM 1515	L	L	L-M	M	H	H
HM 1516	H	L-M	M	M	H	M
HM 1517	M	H	H	H	L-M	H

L = low M = medium H = high

The highest and most interesting gold values are in samples HM 1515 and HM 1516. These samples were taken from the same creeks as silt samples COS-3 and COS-4 which drain a known gossan.

4.1.3 Conclusions

The heavy mineral sampling results for gold focus attention on the central portion of the claim - Gossan creek and the next creek east. A soil geochemical gold and copper anomaly exists at the head of Gossan creek (Figure 2). As mentioned both creeks drain the main gossan zone.

Sample HM 1514 is generally low in most elements, particularly gold and effectively delimits the area of exploration interest to the east.

Sample HM 1517 has a sniff of gold but is high in all other elements. Dupont's mapping shows cherty black argillites and carbonates at the head of this drainage. It is interpreted that the high metal values in this sample represent elevated metal values frequently found in black shales. However there may well be some contribution to the metal value of this sample from mineralization, particular with respect to gold, copper and probably arsenic.

The relatively even distribution of value through the fine, intermediate and coarse size fractions demonstrates the predominance of mechanical transport of clastics as the operating dispersion process.

4.2 Soil Sampling

Dupont obtained six soil samples high in gold from a traverse extending west from the south end of their soil grid. A grid was established to test these values and to try to delineate possible source areas. The location of Placer's grid to Dupont's grid and traverse line is illustrated in Figure 2. The odd configuration of Placer's grid was dictated by topographical barriers such as cliffs and gullies.

Sample locations are shown on Figure 3. Descriptions of each sample site and a tabulation of the results are given in Appendix 2. The results for each element are also presented on Figures 4 to 9.

Soils are poorly developed here. The overburden from which they are formed is predominantly of local origin. It consists of weathered bedrock which on moderate to steep slopes has been colluviated by gravity transport. Glacial material is a minor overburden facies. Glacial dispersion is not considered to be a significant factor in the area of the survey. Consequently the soils results should tell something about the bedrock immediately underlying or just upslope from each sample site.

A problem recognized prior to sampling was the presence of a thin blanket of recent black volcanic ash. Generally contamination from the ash was easily avoided because it occurred in the moss or top 5 cm of the profile. On steeper slopes where the material has been colluviated, ash could be found mixed in the profile to a depth of 30 - 40 cm; these occurrences are noted in the sample site descriptions found in Appendix 2. A character sample of essentially pure ash (COX-55) was collected and analyzed. The results obtained are

Cu - 97 ppm, Zn - 45 ppm, Pb - 8 ppm, Ag - 0.2 ppm, Au - 0.12 ppm, and As - < 2 ppm. The gold value is alarming and a potential source for false anomalies. The remaining elements have low values which could dilute otherwise anomalous values. However, it is felt that enough caution was taken to avoid ash contamination and that the soil results can still be related to the underlying bedrock with confidence.

4.2.1 Sam^le Collection, Preparation and Analysis

Soil samples were collected using a steel mattock, a plastic spoon and a kraft paper bag. Wherever possible B - horizon material was collected; if not present then a C - horizon sample was taken. Sample depths ranged from 15 - 25 cm and overaged 20 cm.

The samples were sent to Placer's analytical laboratory in Vancouver where they were oven-dried and sieved to a -80 mesh fraction. A subsample was weighed for analysis. The digestion and detection techniques used are given in Table 1.

4.2.2 Results

Basic statistics were calculated for the soil results and are presented below in Table 3.

TABLE 3

Statistical Summary of Soil Re^ults

	Range Values	Mean	Standard Deviation
Cu	24 - 740 ppm	116	116
Zn	28 - 1710 ppm	119	180
Pb	2 - 58 ppm	22	13
Ag	<0.2-3.2 ppm	0.85	0.53
Au	<0.02-4.35 ppm	0.22	0.61
As	<2 - 600 ppm	45	95

Histograms (Appendix 2) were constructed for each element using log transformed data. Separation points were selected from the histograms and used for the presentation of the results in Figures 4 to 9.

Copper (Figure 4) - the highest values are all located in the northeast corner of the grid. Some of the intermediate range values form a distinct though narrow linear trend that strikes northwest through the centre of the grid.

Zinc and lead (Figures 5 & 6) - both elements show a remarkably similar pattern with most of the high values occurring on the western portion of the grid. The northwest linear trend noted with copper is also exhibited by lead and to a lesser extent by zinc.

Silver (Figure 7) - the overall results are quite low. Values above 1.4 ppm appear to be more abundant in the area of high zinc and lead. Three samples above 1.4 ppm at the eastern end of the grid form a north-northeast trend. There may also be a weak correspondence with the copper patterns.

Gold (Figure 8) - a large proportion of the samples contain gold in amounts above 0.1 ppm. The highest values (> 0.4 ppm) form a strong pattern coincident with the northwest trending copper linear. Intermediate values of 0.1 - 0.4 ppm lie coincident with the highest copper values in the northeast corner of the grid.

Arsenic (Figure 9) - reflects the northwest linear trend of copper and gold. Also appears to show a large proportion of higher values in the west, generally coincident with zinc and lead.

<u>4.2.3 Conclusions</u>

High zinc and lead values in the western portion of the grid are interpreted as a lithogical feature, reflecting the predominance of sedimentary units (black cherty argillites) underlying this area. The lower values to the east result from the predominance of felsic volcanic rocks. Coincident but less obvious patterns of silver and arsenic are also interpreted in this manner.

The patterns of high gold and copper are interpreted as a reflection of underlying mineralization. The northwest linear trend of gold and copper with its weaker lead, arsenic and zinc signatures could represent a mineralized structure. It would be hazardous to guess at the tenor and extent of this mineralization from the soil results, although it does appear that mineralization is interrupted a the northwest end of this trend. Dupont's high gold results were not exactly duplicated. Allowing for some dislocation of their traverse and/or some downhill dispersion, it is probable that this linear anomaly is the source of Dupont's high values.

The copper-gold anomaly in the northeast corner of the grid lies within and may define the western boundary of the "Main Gossan" mapped by Dupont (Figure 2).

4.3 Rock Sampling

Rock samples were obtained from bedrock exposures located within the northern part of Dupont's copper-gold soil anomaly. It was hoped that this sampling would identify the bedrock source for the copper and gold values found in the soils.

The sample locations are shown on Figure 2. Results of analysis are given in Table 4.

4.3.1 Sample Collection, Preparation and Analysis

Three rock chip samples were collected. The sampling was oriented perpendicular to percieved contacts between geological units. Sample lengths are given with results in Table 4. Four grab samples were obtained, two from bedrock and two from locally derived float.

All the samples were sent to Placer's laboratory for analysis. The samples were crushed and pulverized; a subsample was weighed; then digested; and finally analyzed for copper, silver and gold. Digestion and detection techniques used by Placer's laboratory are given in Table 1.

4.3.2 Results

A summary of the results and pertinent descriptive data are given in Table 4.

TABLE 4
Rock Sampling Results

Sample No.	Sample Interval	Results(ppm)			Material Sampled	Lithology
		Cu	Ag	Au		
71735	2 m	20	<0.2	0.21	bedrock	dacitic volc. w/qtz-py veins
71736	grab	30	1.3	0.15	bedrock	qtz-pyrite vein
71737	grab	58	<0.2	<0.02	bedrock	felsic intrusive
71738	5 m	56	<0.2	<0.02	bedrock	felsic intrusive
71739	6 m	156	<0.2	<0.02	bedrock	felsic intrusive
71740	grab	272	1.4	0.15	float	quartz-pyrite
71741	grab	68	0.9	<0.02	float	pyrite bearing

Gold values were obtained in two bedrock samples (71735 & 71736) and one float sample (71740). The bedrock samples are from the same outcrop. Sample 71736 was taken as a character sample from a quartz-pyrite vein of variable width, 5-50 cm, and oriented 000° Az/55°W. Cross-cutting quartz microveins were noted in other sections of this outcrop. It appears, despite limited sampling, that the gold is associated with quartz-pyrite mineralization. This mineralization is not particularly abundant; this raises a problem trying to explain the fairly extensive gold anomaly delineated by Dupont. However it may be that the quartz microveining is difficult to recognize. Another problem is to explain the copper soil anomaly with the generally low copper values obtained from the rock samples. Two samples do have copper > 100 ppm, but the copper anomaly is fairly extensive and has values 5 to 10 times that obtained in the rocks.

4.3.3 Conclusions

The only bedrock source of gold discovered to date that could explain Dupont's soil anomaly is associated with quartz-pyrite veining. It is interesting that the only large vein observed strikes parallel the major N-S trending faults that traverse the property in this immediate area. I would suggest that one control of mineralization may be these N-S faults.

5.0 STATEMENT OR EXPENDITURES

The following expenses were incurred by Placer Development Ltd. on a geochemical field investigation of the Cole claim during 1983.

Personnel Costs

Personnel	Period	Days x Rate	Costs
M. Gareau	7,9 Aug.	1.5 @ $250/day = $375.	
B. Barde	9 Aug.	1.0 @ $250/day = $250.	
B. Ott	7,9 Aug.	1.5 @ $250/day = $375.	
M. Wawrychuck	9 Aug.	1.0 @ $200/day = $200.	$1200.00

Room & Board (Johnny Mtn. Camp)

5 man-days @ $100/man-day	$ 500.00

Helicopter Costs

2.5 hours @ $850/hour (includes fuel)	$2125.00

Analytical Costs

7 rocks @ $ 9.65 (Cu,Ag,Au)	$ 67.55	
90 soils @ $11.20 (Cu,Zn,Pb,Ag,Au,As)	1008.00	
3 silts @ $11.20 (Cu,Zn,Pb,Ag,Au,As)	33.60	
4 heavy mineral samples @ $291.60 (prep & analysis Cu,Zn,Pb,Ag,Au,As)	1166.40	$2275.55

Miscellaneous Costs

Freight	$250.	
Maps, Airphotos, Samplin^ Supplies	100.	
Computer Time	100.	$ 450.00

Data Compilation and Report Preparation

Personnel	Days & Rate	
M. Gareau	5 @ $250. = $1250.	
H. Goddard	1 $ $200. = 200.	
D. Dussault	1 @ $200. = 200.	$1650.00

TOTAL EXPENDITURES $8200.00

6.0 STATEMENT OF QUALIFICATIONS

I, M.B. Gareau, of Placer Development Limited, Vancouver, B.C. do hereby certify that:

1. I am a geologist.

2. I am a graduate of the University of Dalhousie, Halifax, N.S. with a Bachelor of Science in Geology (1977) and an Honours Certificate in Geology (1978).

3. I have been engaged in mineral exploration throughout Canada since graduation in 1977.

4. I personally planned, supervised and participated in the field program; and have also compiled, reviewed and assessed the resulting data.

M.B. Gareau

MBG/dd

APPENDIX I

STREAM SAMPLING:

1. Sample Site Descriptions
2. Analytical Results

LIST DATA FILE: COLE CLAIM - STREAM DESCRIPTIONS DATE: 83-12-13 PAGE 1

SAMP	TYPE	POSN	CHAN	CLAY	SILT	SAND	GRAV	CWID	WWID	DPTH	GRAD
S 1514	HM	PLP	RC		1	6	3	35.00	20.00	15.00	10.00
COS1	SS	PLP	RC		1	6	3	35.00	20.00	15.00	10.00
COS2	SS	MCC	BC			5	5	20.00	5.00	3.00	30.00
S 1515	HM	MCC	RC		2	3	5	30.00	10.00	15.00	15.00
COS3	SS	MCC	RC		2	3	5	30.00	10.00	15.00	15.00
S 1516	HM	MCC	RC		1	5	4	40.00	10.00	10.00	15.00
COS4	SS	MCC	RC		1	5	4	40.00	10.00	10.00	15.00
S 1517	HM	MCC	RC			2	8	50.00	20.00	20.00	15.00

END OF LISTING - 8 RECORDS PRINTED

KEY FOR CODE

SAMP : sample number

TYPE : sample type → HM heavy mineral
SS stream silt

POSN : position in stream → PLP plunge pool
MCC mid-channel

CHAN : channel type → RC rocky chute
BC boulder chute

CLAY, SILT, SAND, GRAV } × 10%

CWID : channel width (cm)
WWID : water width (cm)
DPTH : water depth (cm)
GRAD : stream gradient in degrees

KEY FOR

HEAVY MINERAL SEPARATES

01514 CHM

- M → magnetic susceptibility
- H → specific gravity separation
- C → size separation
- 01514 → Sample number

Size Separation	C	-20 + 80 mesh
	M	-80 + 150 mesh
	F	-150 mesh
Specific Gravity Separation	H	>3.3 S.G.
	I	2.8 to 3.3. S.G.
Magnetic Susceptibility	M	magnetic
	P	paramagnetic
	N	non-magnetic

PLACER GEOCHEM ASSAY SYSTEM: DATA FROM HEAVY MINERAL SAMPLES - COLE CLAIM

GRID	SAMPLE	PROJECT	CU	ZN	PB	AG	AU	AS
	01514CHM	3180	36	62	14	0.9	<0.04	<2
	01514CHN	3180	860	290	15	6.0	1.20	110
	01514CHP	3180	255	300	76	5.2	0.17	54
	01514CIM	3180	NSS	NSS	NSS	NSS	<0.08	NSS
	01514CIN	3180	280	420	102	3.6	1.60	82
	01514CIP	3180	179	280	51	1.4	0.20	38
	01514FHM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01514FHN	3180	650	380	53	7.3	10.00	220
	01514FHP	3180	NSS	NSS	NSS	NSS	0.17	NSS
	01514FIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01514FIN	3180	90	210	15	1.2	0.09	22
	01514FIP	3180	205	390	37	1.7	0.07	42
	01514MHM	3180	NSS	NSS	NSS	NSS	<0.04	NSS
	01514MHN	3180	710	289	26	10.0	0.12	225
	01514MHP	3180	278	290	69	6.3	0.11	90
	01514MIM	3180	NSS	NSS	NSS	NSS	0.12	NSS
	01514MIN	3180	153	265	28	1.2	0.08	28
	01514MIP	3180	206	330	35	1.1	0.05	44
	01515CHM	3180	109	122	28	0.3	0.22	<2
	01515CHN	3180	280	130	125	22.5	320.0	20
	01515CHP	3180	470	180	74	3.6	2.40	108
	01515CIM	3180	150	118	23	1.0	0.22	6
	01515CIN	3180	127	98	31	0.5	0.89	20
	01515CIP	3180	342	185	47	1.7	0.61	66
	01515FHM	3180	NSS	NSS	NSS	NSS	39.4	NSS
	01515FHN	3180	196	91	87	24.0	70.00	2026
	01515FHP	3180	334	149	63	3.2	0.71	84
	01515FIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01515FIN	3180	75	95	19	0.2	0.40	64
	01515FIP	3180	324	208	45	0.5	0.32	76
	01515MHM	3180	51	97	21	3.7	0.07	<2
	01515MHN	3180	258	84	90	0.6	190.0	980
	01515MHP	3180	425	162	70	12.0	0.82	130
	01515MIM	3180	NSS	NSS	NSS	NSS	0.20	NSS
	01515MIN	3180	170	113	26	<0.2	0.34	16
	01515MIP	3180	410	189	44	0.6	0.83	28
	01516CHM	3180	NSS	NSS	NSS	NSS	0.30	NSS
	01516CHN	3180	1140	320	87	6.2	130.0	370
	01516CHP	3180	970	252	87	7.9	3.10	280
	01516CIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01516CIN	3180	920	205	72	4.2	11.00	180
	01516CIP	3180	406	180	47	1.9	0.96	82
	01516FHM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01516FHN	3180	1170	250	280	26.7	190.0	430
	01516FHP	3180	970	190	78	6.9	2.20	86
	01516FIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01516FIN	3180	NSS	NSS	NSS	NSS	1.50	NSS
	01516FIP	3180	1420	280	77	4.0	1.10	160
	01516MHM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01516MHN	3180	1570	350	100	16.2	160.0	390
	01516MHP	3180	1090	250	97	9.4	1.80	230
	01516MIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01516MIN	3180	1440	290	89	4.0	1.30	270
	01516MIP	3180	353	162	38	2.1	0.72	62
	01517CHM	3180	NSS	NSS	NSS	NSS	0.18	NSS
	01517CHN	3180	700	1220	60	42	6.00	1440
	01517CHP	3180	760	1070	335	15.5	0.65	320
	01517CIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01517CIN	3180	346	520	128	5.4	0.57	230
	01517CIP	3180	326	440	102	3.7	1.00	130
	01517FHM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01517FHN	3180	590	650	54	29.0	1.10	230
	01517FHP	3180	550	690	416	16.8	0.27	360
	01517FIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01517FIN	3180	161	294	96	3.9	0.20	260
	01517FIP	3180	330	600	120	3.5	0.08	170

PLACER GEOCHEM ASSAY SYSTEM: DATA FROM HEAVY MINERAL SAMPLES - COLE CLAIM

GRID	SAMPLE	PROJECT	CU	ZN	PB	AG	AU	AS
	01517MHM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01517MHN	3180	590	930	118	27.0	64.00	1600
	01517MHP	3180	530	740	287	14.5	0.28	380
	01517MIM	3180	NSS	NSS	NSS	NSS	NSS	NSS
	01517MIN	3180	404	710	135	4.9	0.21	260
	01517MIP	3180	165	322	51	289	0.06	69
test	STD AU	3180					1.90	
test	STD AU	3180					1.50	
test	STD AU	3180					1.20	
test	STD AU	3180					1.60	
test	STD AU	3180					1.50	
test	STD AU	3180					1.60	
test	STD G	3180	96	75	108	1.0		68
test	STD G	3180	94	75	110	1.4		64
test	STD G	3180	99	72	111	1.2		52
test	STD G	3180	94	78	111	0.9		64
test	STD G	3180	93	76	102	0.9		70

PLACER GEOCHEM ASSAY SYSTEM: DATA FROM SILT SAMPLES - COLE CLAIM

GRID	SAMPLE	PROJECT	CU	ZN	PB	AG	AU	AS
COS	2	3142	210	256	25	1.2	0.02	40
COS	3	3142	118	165	15	0.4	1.13	20
COS	4	3142	490	137	35	1.1	0.85	50

APPENDIX II

SOIL SAMPLING:

1. Sample Site Descriptions
2. Analytical Results
3. Histograms of Results

LIST DATA FILE: COLE CLAIM - SOIL DESCRIPTIONS DATE: 83-12-13 PAGE 1

SAMP	HRZN	PRNT	TERR	ENV1	DRAN	CLAY x 10%	SILT x 10%	SAND x 10%	GRAV x 10%	ORG x 10%	X (m)	Y (m)	DPTH (cm)	
COX 5	BC	CL	SS	SL	FR			8	2		25.00	1300.00	15.00	
COX 6	BC	CL	SS	TA	FR			5	5		-50.00	1300.00	15.00	
COX 7	B1	CL	SS	TA	FR		4	5		1	-75.00	1300.00	20.00	
COX 8	BC	CL	SS		FR			4	3	3	-100.00	1300.00	25.00	
COX 9	BC	CL	SS	TA	FR			4	3	3	-125.00	1300.00	15.00	
COX 10	B1	CL	SS	TA	FR	=	4	2	3		-150.00	1300.00	15.00	
COX 11	BC	CL	SS	TA	FR		5	2		3	-175.00	1300.00	15.00	
COX 12	BC	CL	SS	BO	FR		3	2		3	-200.00	1300.00	15.00	
COX 13	BC	CL	SS	BO	FR	1	7		1	1	-250.00	1300.00	15.00	
COX 14	BC	CL	SS	TA	FR	1	7		1	1	-275.00	1300.00	10.00	
COX 15	BC	CL	SS		FR		6	3		1	-300.00	1300.00	20.00	
COX 16	BC	CL	SS		FR		6	3		1	-350.00	1300.00	10.00	
COX 17	BC	CL	SS	TA	FR		7	2		1	-400.00	1300.00	20.00	
COX 18	BC	CL	SS	BO	FR		5	2	2	1	-425.00	1300.00	15.00	
COX 19	BC	CL	SS		FR		5	2	2	1	-450.00	1300.00	20.00	
COX 20	BC	CL	SS	BO	FR		4	2	3	=	-475.00	1300.00	20.00	
COX 21	XC	CL	SS	DG	FR		2	4	4		-500.00	1300.00	15.00	
* COX 22	XC	CL	SS	DG	FR		2	4	4		-525.00	1300.00	15.00	
COX 23	XC	CL	SS	DG	FR		2	4	4		-550.00	1300.00	15.00	
COX 24	XC	CL	SS	DG	FR		2	6	6		-575.00	1300.00	15.00	
COX 25	XC	CL	SS	DG	FR		2	6	6		-600.00	1300.00	15.00	
COX 26	XC	CL	SS	DG	FR		2	2	6		-625.00	1300.00	15.00	
COX 27	BC	CL	RG		FR		3		4	3	-650.00	1300.00	15.00	
COX 28	XC	CL	SS		FR		2	5	3		-675.00	1300.00	15.00	
COX 29	BC	CL	SS		FR		6	3		1	-700.00	1200.00	20.00	
COX 30	XC	CL	SS		FR	=	4	2	3		-700.00	1250.00	20.00	
COX 31	BC	CL	SS		FR		5	4		1	-675.00	1250.00	20.00	
COX 32	BC	CL	SS		FR	1	7			2	-650.00	1250.00	20.00	
COX 33	B1	CL	SS		FR		6	3		1	-625.00	1250.00	20.00	
* COX 34	XC	CL	SS	DG	FR			7	3		-600.00	1250.00	10.00	
COX 35	XC	CL	SS	DG	FR		2	4	4		-575.00	1250.00	15.00	
COX 36	XC	CL	SS	DG	FR			8	2		-525.00	1250.00	15.00	
COX 37	XC	CL	SS	DG	FR		2	4	4		-500.00	1250.00	15.00	
COX 38	XC	CL	SS	DG	FR		2	4	4		-475.00	1250.00	15.00	
COX 39	XC	CL	SS	DG	FR		2	4	4		-450.00	1250.00	15.00	
COX 40	BC	CL	SS	DG	FR		7	1	1	1	-425.00	1250.00	15.00	
COX 41	BC	CL	SS		FR		8	1	1		-400.00	1200.00	15.00	
COX 42	BC	CL	SS		FR		2	4	4		-350.00	1200.00	20.00	
* COX 43	BC	CL	SS		FR			4	5	1	-325.00	1200.00	10.00	
COX 44	BC	CL	SS		FR		1	3	6		-300.00	1200.00	10.00	
* COX 45	BC	CL	SS		FR		6	2	1	1	-275.00	1200.00	20.00	
COX 46	BC	CL	SS		FR		4	2	3	1	-250.00	1200.00	20.00	
COX 47	B1	CL	SS		FR		2	7		1	-225.00	1200.00	15.00	
COX 48	BC	CL	SS		FR		5	3	1	1	-200.00	1200.00	15.00	
COX 49	B1	CL	SS		FR		4	3	2	1	-150.00	1200.00	20.00	
COX 50	B1	CL	SS		FR		4	3	2	1	-125.00	1200.00	10.00	
* COX 51	XC	CL	SS	DG	FR		2	4	4		-100.00	1200.00	10.00	
COX 52	BC	CL	SS	TA	FR	=	1	3	5		-75.00	1200.00	20.00	
COX 53	BC	CL	SS		FR	1	3	3	3		-50.00	1200.00	20.00	
COX 54	BC	CL	SS		FR		2	1	6	1	-25.00	1200.00	20.00	
* COX 55	XC	[illegible]	SS		FR			x			.10	1300.00	2.00	ASH SAMPLE
COX500	BC	CL	SS		FR		6	2		1	-100.00	1100.00	20.00	
COX501	BC	CL	SS		FR			8	2		-125.00	1100.00	5.00	
COX502	BC	CL	SS		FR		7	3			-125.00	1050.00	20.00	
COX503	B1	CL	SS		FR		9	1		2	-125.00	1000.00	20.00	
COX504	B1	CL	SS		FR		7	2		1	-150.00	1000.00	20.00	
COX505	B1	CL	SS		FR		7			3	-175.00	1000.00	20.00	
COX506	B1	CL	SS		FR		7			3	-200.00	1000.00	20.00	
COX507	B1	CL	SS		FR		7			3	-225.00	1000.00	20.00	
COX508	B1	CL	SS		FR		7	2		2	-250.00	1000.00	20.00	

LIST DATA FILE: COLE CLAIM - SOIL DESCRIPTIONS DATE: 83-12-13

SAMP	HRZN	PRNT	TERR	ENV1	DRAN	CLAY	SILT	SAND	GRAV	ORG	X (m)	Y (m)	DPTH (cm)
COX509	B1	CL	SS		FR		7			3	-275.00	1000.00	20.00
COX510	B1	CL	SS		FR		7	2		3	-300.00	1000.00	20.00
COX511	B1	CL	SS		FR		7			3	-325.00	1000.00	20.00
COX512	B1	CL	SS		FR		7	2		3	-350.00	1000.00	20.00
COX513	B1	CL	SS		FR		8			2	-375.00	1000.00	20.00
COX514	B1	CL	SS		FR		8			3	-400.00	1000.00	20.00
COX515	B1	CL	SS		FR		8			3	-425.00	1000.00	20.00
COX516	B1	CL	SS		FR		7	2		1	-450.00	1000.00	20.00
COX517	B1	CL	SS		FR		7	2		1	-475.00	1000.00	20.00
COX518	B1	CL	SS		FR		7	2		1	-500.00	1000.00	20.00
COX519	B1	CL	SS		FR		7	2		1	-525.00	1000.00	20.00
COX520	BC	CL	SS		FR		7	1		2	-525.00	1100.00	20.00
COX521	B1	CL	SS		FR		8	1		1	-500.00	1100.00	20.00
COX522	B1	TI	SS		FR		8	1		1	-475.00	1100.00	20.00
COX523	B1	CL	SS		FR		7	1		2	-450.00	1100.00	20.00
COX524	BC	CL	SS		FR		7	1		2	-425.00	1100.00	20.00
COX525	B1	CL	SS		FR		7	1		2	-400.00	1100.00	20.00
COX526	B1	CL	SS		FR		7	1		2	-375.00	1100.00	20.00
COX527	B1	CL	SS		FR		7	1		2	-350.00	1100.00	20.00
COX528	B1	CL	SS		FR		7	1		2	-325.00	1100.00	20.00
COX529	B1	CL	SS		FR		7	1		2	-350.00	1150.00	20.00
COX530	B1	CL	SS		FR		7	1		2	-325.00	1150.00	20.00
COX531	B1	CL	SS		FR		7	1		2	-300.00	1150.00	20.00
COX532	B1	CL	SS		FR		7	1		2	-275.00	1150.00	20.00
COX533	B1	CL	SS		FR		8			2	-250.00	1150.00	20.00
COX534	B1	CL	SS		FR		7	1		2	-225.00	1150.00	20.00
COX535	B1	CL	SS		FR		7	1		2	-200.00	1150.00	20.00
COX536	B1	CL	SS		FR		7	1		2	-175.00	1150.00	20.00
COX537	B1	CL	SS		FR		7	1		2	-150.00	1150.00	20.00
COX538	B1	TI	SS		FR		7	1		2	-125.00	1150.00	20.00

END OF LISTING - 90 RECORDS PRINTED

* *NOTE*: These samples contaminated with volcanic ash.

KEY FOR CODE

SAMP : sample number
HRZN : soil horizon sampled (see next page for classification used)
PRNT : parent material → CL colluvium & talus
TI till
TERR : terrain → SS sidehill slope
RG ridge top
ENVI : secondary environment } see pages that follow
DRAN : drainage status }

Fields 64-65 SOIL HORIZON SAMPLED (HRZN)

A two character code based on existing convention describing the material collected in the field.

Horizon Code	Description
A0	Partially decomposed organic debris with no mineral matter.
A1	Dark brown to black organic-rich horizon with some mineral matter.
A2	Loosely packed light grey leached horizon; may be prominently or faintly developed in mature soils or absent in immature soils.
B1	Brown to orange brown soil. Soil horizon characterized by accumulation of clay and less than 30% organic matter.
B2	Rusty brown soil horizon characterized by accumulation of iron oxides.
XC	Parent material derived by weathering and consists essentially of decomposed rock in situ.
AC	A lithosol consisting of a thin organic layer overlying rock fragments.
BC	Immature soils lacking distinct horizons; soil usually consists of partially developed B-horizon and C-horizon material.
XG	Gley soil - usually dark bluish grey, sticky clay-rich gleyed horizon directly beneath Al-horizon.
XP	Peat-organic accummulation in swamp, bog or hollow.

Fields 23-24, 25-26 and 27-28 — SECONDARY ENVIRONMENT AND FACTORS AFFECTING CONDITIONS (ENV1)

Three fields of two alpha codes to describe features of the local environment that may influence the geochemical dispersion of metals.

Feature	Code
Swamp, bog or fen	SW
Groundwater Seepage Area	SP
Base of outcrop	BO
Gossan	GO
Caliche	CA
Permafrost	PF
Cemented Soil	CS
Disturbed ground	DG
Road Bed	RB
Burnt Over	BT
Agricultural Land	AG
Prospect trenches	MN

If more detail is required an alpha code that is project defined may be devised.

Fields 29-30 — DRAINAGE STATUS (DRAN)

Two alpha code to describe the manner in which water leaves the sample site.

Status	Description	Code
Excessive -	all water moves rapidly down - through soil, site seldom saturated	EX
Free -	normal soil with dominent downward water - movement, site occasionally waterlogged	FR
Imperfect -	Site seasonally or perennially water-logged but with unobstructed downward or lateral movement of water.	IM
Impeeded -	Water seasonally or perennially ponded in soil, leaving site by flow across the surface	IP
Irrigated -	Water supplied to site by artificial means	IR

PLACER GEOCHEM ASSAY SYSTEM: DATA FROM COLE SOIL SAMPLING 1983

GRID	SAMPLE	PROJECT	CU	ZN	PB	AG	AU	AS
104B10E	COX 5	3135	382	29	14	1.2	1.89	100
104B10E	COX 6	3135	287	39	17	1.0	<0.02	20
104B10E	COX 7	3135	364	56	14	1.3	0.11	20
104B10E	COX 8	3135	410	50	10	1.1	0.20	12
104B10E	COX 9	3135	740	30	13	0.9	<0.02	20
104B10E	COX 10	3135	400	44	17	0.9	0.14	14
104B10E	COX 11	3135	137	66	15	1.0	<0.02	20
104B10E	COX 12	3135	73	44	3	0.4	<0.02	10
104B10E	COX 13	3135	79	83	13	0.6	0.09	16
104B10E	COX 14	3135	72	114	15	0.5	<0.02	18
104B10E	COX 15	3135	89	78	10	0.6	<0.02	10
104B10E	COX 16	3135	30	48	2	0.7	<0.02	6
104B10E	COX 17	3135	35	55	8	0.6	NSS	6
104B10E	COX 18	3135	91	139	21	0.4	<0.02	20
104B10E	COX 19	3135	29	55	13	0.5	<0.02	14
104B10E	COX 20	3135	106	86	30	0.8	<0.02	30
104B10E	COX 21	3135	85	247	45	1.3	0.15	100
104B10E	COX 22	3135	239	1710	47	2.1	<0.02	66
104B10E	COX 23	3135	77	180	33	0.5	<0.02	30
104B10E	COX 24	3135	88	183	58	1.1	<0.02	42
104B10E	COX 25	3135	91	298	26	0.4	<0.02	30
104B10E	COX 26	3135	92	185	42	0.4	<0.02	40
104B10E	COX 27	3135	63	157	31	0.5	<0.02	20
104B10E	COX 28	3135	89	166	22	0.2	<0.02	28
104B10E	COX 29	3135	59	85	21	0.7	<0.02	24
104B10E	COX 30	3135	62	135	38	0.6	<0.02	42
104B10E	COX 31	3135	51	79	22	0.3	<0.02	12
104B10E	COX 31*	3135	48	76	21	0.3	NSS	8
104B10E	COX 32	3135	63	115	33	0.3	<0.02	6
104B10E	COX 33	3135	80	138	35	0.6	<0.02	16
104B10E	COX 34	3135	103	180	42	0.6	<0.02	28
104B10E	COX 35	3135	93	217	55	1.3	0.13	70
104B10E	COX 36	3135	148	144	41	0.8	0.33	600
104B10E	COX 37	3135	104	191	45	3.2	2.31	400
104B10E	COX 38	3135	217	280	50	2.8	2.22	540
104B10E	COX 39	3135	124	180	40	1.2	0.31	100
104B10E	COX 40	3135	39	95	9	0.5	<0.02	18
104B10E	COX 40*	3135	37	90	7	0.5	NSS	20
104B10E	COX 41	3135	114	134	29	0.8	0.16	50
104B10E	COX 42	3135	174	92	19	0.4	1.02	30
104B10E	COX 43	3135	156	72	11	0.4	0.36	28
104B10E	COX 44	3135	43	36	5	<0.2	<0.02	12
104B10E	COX 45	3135	108	88	22	0.5	0.12	30
104B10E	COX 46	3135	54	85	16	0.9	<0.02	16
104B10E	COX 47	3135	33	49	5	0.4	<0.02	<2
104B10E	COX 48	3135	68	88	15	0.5	<0.02	22
104B10E	COX 49	3135	109	66	4	0.3	<0.02	<2
104B10E	COX 50	3135	171	54	17	0.7	0.11	24
104B10E	COX 51	3135	210	86	17	1.3	0.14	22
104B10E	COX 52	3135	103	132	15	0.4	0.24	14
104B10E	COX 53	3135	206	117	17	0.6	0.18	20
104B10E	COX 54	3135	420	71	25	0.2	0.30	30
104B10E	COX 55	3135	97	45	8	0.2	0.12	<2
104B10E	COX500	3135	161	67	14	0.6	0.23	4
104B10E	COX501	3135	400	91	48	1.9	0.88	84
104B10E	COX502	3135	165	96	21	0.5	0.17	18
104B10E	COX502*	3135	158	90	21	0.5	0.19	18
104B10E	COX503	3135	94	73	10	0.5	0.07	14
104B10E	COX504	3135	96	34	10	1.1	0.04	8
104B10E	COX505	3135	25	31	10	0.8	<0.02	<2

PLACER GEOCHEM ASSAY SYSTEM: DATA FROM COLE SOIL SAMPLING 1983

GRID	SAMPLE	PROJECT	CU	ZN	PB	AG	AU	AS
104B10E	COX506	3135	28	35	9	0.3	<0.02	6
104B10E	COX507	3135	52	40	12	0.7	<0.02	6
104B10E	COX508	3135	52	36	13	1.1	<0.02	<2
104B10E	COX509	3135	27	39	6	0.4	<0.02	<2
104B10E	COX510	3135	73	101	20	1.1	0.04	20
104B10E	COX511	3135	38	150	17	0.7	<0.02	16
104B10E	COX512	3135	43	41	14	0.6	<0.02	<2
104B10E	COX513	3135	33	36	11	1.4	<0.02	10
104B10E	COX514	3135	97	81	24	1.2	0.13	32
104B10E	COX515	3135	41	180	28	0.6	<0.02	10
104B10E	COX516	3135	49	208	48	1.1	<0.02	14
104B10E	COX517	3135	44	191	37	1.1	<0.02	32
104B10E	COX518	3135	39	84	33	1.8	<0.02	32
104B10E	COX519	3135	34	62	15	1.4	<0.02	10
104B10E	COX520	3135	45	110	28	1.6	0.09	180
104B10E	COX520*	3135	46	112	28	1.7	NSS	184
104B10E	COX521	3135	44	123	29	0.6	0.12	60
104B10E	COX522	3135	261	253	48	1.5	0.07	200
104B10E	COX523	3135	109	81	25	1.0	0.05	24
104B10E	COX524	3135	49	71	16	0.6	0.05	28
104B10E	COX525	3135	82	88	19	1.3	0.08	30
104B10E	COX526	3135	71	107	26	0.7	0.21	24
104B10E	COX527	3135	111	164	32	0.8	0.08	28
104B10E	COX528	3135	42	54	24	0.5	0.03	8
104B10E	COX529	3135	32	92	12	0.4	0.03	6
104B10E	COX530	3135	31	55	14	1.0	<0.02	14
104B10E	COX531	3135	24	49	13	0.6	0.04	2
104B10E	COX532	3135	97	76	18	0.7	0.18	50
104B10E	COX533	3135	66	150	32	0.8	0.11	20
104B10E	COX534	3135	100	140	36	0.9	0.16	20
104B10E	COX535	3135	209	90	25	1.0	4.35	152
104B10E	COX536	3135	40	28	10	0.9	0.06	6
104B10E	COX537	3135	47	60	15	0.8	1.03	2
104B10E	COX538	3135	45	54	14	2.0	0.10	<2
104B10E	COX538*	3135	44	53	14	1.8	NSS	<2
test	STD AU	3135					1.90	
test	STD AU	3135					1.65	
test	STD G	3135	88	75	100	0.9		70
test	STD G	3135	95	73	102	0.9		70
test	STD G	3135	95	75	103	0.9		68
test	STD G	3135	90	73	105	0.8		68
test	STD G	3135	98	73	105	0.8		72
test	STD G	3135	92	75	110	0.9		72

P L A C E R   D E V E L O P M E N T   L T D

Placer Data Analysis System - STATS

run on 83:12:02 at 11:08:18

PAI GEOCHEM FILE: COLE SOIL SAMPLING 1983

Summary of data from file : EXPL*SCRCHA001.

This data file contains an internal header: (5 records)
Data grouped into 9 fields
with format: (2a8,a4, 6f5.0)

Character ID fields:
GRID SAMP PROJ

Coordinate fields:

Other data fields:
CU ZN PB AG AU AS

Missing data indicated by NULL value .000000

BASIC STATISTICS OF SELECTED DATA FIELDS:

NAME	NDATA	NULLS	MINIMUM	MAXIMUM	MEAN	STD. DEV.
CU	90	0	24.0000	740.000	116.144	116.103
ZN	90	0	28.0000	1710.00	119.078	180.167
PB	90	0	2.00000	58.0000	22.3444	13.1740
AG	90	0	.100000+000	3.20000	.848889	.530051
AU	89	1	.100000-001	4.35000	.218652	.606660
AS	90	0	.500000	600.000	44.6667	95.5562

HISTO: PAI GEOCHEM FILE: COLE SOIL SAMPLING 1983

File: EXPL*SCRCHA001. Field name: CU LOG = 1

STATISTICS: MINIMUM: 24.0000 MAXIMUM: 740.000
MEAN: 116.144 STD. DEV.: 116.103

87 VALUES PLOTTED (3 OUTSIDE RANGE 0 NULLS)

SCALE OF HISTOGRAM IS .20 COUNTS/PRINT POSTIION

N	MIDPOINT	PERCENT	0 … 2 … 4 … 6 … 8	
1	24.000	1.11	I*****	
1	25.749	1.11	I*****	
2	27.625	2.22	I**********	
2	29.638	2.22	I**********	
2	31.798	2.22	I**********	
4	34.115	4.44	I********************	
0	36.601	.00	I	
4	39.266	4.44	I********************	
4	42.129	4.44	I********************	
4	45.199	4.44	I********************	
3	48.492	3.33	I***************	
3	52.026	3.33	I***************	
1	55.817	1.11	I*****	
2	59.884	2.22	I**********	
3	64.248	3.33	I***************	
2	68.929	2.22	I**********	
3	73.952	3.33	I***************	
4	79.341	4.44	I********************	
2	85.122	2.22	I**********	
7	91.325	7.78	I***********************************	
5	97.980	5.56	I*************************	
5	105.12	5.56	I*************************	
4	112.78	4.44	I********************	
1	121.00	1.11	I*****	
0	129.81	.00	I	← 125
1	139.27	1.11	I*****	
1	149.42	1.11	I*****	
3	160.31	3.33	I***************	
2	171.99	2.22	I**********	
0	184.52	.00	I	
0	197.97	.00	I	← 200
4	212.39	4.44	I********************	
0	227.87	.00	I	
1	244.48	1.11	I*****	
1	262.29	1.11	I*****	
1	281.40	1.11	I*****	
0	301.91	.00	I	← 300
0	323.91	.00	I	
0	347.51	.00	I	
2	372.83	2.22	I**********	
2	400.00	2.22	I**********	
87			0 … 2 … 4 … 6 … 8	← 500

```
HISTO:            PAI GEOCHEM FILE: COLE SOIL SAMPLING 1983

File: EXPL*SCRCHA001.              Field name: ZN        LOG = 1
                                               ----

STATISTICS:       MINIMUM:    28.0000              MAXIMUM:    1710.00
                     MEAN:    119.078             STD. DEV.:   180.167

    89 VALUES PLOTTED     (    1 OUTSIDE RANGE      0 NULLS)

   SCALE OF HISTOGRAM IS     .20 COUNTS/PRINT POSTIION

   N    MIDPOINT   PERCENT  0         2         4         6         8
                            I---------I---------I---------I---------I
   1     28.000      1.11   I*****                                   I
   2     29.710      2.22   I**********                              I
   1     31.525      1.11   I*****                                   I
   1     33.451      1.11   I*****                                   I
   4     35.494      4.44   I********************                    I
   0     37.662       .00   I                                        I
   4     39.962      4.44   I********************                    I
   0     42.403       .00   I                                        I
   3     44.994      3.33   I***************                         I
   3     47.742      3.33   I***************                         I
   1     50.658      1.11   I*****                                   I
   6     53.752      6.67   I******************************          I
   1     57.036      1.11   I*****                                   I
   2     60.520      2.22   I**********                              I
   2     64.216      2.22   I**********                              I
   1     68.139      1.11   I*****                                   I
   4     72.301      4.44   I********************                    I
   3     76.717      3.33   I***************                         I
   3     81.403      3.33   I***************                         I
   8     86.375      8.89   I****************************************I
   4     91.651      4.44   I********************                    I
   2     97.250      2.22   I**********    <------------  100        I
   1     103.19      1.11   I*****                                   I
   2     109.49      2.22   I**********                              I
   3     116.18      3.33   I***************                         I
   1     123.28      1.11   I*****                                   I
   2     130.81      2.22   I**********    <------------  130        I
   4     138.80      4.44   I********************                    I
   3     147.28      3.33   I***************                         I
   1     156.27      1.11   I*****                                   I
   2     165.82      2.22   I**********    <------------  175        I
   4     175.95      4.44   I********************                    I
   4     186.69      4.44   I********************                    I
   0     198.10       .00   I                                        I
   1     210.20      1.11   I*****                                   I
   1     223.04      1.11   I*****                                   I
   0     236.66       .00   I                                        I
   2     251.12      2.22   I**********                              I
   0     266.45       .00   I                                        I
   1     282.73      1.11   I*****                                   I
   1     300.00      1.11   I*****                                   I
 -----                      I---------I---------I---------I---------I
   89                       0         2         4         6         8
                                   <-------------  500
```

```
HISTO:            PAI GEOCHEM FILE: COLE SOIL SAMPLING 1983

File: EXPL*SCRCHA001.            Field name: PB        LOG = 1
                                             ----

STATISTICS:          MINIMUM:    2.00000              MAXIMUM:   58.0000
                        MEAN:    22.3444             STD. DEV.:  13.1740

     90 VALUES PLOTTED    (     0 OUTSIDE RANGE      0 NULLS)

    SCALE OF HISTOGRAM IS      .20 COUNTS/PRINT POSTIION

    N    MIDPOINT   PERCENT 0         2         4         6         8
                            I---------I---------I---------I---------I
    1     2.0000     1.11   I*****                                   I
    0     2.1757      .00   I                                        I
    0     2.3667      .00   I                                        I
    0     2.5746      .00   I                                        I
    0     2.8007      .00   I                                        I
    1     3.0467     1.11   I*****                                   I
    0     3.3143      .00   I                                        I
    0     3.6054      .00   I                                        I
    1     3.9220     1.11   I*****                                   I
    0     4.2665      .00   I                                        I
    0     4.6412      .00   I                                        I
    2     5.0488     2.22   I**********                              I
    0     5.4922      .00   I                                        I
    1     5.9746     1.11   I*****                                   I
    0     6.4993      .00   I                                        I
    0     7.0702      .00   I                                        I
    2     7.6911     2.22   I**********                              I
    0     8.3666      .00   I                                        I
    2     9.1014     2.22   I**********                              I
    6     9.9008     6.67   I******************************          I
    2     10.770     2.22   I**********                              I
    2     11.716     2.22   I**********                              I
    5     12.745     5.56   I*************************               I
    6     13.865     6.67   I******************************          I
    6     15.082     6.67   I******************************          I
    8     16.407     8.89   I****************************************I
    1     17.849     1.11   I*****                                   I
    3     19.415     3.33   I***************                         I
    6     21.121     6.67   I******************************          I
    0     22.976      .00   I                           <-------- 25 I
    7     24.994     7.78   I***********************************     I
    2     27.189     2.22   I**********                              I
    3     29.577     3.33   I***************                         I
    6     32.174     6.67   I******************************          I
    2     35.000     2.22   I**********                              I
    2     38.074     2.22   I**********                 <-------- 40 I
    4     41.418     4.44   I********************                    I
    2     45.056     2.22   I**********                              I
    5     49.013     5.56   I*************************               I
    1     53.317     1.11   I*****                                   I
    1     58.000     1.11   I*****                                   I
  -----                     I---------I---------I---------I---------I
   90                       0         2         4         6         8
```

```
HISTO:            PAI GEOCHEM FILE: COLE SOIL SAMPLING 1983

File: EXPL*SCRCHA001.             Field name: AG        LOG = 1
                                              ----
STATISTICS:          MINIMUM:   .100000+000          MAXIMUM:   3.20000
                        MEAN:   .848889            STD. DEV.:   .530051

  90 VALUES PLOTTED   (   0 OUTSIDE RANGE      0 NULLS)

  SCALE OF HISTOGRAM IS      .33 COUNTS/PRINT POSTIION

  N    MIDPOINT    PERCENT 0         3         6         10        13
                           I---------I---------I---------I---------I
  1     .10000+000   1.11  I***                                     I
  0     .10905        .00  I                                        I
  0     .11892        .00  I                                        I
  0     .12968        .00  I                                        I
  0     .14142        .00  I                                        I
  0     .15422        .00  I                                        I
  0     .16818        .00  I                                        I
  0     .18340        .00  I                                        I
  3     .20000       3.33  I*********                               I
  0     .21810        .00  I                                        I
  0     .23784        .00  I                                        I
  0     .25937        .00  I                                        I
  0     .28284        .00  I                                        I
  4     .30844       4.44  I************                            I
  0     .33636        .00  I                                        I
  0     .36680        .00  I                                        I
 10     .40000      11.11  I******************************          I
  0     .43620        .00  I                                        I
  0     .47568        .00  I                                        I
 10     .51874      11.11  I******************************          I
  0     .56569        .00  I                                        I
 13     .61688      14.44  I*************************************** I
  6     .67272       6.67  I******************                      I
  0     .73360        .00  I                                        I
  7     .80000       7.78  I*********************                   I
  6     .87241       6.67  I******************     <------- 0.9     I
  0     .95137        .00  I                                        I
  5     1.0375       5.56  I***************                         I
  7     1.1314       7.78  I*********************                   I
  3     1.2338       3.33  I*********                               I
  7     1.3454       7.78  I*********************  <------- 1.4     I
  1     1.4672       1.11  I***                                     I
  1     1.6000       1.11  I***                                     I
  1     1.7448       1.11  I***                                     I
  1     1.9027       1.11  I***                                     I
  2     2.0749       2.22  I******                 <------- 2.2     I
  0     2.2627        .00  I                                        I
  0     2.4675        .00  I                                        I
  1     2.6909       1.11  I***                                     I
  0     2.9344        .00  I                                        I
  1     3.2000       1.11  I***                                     I
-----                      I---------I---------I---------I---------I
 90                        0         3         6         10        13
```

HISTO: PAI GEOCHEM'FILE: COLE SOIL SAMPLING 1983

File: EXPL*SCRCHA001.   Field name: AU   LOG = 1

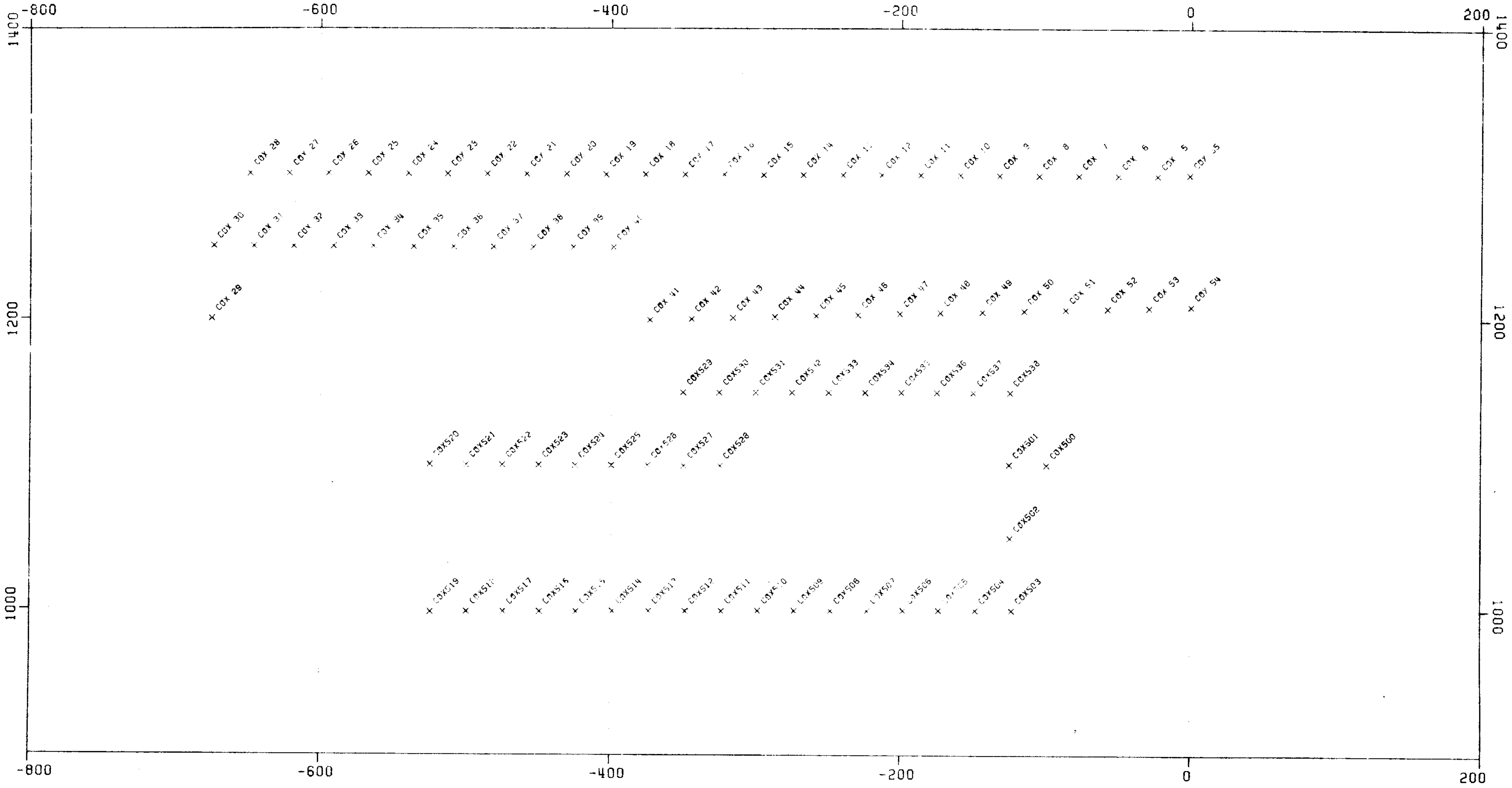
STATISTICS: MINIMUM: .100000-001   MAXIMUM: 4.35000
                    MEAN: .218652   STD. DEV.: .606660

89 VALUES PLOTTED (0 OUTSIDE RANGE   1 NULLS)

SCALE OF HISTOGRAM IS   2.00 COUNTS/PRINT POSTIION

```
   N   MIDPOINT   PERCENT 0         20        40        60        80
                          I---------I---------I---------I---------I
  43   .10000-001  47.78  I**********************                 I
   0   .11640-001    .00  I                                       I
   0   .13550-001    .00  I                                       I
   0   .15772-001    .00  I                                       I
   0   .18359-001    .00  I                                       I
   0   .21370-001    .00  I                                       I
   0   .24876-001    .00  I                                       I
   2   .28956-001   2.22  I*                                      I
   0   .33705-001    .00  I  <------- 0.035                       I
   3   .39234-001   3.33  I**                                     I
   0   .45669-001    .00  I                                       I
   2   .53160-001   2.22  I*                                      I
   1   .61879-001   1.11  I*                                      I
   2   .72029-001   2.22  I*                                      I
   4   .83844-001   4.44  I**                                     I
   1   .97596-001   1.11  I* <------- 0.1                         I
   6   .11360       6.67  I***                                    I
   4   .13224       4.44  I**                                     I
   3   .15393       3.33  I**                                     I
   3   .17918       3.33  I**                                     I
   2   .20957       2.22  I* <------- 0.2                         I
   2   .24278       2.22  I*                                      I
   1   .28260       1.11  I*                                      I
   2   .32895       2.22  I*                                      I
   1   .38291       1.11  I* <------- 0.4                         I
   0   .44571        .00  I                                       I
   0   .51882        .00  I                                       I
   0   .60392        .00  I                                       I
   0   .70298        .00  I                                       I
   1   .81828       1.11  I*                                      I
   1   .95250       1.11  I*                                      I
   1   1.1087       1.11  I*                                      I
   0   1.2906        .00  I                                       I
   0   1.5023        .00  I                                       I
   0   1.7487        .00  I                                       I
   1   2.0355       1.11  I*                                      I
   2   2.3694       2.22  I*                                      I
   0   2.7581        .00  I                                       I
   0   3.2104        .00  I                                       I
   0   3.7370        .00  I                                       I
   1   4.3500       1.11  I*                                      I
-----                     I---------I---------I---------I---------I
  89                      0         20        40        60        80
```

```
HISTO:            PAI GEOCHEM FILE: COLE SOIL SAMPLING 1983

Fite: EXPL*SCRCHA001.            Field name: AS        LOG = 1

STATISTICS:        MINIMUM:    .500000            MAXIMUM:   600.000
                      MEAN:    44.6667           STD. DEV.:   95.5562

    90 VALUES PLOTTED   (   0 OUTSIDE RANGE     0 NULLS)

    SCALE OF HISTOGRAM IS     .50 COUNTS/PRINT POSTIION

    N   MIDPOINT   PERCENT 0         5         10        15        20
                           I---------I---------I---------I---------I
    8    .50000     8.89   I****************                        I
    0    .59697      .00   I                                        I
    0    .71274      .00   I                                        I
    0    .85096      .00   I                                        I
    0    1.0160      .00   I                                        I
    0    1.2130      .00   I                                        I
    0    1.4483      .00   I                                        I
    0    1.7291      .00   I                                        I
    2    2.0645     2.22   I****                                    I
    0    2.4648      .00   I                                        I
    0    2.9428      .00   I                                        I
    0    3.5135      .00   I                                        I
    1    4.1949     1.11   I**                                      I
    0    5.0085      .00   I                                        I
    7    5.9798     7.78   I**************                          I
    0    7.1394      .00   I                                        I
    2    8.5240     2.22   I****                                    I
    5    10.177     5.56   I**********                              I
    3    12.151     3.33   I******                                  I
    6    14.507     6.67   I************                            I
    7    17.321     7.78   I**************                          I
   12    20.680    13.33   I************************                I
    4    24.690     4.44   I********                                I
   15    29.478    16.67   I******************************          I
    0    35.195      .00   I                                        I
    3    42.020     3.33   I******   <-- 40                         I
    2    50.169     2.22   I****                                    I
    1    59.899     1.11   I**                                      I
    2    71.515     2.22   I****                                    I
    1    85.384     1.11   I**                                      I
    3    101.94     3.33   I******   <-- 100                        I
    0    121.71      .00   I                                        I
    1    145.32     1.11   I**                                      I
    1    173.50     1.11   I**                                      I
    1    207.14     1.11   I**       <-- 200                        I
    0    247.32      .00   I                                        I
    0    295.28      .00   I                                        I
    0    352.54      .00   I                                        I
    1    420.91     1.11   I**                                      I
    1    502.54     1.11   I**                                      I
    1    600.00     1.11   I**                                      I
 -----                     I---------I---------I---------I---------I
   90                      0         5         10        15        20

1234567890123456789012345678901234567890123456789012345678901234567890123456789012334
```



COLE: SOIL SAMPLE LOCATIONS

FIGURE 3

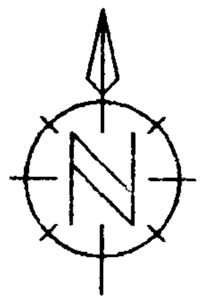
GEOLOGICAL BRANCH ASSESSMENT REPORT

11,673

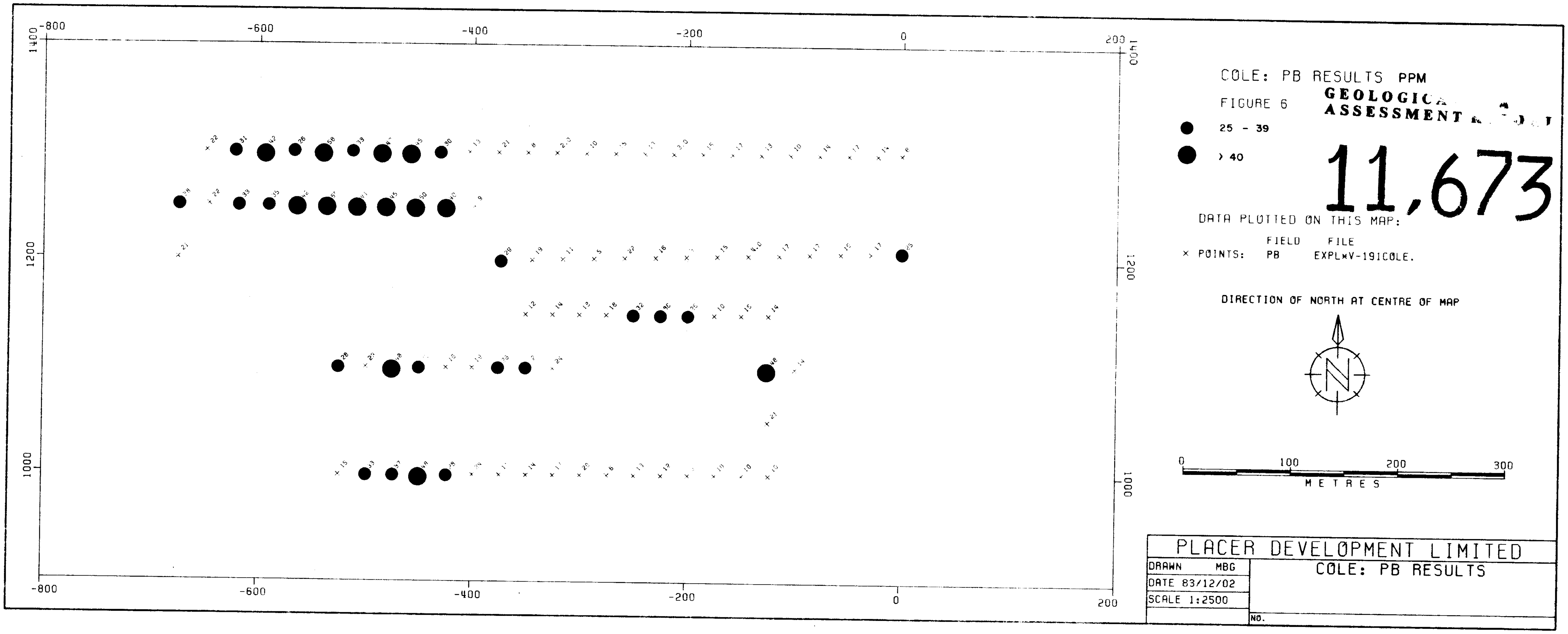
DATA PLOTTED ON THIS MAP:

	FIELD	FILE
× POINTS:	SAMP	EXPL×V-191COLE.

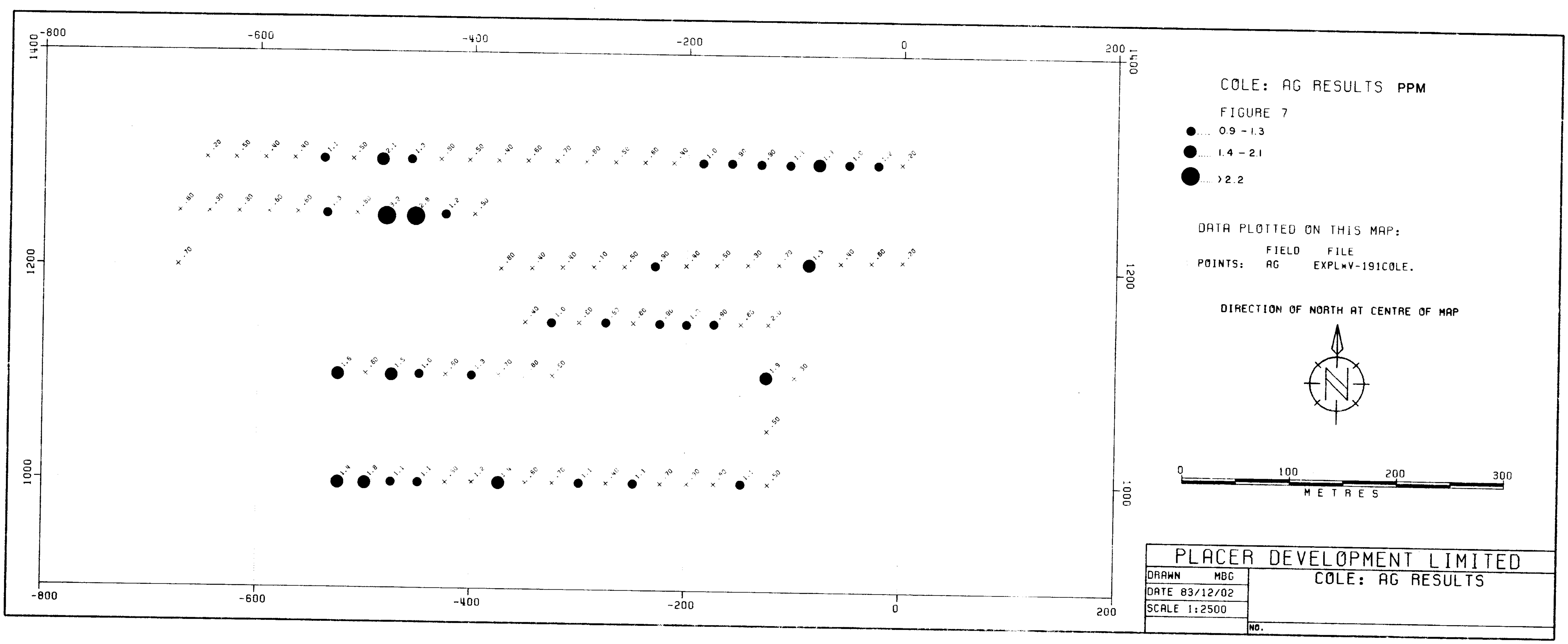
DIRECTION OF NORTH AT CENTRE OF MAP



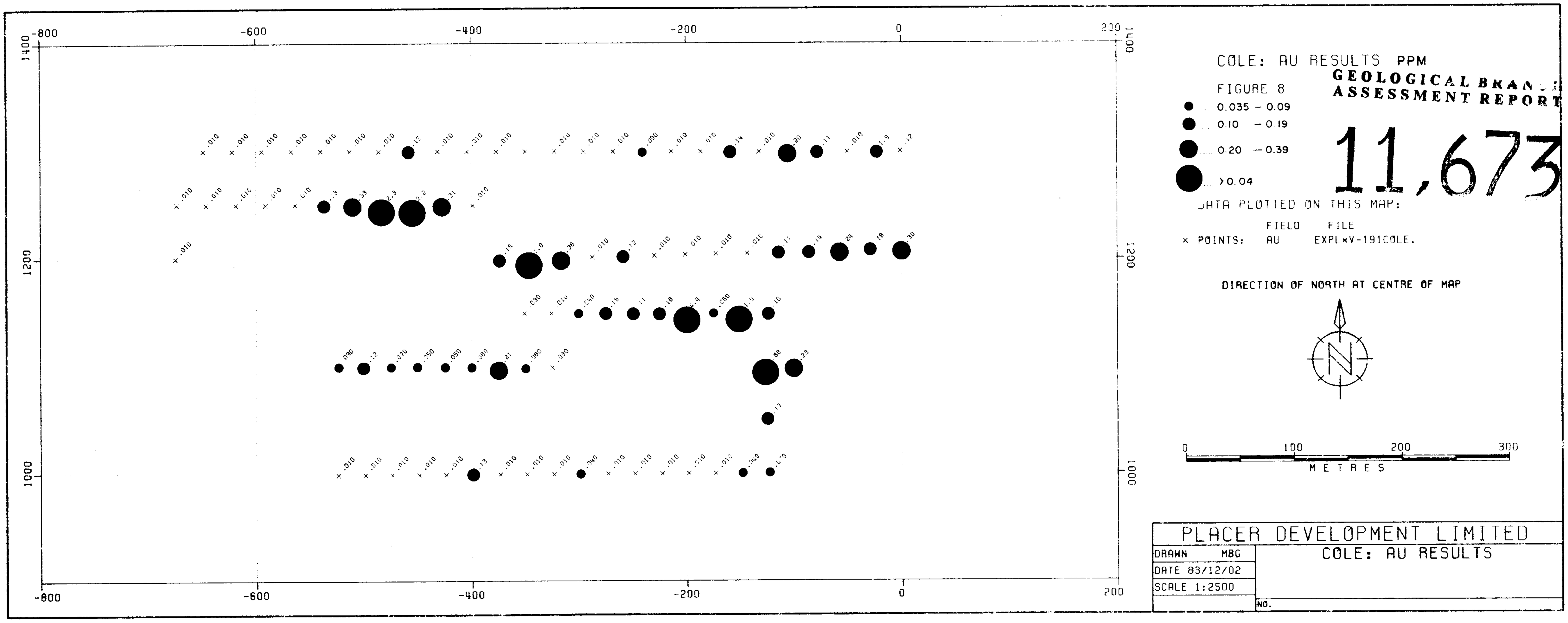
PLACER DEVELOPMENT LIMITED	
DRAWN MBG	COLE: SOIL SAMPLE LOCATIONS
DATE 83/12/02	
SCALE 1:2500	
	NO.

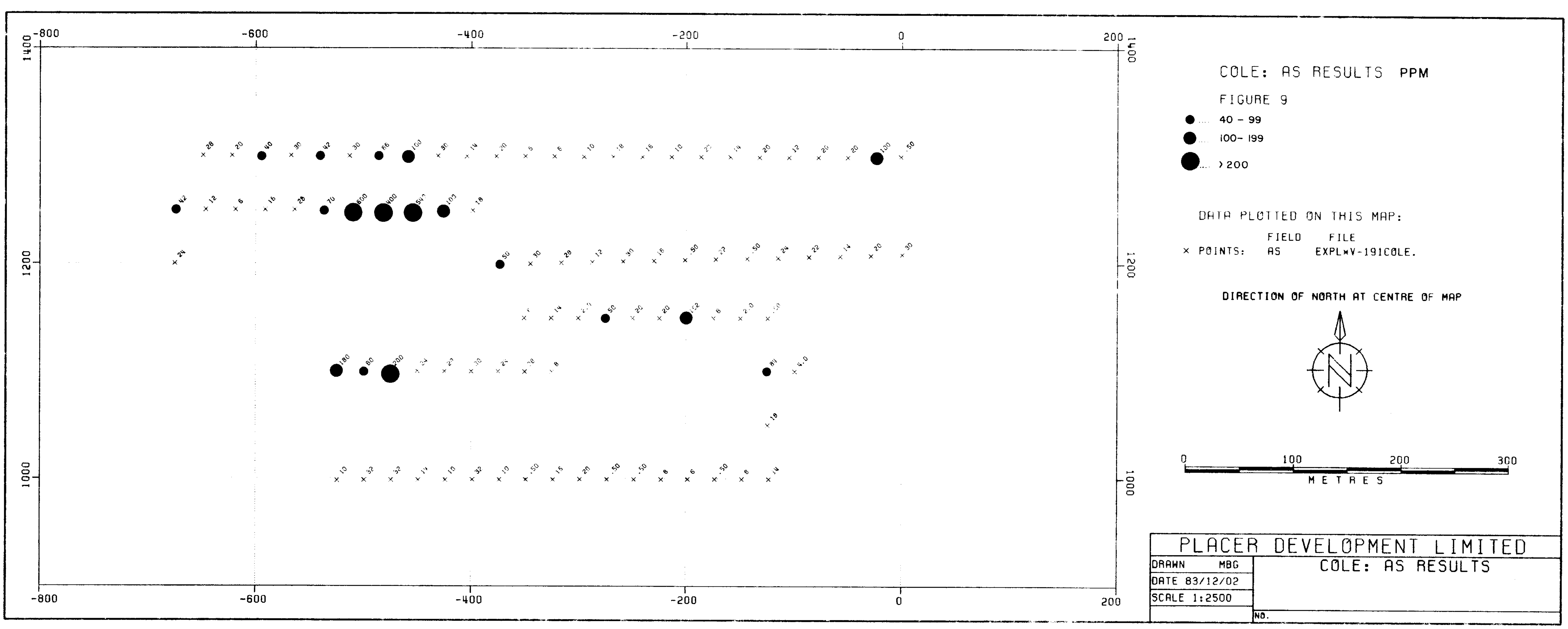


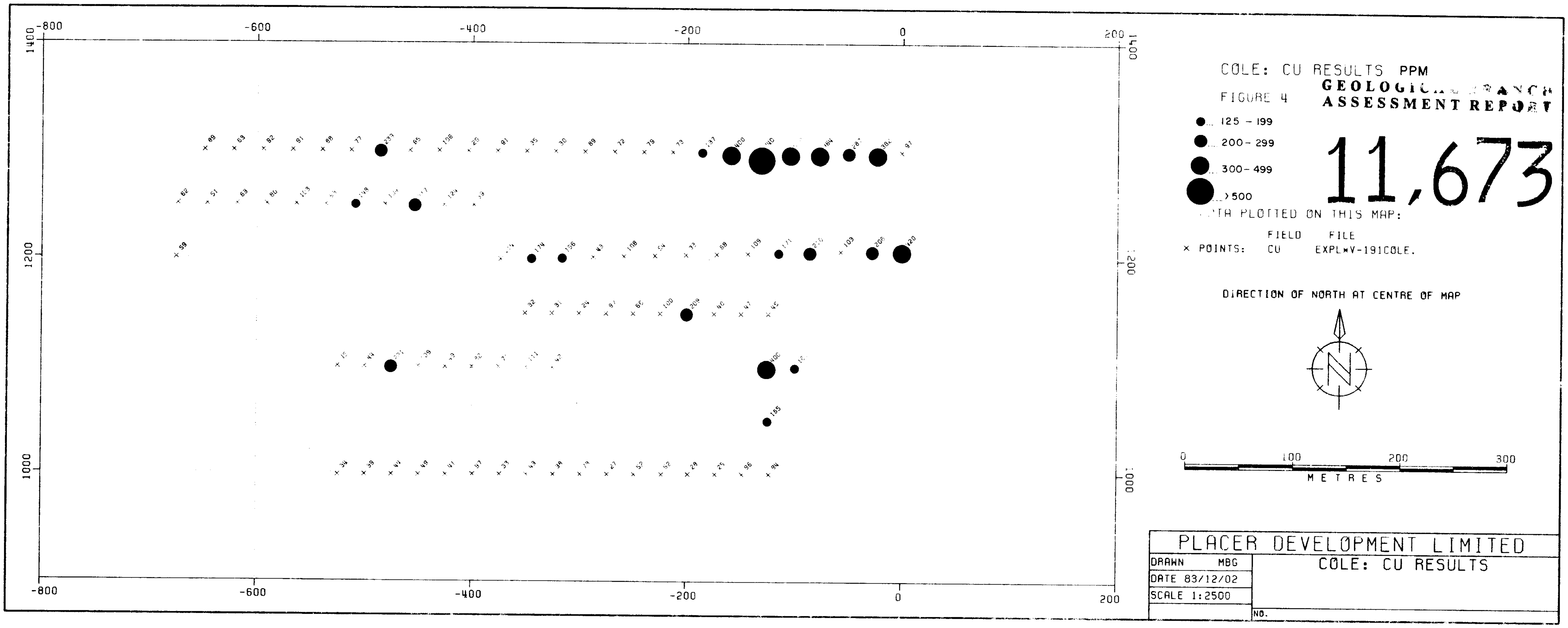
-800
-600
-400
-200
0
200
1400
1200
1000
COLE: PB RESULTS PPM
FIGURE 6
GEOLOGICAL
ASSESSMENT
25 - 39
> 40
11,673
DATA PLOTTED ON THIS MAP:
FIELD FILE
× POINTS: PB EXPL*V-191COLE.
DIRECTION OF NORTH AT CENTRE OF MAP
N
0
100
200
300
METRES
PLACER DEVELOPMENT LIMITED
DRAWN MBG
DATE 83/12/02
SCALE 1:2500
COLE: PB RESULTS
NO.

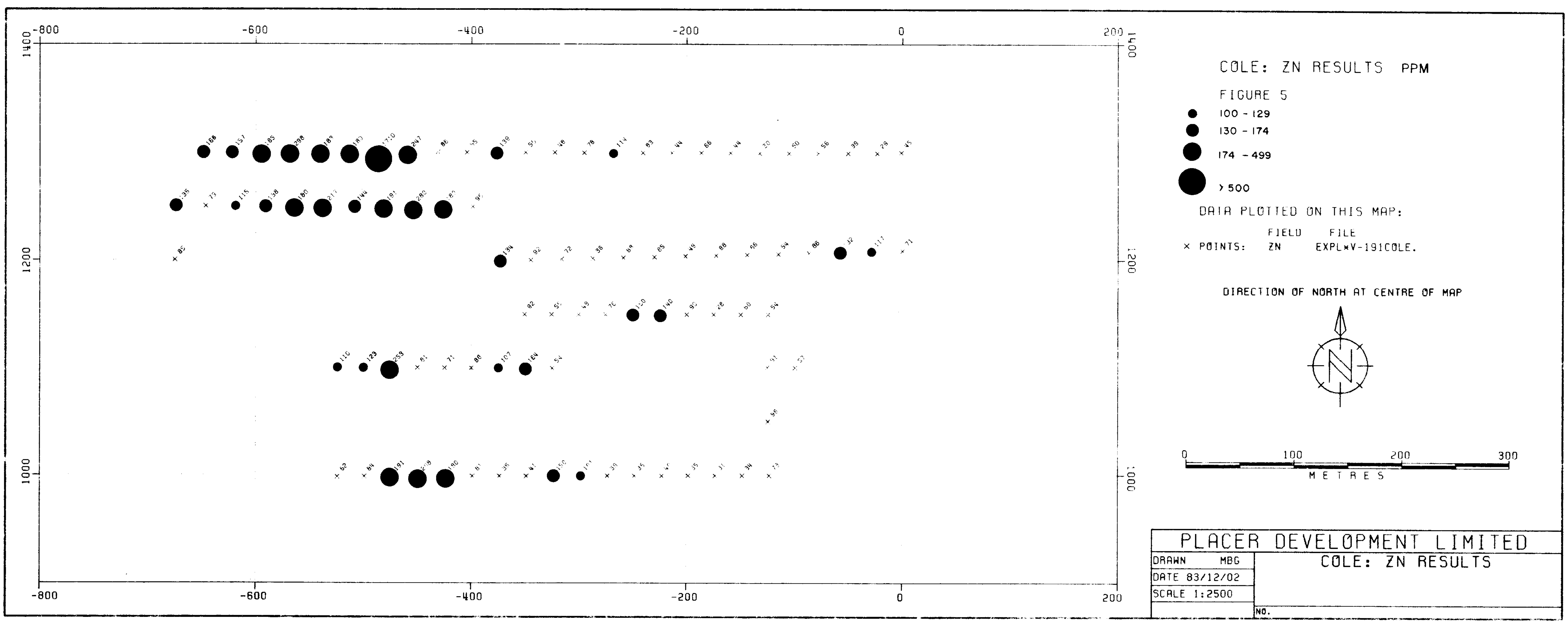


-800
-600
-400
-200
0
200
1400
1200
1000
COLE: AG RESULTS PPM
FIGURE 7
0.9 - 1.3
1.4 - 2.1
>2.2
DATA PLOTTED ON THIS MAP:
FIELD FILE
POINTS: AG EXPL*V-191COLE.
DIRECTION OF NORTH AT CENTRE OF MAP
N
0
100
200
300
METRES
PLACER DEVELOPMENT LIMITED
DRAWN MBG
DATE 83/12/02
SCALE 1:2500
COLE: AG RESULTS
NO.


COLE: AU RESULTS PPM
FIGURE 8
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,673
0.035 – 0.09
0.10 – 0.19
0.20 – 0.39
›0.04
DATA PLOTTED ON THIS MAP:
FIELD FILE
× POINTS: AU EXPL*V-191COLE.
DIRECTION OF NORTH AT CENTRE OF MAP
N
0 100 200 300
METRES
PLACER DEVELOPMENT LIMITED
DRAWN MBG
DATE 83/12/02
SCALE 1:2500
COLE: AU RESULTS
NO.
-800 -600 -400 -200 0 200
1400 1200 1000


COLE: AS RESULTS PPM
FIGURE 9
40 – 99
100 – 199
› 200
DATA PLOTTED ON THIS MAP:
FIELD FILE
× POINTS: AS EXPL*V-191COLE.
DIRECTION OF NORTH AT CENTRE OF MAP
N
0 100 200 300
METRES
PLACER DEVELOPMENT LIMITED
DRAWN MBG
DATE 83/12/02
SCALE 1:2500
COLE: AS RESULTS
NO.
-800 -600 -400 -200 0 200
1400 1200 1000


COLE: CU RESULTS PPM
FIGURE 4
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,673
125 - 199
200 - 299
300 - 499
>500
DATA PLOTTED ON THIS MAP:
FIELD FILE
× POINTS: CU EXPL*V-191COLE.
DIRECTION OF NORTH AT CENTRE OF MAP
N
0 100 200 300
METRES
PLACER DEVELOPMENT LIMITED
COLE: CU RESULTS
DRAWN MBG
DATE 83/12/02
SCALE 1:2500
NO.
-800
-600
-400
-200
0
200
1400
1200
1000


COLE: ZN RESULTS PPM
FIGURE 5
100 - 129
130 - 174
174 - 499
> 500
DATA PLOTTED ON THIS MAP:
FIELD FILE
× POINTS: ZN EXPL*V-191COLE.
DIRECTION OF NORTH AT CENTRE OF MAP
N
0 100 200 300
METRES
PLACER DEVELOPMENT LIMITED
COLE: ZN RESULTS
DRAWN MBG
DATE 83/12/02
SCALE 1:2500
NO.
-800
-600
-400
-200
0
200
1400
1200
1000