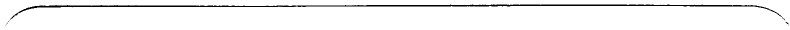
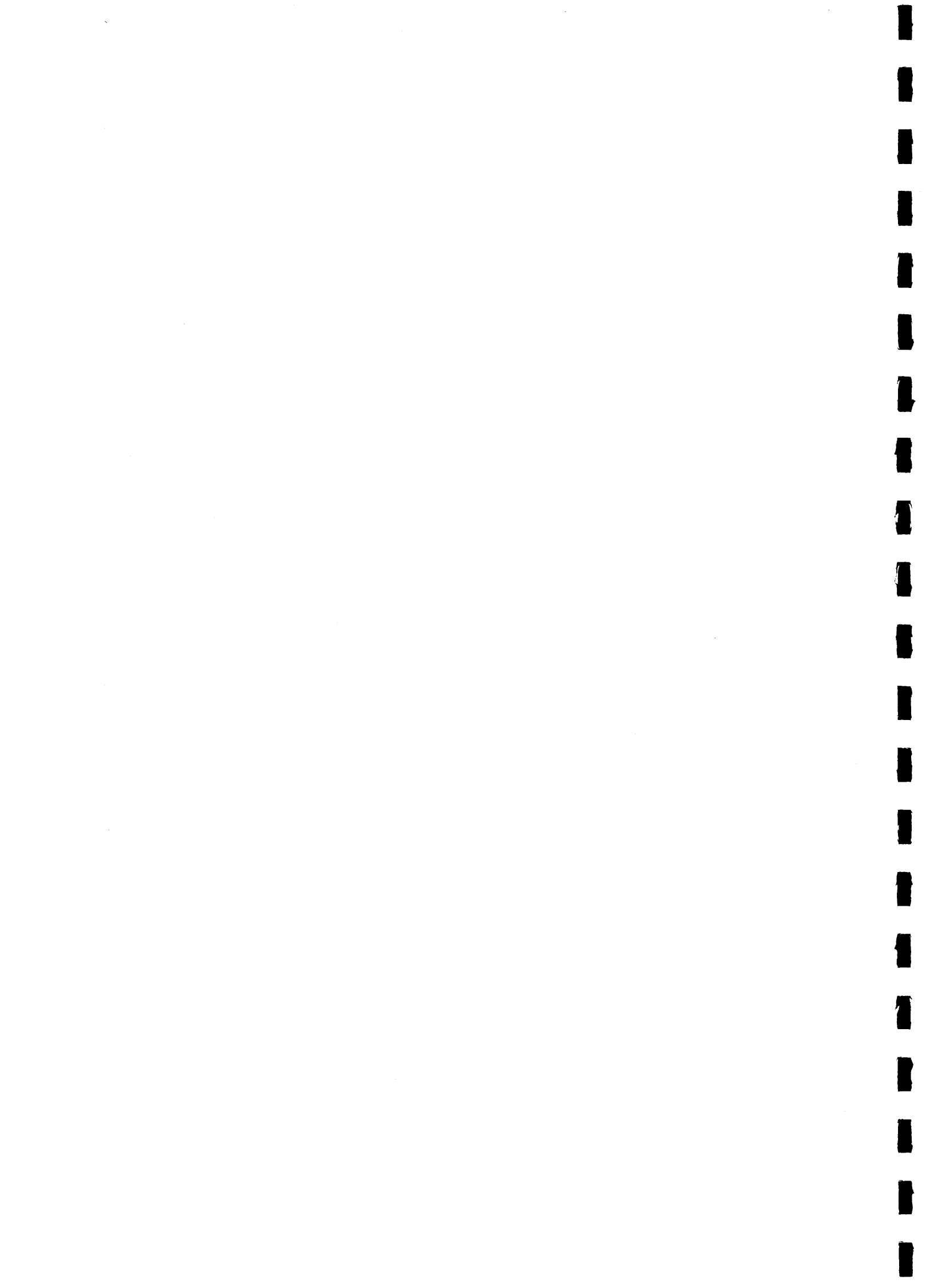




Natural Environment Research Council
Institute of Geological Sciences

Mineral Reconnaissance Programme Report





This report relates to work carried out by the British Geological Survey on behalf of the Department of Trade and Industry. The information contained herein must not be published without reference to the Director, British Geological Survey.

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No. 71

**A regional geochemical soil
investigation of the
Carboniferous Limestone areas
south of Kendal (south
Cumbria and north Lancashire)**



BRITISH GEOLOGICAL SURVEY
Natural Environment Research Council

Mineral Reconnaissance Programme

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**A regional geochemical soil
investigation of the Carboniferous
Limestone areas south of Kendal
(south Cumbria and north Lancashire)**

J. H. Bateson, BSc, MIMM

C. C. Johnson, PhD



Mineral Reconnaissance Programme Reports

- 31 Geophysical investigations in the Closehouse–Lunedale area
- 32 Investigations at Polyphant, near Launceston, Cornwall
- 33 Mineral investigations at Carrock Fell, Cumbria. Part 1—Geophysical survey
- 34 Results of a gravity survey of the south-west margin of Dartmoor, Devon
- 35 Geophysical investigation of chromite-bearing ultrabasic rocks in the Baltasound–Hagdale area, Unst, Shetland Islands
- 36 An appraisal of the VLF ground resistivity technique as an aid to mineral exploration
- 37 Compilation of stratabound mineralisation in the Scottish Caledonides
- 38 Geophysical evidence for a concealed eastern extension of the Tanygrisiau microgranite and its possible relationship, to mineralisation
- 39 Copper-bearing intrusive rocks at Cairngarroch Bay, south-west Scotland
- 40 Stratabound barium-zinc mineralisation in Dalradian schist near Aberfeldy, Scotland; Final report
- 41 Metalliferous mineralisation near Luton, Ivybridge, Devon
- 42 Mineral exploration in the area around Culvannan Fell, Kirkcowan, south-western Scotland
- 43 Disseminated copper-molybdenum mineralisation near Ballachulish, Highland Region
- 44 Reconnaissance geochemical maps of parts of south Devon and Cornwall
- 45 Mineral investigations near Bodmin, Cornwall. Part 2—New uranium, tin and copper occurrence in the Tremayne area of St Columb Major
- 46 Gold mineralisation at the southern margin of the Loch Doon granitoid complex, south-west Scotland
- 47 An airborne geophysical survey of the Whin Sill between Haltwhistle and Scots' Gap, south Northumberland
- 48 Mineral investigations near Bodmin, Cornwall. Part 3—The Mulberry and Wheal Prosper area
- 49 Seismic and gravity surveys over the concealed granite ridge at Bosworgy, Cornwall
- 50 Geochemical drainage survey of central Argyll, Scotland
- 51 A reconnaissance geochemical survey of Anglesey
- 52 Miscellaneous investigations on mineralisation in sedimentary rocks
- 53 Investigation of polymetallic mineralisation in Lower Devonian volcanics near Alva, central Scotland
- 54 Copper mineralisation near Middleton Tyas, North Yorkshire
- 55 Mineral exploration in the area of the Fore Burn igneous complex, south-western Scotland
- 56 Geophysical and geochemical investigations over the Long Rake, Haddon Fields, Derbyshire
- 57 Mineral exploration in the Ravenstonedale area, Cumbria
- 58 Investigation of small intrusions in southern Scotland
- 59 Stratabound arsenic and vein antimony mineralisation in Silurian greywackes at Glendinning, south Scotland
- 60 Mineral investigations at Carrock Fell, Cumbria. Part 2—Geochemical investigations
- 61 Mineral reconnaissance at the Highland Boundary with special reference to the Loch Lomond and Aberfoyle areas
- 62 Mineral reconnaissance in the Northumberland Trough
- 63 Exploration for volcanogenic sulphide mineralisation at Benglog, North Wales
- 64 A mineral reconnaissance of the Dent–Ingleton area of the Askrigg Block, northern England
- 65 Geophysical investigations in Swaledale, North Yorkshire
- 66 Mineral reconnaissance surveys in the Craven Basin
- 67 Baryte and copper mineralisation in the Renfrewshire Hills, central Scotland
- 68 Polymetallic mineralisation in Carboniferous rocks at Hilderston, near Bathgate, central Scotland
- 69 Base metal mineralisation associated with Ordovician shales in south-west Scotland
- 70 Regional geochemical and geophysical surveys in the Berwyn Dome and adjacent areas, North Wales
- 71 A regional geochemical soil investigation of the Carboniferous Limestone areas south of Kendal (south Cumbria and north Lancashire)
- 72 A geochemical drainage survey of the Preseli Hills, south-west Dyfed, Wales

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Bibliographic reference

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CONTENTS

SUMMARY	1	FIGURES continued	
INTRODUCTION	1	21 A distribution map of manganese in the soils from Over Kellet and Nether Kellet (Area III)	19
GEOLOGY	1	22 A distribution map of copper in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV)	20
METHODS OF INVESTIGATION	1	23 A distribution map of lead in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV)	21
RESULTS	2	24 A distribution map of zinc in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV)	22
DISCUSSION OF RESULTS	5	25 A distribution map of barium in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV)	23
Area I	5	26 A distribution map of manganese in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV)	24
Area II	5		
Area III	5		
Area IV	11		
CONCLUSIONS AND RECOMMENDATIONS	14		
ACKNOWLEDGEMENTS	25		
REFERENCES	25		
APPENDIX	26	TABLES	
Locational data	26	1 A summary of analytical data for soils from Whitbarrow and Brigsteer (Area I)	5
AAS Soil data	35	2 A summary of analytical data for soils from Hutton Roof (Area II)	5
XRF Soil data	39	3 A summary of analytical data for soils from Over Kellet and Nether Kellet (Area III)	11
FIGURES		4 A summary of analytical data for soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV)	12
1 Map of the survey area	2	5 A summary of anomalous areas	12
2 Geological map of the survey area	3		
3 A map showing the soil sampling sites in the Whitbarrow and Brigsteer areas (Area I)	4		
4 A map showing the soil sampling sites in the Hutton Roof area (Area II)	4		
5 A map showing the soil sampling sites in the Over Kellet and Nether Kellet areas (Area III)	4		
6 A map showing the soil sampling sites in the Warton Crag, Silverdale, Arnside and Beetham areas (Areas IV)	4		
7 A distribution map of copper in the soils from Whitbarrow and Brigsteer (Area I)	6		
8 A distribution map of lead in the soils from Whitbarrow and Brigsteer (Area I)	7		
9 A distribution map of zinc in the soils from Whitbarrow and Brigsteer (Area I)	8		
10 A distribution map of barium in the soils from Whitbarrow and Brigsteer (Area I)	9		
11 A distribution map of manganese in the soils from Whitbarrow and Brigsteer (Area I)	10		
12 A distribution map of copper in the soils from Hutton Roof (Area II)	11		
13 A distribution map of lead in the soils from Hutton Roof (Area II)	13		
14 A distribution map of zinc in the soils from Hutton Roof (Area II)	13		
15 A distribution map of barium in the soils from Hutton Roof (Area II)	14		
16 A distribution map of manganese in the soils from Hutton Roof (Area II)	14		
17 A distribution map of copper in the soils from Over Kellet and Nether Kellet (Area III)	15		
18 A distribution map of lead in the soils from Over Kellet and Nether Kellet (Area III)	16		
19 A distribution map of zinc in the soils from Over Kellet and Nether Kellet (Area III)	17		
20 A distribution map of barium in the soils from Over Kellet and Nether Kellet (Area III)	18		

SUMMARY

The soils of four separate areas lying within the outcrop of the Lower Carboniferous Limestone to the south and southwest of Kendal were sampled and analysed for copper, lead, zinc, barium and manganese.

Mining activity in the areas has been of little significance; restricted to a small number of disused trials for iron and two old lead mines at Brigsteer and Whitbarrow. Significant geochemical anomalies are few and can be related to either artificial contamination, association with minor iron mineralisation or to the reefal limestones that occur in the south of the area. The latter are of greatest significance in view of the similarities with areas along the Craven Fault system to the east and the association of economic mineralisation in Carboniferous reefs in Ireland.

INTRODUCTION

The area covered by this investigation is shown in Figure 1 and can be divided into four separate areas each of which lies within the outcrop of Lower Carboniferous Limestone. They are as follows:-

- | | |
|----------|--|
| Area I | Whitbarrow and Brigsteer |
| Area II | Hutton Roof |
| Area III | Over Kellet and Nether Kellet |
| Area IV | Warton Crag, Silverdale, Arnside and Beetham |

The last major geological mapping was completed at the end of the 19th century and the map drawn for this report (Figure 2) is a simplified compilation from 1 mile to the inch geological sheets 91 NE, 98 SE and 98 NE. The four areas investigated are essentially bedrock inliers in a region of much glacial drift cover.

There has been little metalliferous mineral exploration in the survey area although there are records of old mining operations for lead at Brigsteer and Whitbarrow (Wildridge 1975, p. 36). A number of disused iron workings are located within the area though these are small and insignificant compared with those of the established iron mining field around Millom and Dalton-in-Furness (Rose and Dunham, 1977).

This investigation was undertaken to examine the area for any evidence of base metal mineralisation associated with, in particular, structures affecting parts of the Carboniferous succession. There are several factors in the survey area similar to those associated with the 'Irish-type' base metal mineralisation; namely, the faulting of Carboniferous carbonate successions against Lower Palaeozoic rocks and the occurrence of reef-like limestone facies e.g. at Halton Green [SD 521 654] and Swantley [SD 523 677].

GEOLOGY

The geological information on this area dates from the 1870s and is based upon the work of Aveline and others (1872).

The oldest rocks assigned to the Carboniferous are Basement Conglomerates exposed in two fault bounded blocks to the north and north-east of Kirkby Lonsdale.

They consist primarily of coarse conglomerates with occasional impersistent sandstones and nowhere is the relationship between these beds and the younger carbonate sequence observed.

The Carboniferous carbonates (mainly of Visean age) occupy the western and central part of the area and are generally compact grey-blue limestones typical of deposition in a shelf environment. They form striking topographical features with extensive scar cliffs and well-developed limestone pavement. There are two predominant joint directions across the area striking 150° and 060°. To the south of Carnforth, although exposures are poor due to widespread glacial drift, the evidence of reefal limestones suggests that a more basinal facies may be developed to the south.

Younger sediments of the Carboniferous (representing Namurian and Westphalian) occur in the south and south-east and consist of an alternating succession of thin limestones, sandstones and shales passing upwards into more arenaceous beds. These are overlain by a sequence of shales, sands, seat earths and coals typical of the Coal Measures.

The structure of the area is dominated by the fault system which includes two dominant trends approximately N-S and NW-SE, the latter being of greater significance in the southern part of the area. In the east of the area the North Craven Fault appears continuous with the northerly trending Dent Fault system; in the south the main NW-SE faults may be a continuation of the line of the Mid and South Craven Faults marking the hinge line between the shelf and basin depositional environments.

Except adjacent to faults the strata have a general 10 to 20° easterly dip but there is local flexuring into broad folds. The most extensive of these, the Priest Hutton monocline is identifiable from Slyne [SD 480 660] through Bolton-le-Sands to Priest Hutton. The eastern limb of this structure is steeply inclined, coinciding with an extensive zone of north-south faulting against which the structure terminates to the north-east.

Regional geophysical data are available for the area in the form of Bouguer anomaly and regional magnetic data (Institute of Geological Sciences, 1972, 1977). The Bouguer values show no obvious features that can be related to the margin of the Carboniferous basin or to the thickness of the Carboniferous sediments, presumably reflecting the lack of contrast between the Lower Palaeozoic and Carboniferous sediments. A series of small north-south trending positive anomalies can be identified (J. D. Cornwell, oral comm. 1978) on a residual Bouguer anomaly map, coincident with the line of the Priest Hutton monocline.

The aeromagnetic map of Great Britain shows that a small magnetic high (values in excess of 30 gammas) underlies the area and is continuous eastwards with a feature attributed to the Wensleydale Granite. Evans and Maroof (1976) suggest that the positive feature to the west and south-west of Kendal may be an extension at depth of the Wensleydale granite.

METHODS OF INVESTIGATION

The areas of investigation, because of the limestone bedrock, have poor or no development of surface drainage. The usual method of regional reconnaissance

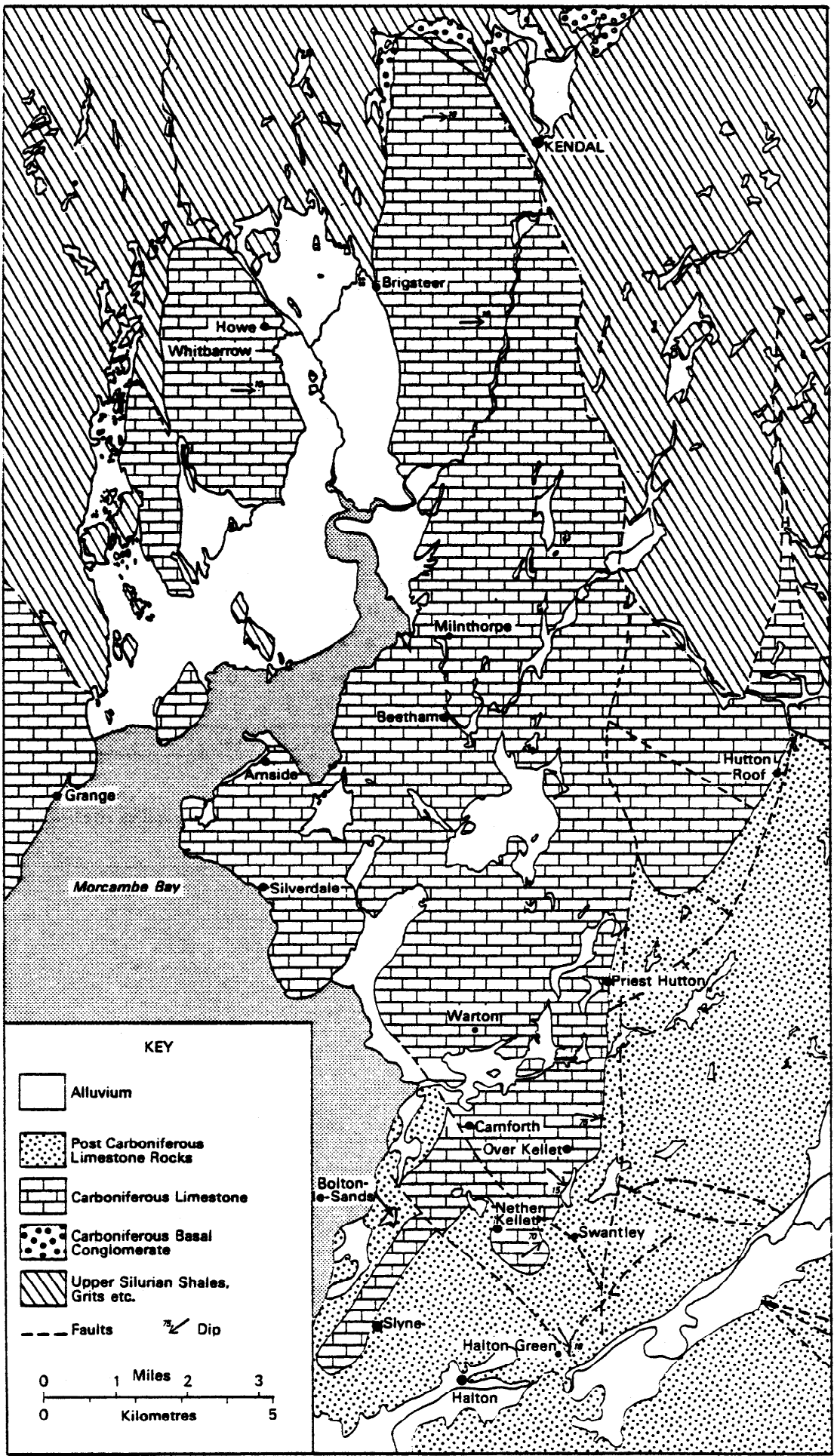


Figure 2 Geological map of the survey area.

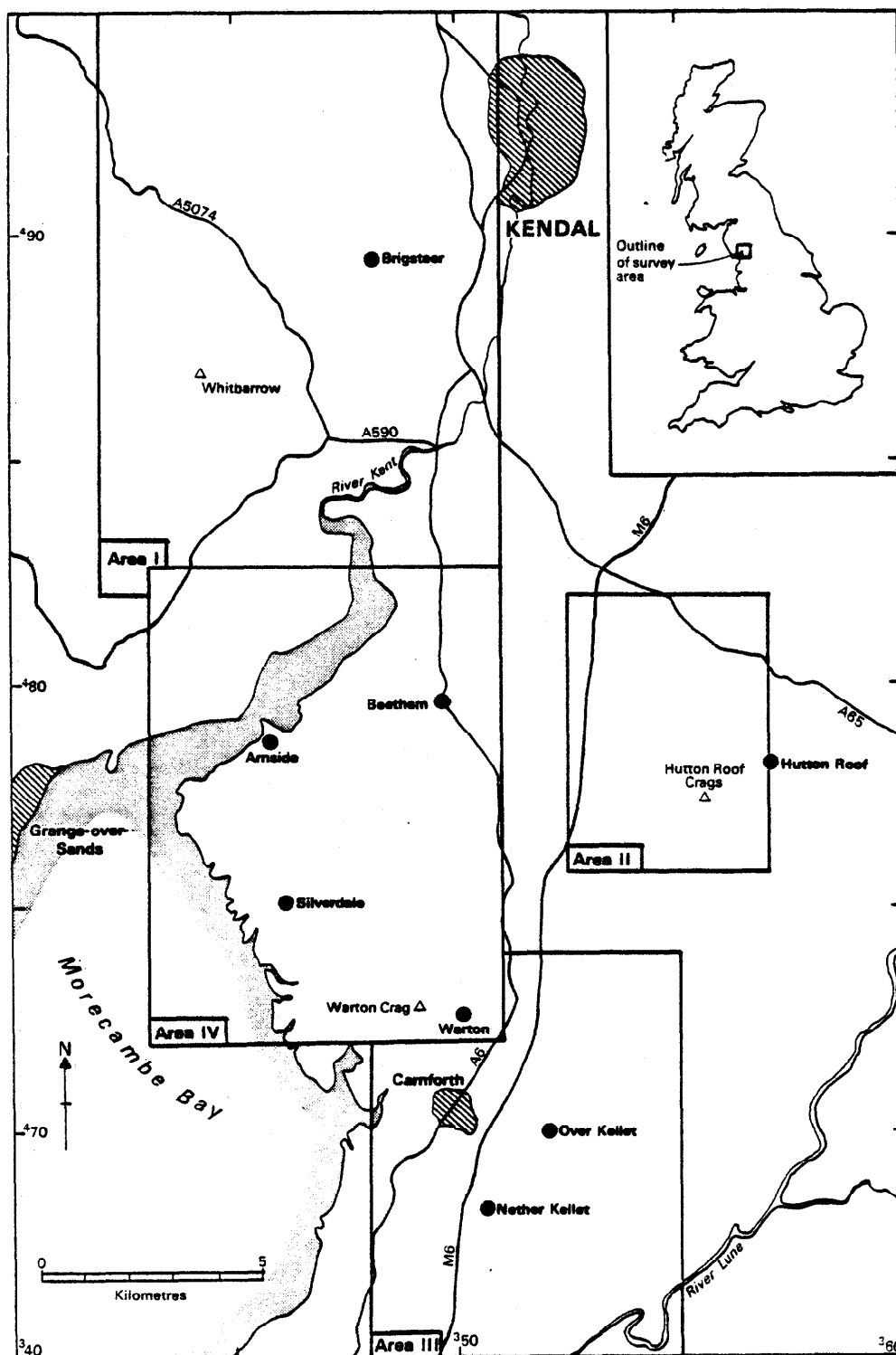


Figure 1 Map of the survey area.

by a drainage basin survey was therefore inapplicable. Instead, a regional soil survey was undertaken based (where practicable) on east-west sampling lines spaced 300 m apart, sampling along each line being at 250 m intervals. Area I and parts of Area IV (Warton Crag and Arnside) were used to test the effectiveness of this method of regional investigation; Areas II and III, and the remainder of Area IV were investigated subsequently. Soil samples were collected, using a 1 m screw auger, from the B horizon of the soil. However, particularly on the limestone plateau areas, soil profile development was poor and these thin soils were sampled with a hand trowel. Figures 3 to 6 show the sampling grid and an indication of depth of sampling from the four areas.

The minus 85-mesh fraction of the soils from the orientation survey (Areas I and parts of Area IV) were

analysed by AAS for Cu, Pb, Zn, Ba and Mn at the commercial laboratories of Mather Research Ltd., Rothbury. Samples collected from Areas II and III, and from the remainder of Area IV, were analysed by XRF for the same elements at the laboratories of the Institute in London.

RESULTS

Locational and chemical data are listed in the Appendix.

Results are presented as isopleth maps (see Figures 7 to 26). The class intervals have been calculated from cumulative probability plots partitioned in the manner described by Sinclair (1976), and the choice of intervals is designed to give the maximum definition of geochemical anomalies.

DISCUSSION OF RESULTS

Area I (Whitbarrow and Brigsteer)

There are no exceptionally high levels of copper, lead, zinc, barium or manganese recorded in this area (Table 1). Some of the highest values for these elements, particularly lead and zinc, are recorded on the east side of Whitbarrow (see Figures 7 to 11), where field investigation identified a disused iron mine [SD 4370 8775]. At this locality (Bell Rake) a 0.5 m wide vein of calcite possibly with some baryte is seen in the roof of an old portal. This isolated vein strikes 140° and is vertical. This is possibly the locality described in a transcript dated 1616 quoted by Wildridge (1975).

"The other place called Whitbarrow Hills, where several dead leaders appear, with hingett and liggett. This hath not been wrought to such profile as were fit, but some further trial were made about it some 10 fathoms deep..... undoubtedly a vein will be found, which by the nature of the stone of these works we conceive will come a lead oare mixt with copper".

No copper, lead or zinc minerals were seen either at outcrop or in mine dump material during a visit to this site. It is probable that this site was excavated in the belief that it was associated with a metal-containing lode vein.

Table 1 A summary of analytical data for the soils from the Whitbarrow and Brigsteer area (Area I) (taken from cumulative probability plots, Figures 7-11). \bar{x} is the geometric mean and σ the standard deviation. Chemical analyses by AAS.

Element	Population	\bar{x}	$\bar{x} - \sigma$	$\bar{x} + \sigma$	$\bar{x} + 2\sigma$
Barium	Single	175	129	237	321
Lead	Single	94	52	169	303
Zinc	A (64 %)	140	82	240	405
	B (36 %)	77	62	95	120
Copper	A (17 %)	47	34	65	90
	B (83 %)	22	16	31	42
Manganese	Single	2600	1074	6295	15240

In the area east of the mine across to Slape Scars [SD 446 875] and on to Howe [SD 456 884] several samples with anomalous values for Zn, Pb and Ba define a north-westerly trending zone. The only indication of mineralisation in this area is given by small calcite veins up to 1 cm across that run 040-060°, i.e. parallel to one of the main joint directions in the limestone.

Elsewhere in Area I anomalous values for single elements occur as isolated anomalies. There is much similarity between the distribution of lead and of zinc and these metals show some spatial correlation with the depth of soil sampled. The thin soils of the limestone pavement areas have higher lead and zinc contents than the deeper soils which, with their better developed profiles have a more acidic character in which these elements become relatively more mobile than in the thin soils of the pavements.

Area II (Hutton Roof)

Despite the poor development of soils over much of this area a complete regular sampling grid was maintained excluding the limestone quarry area at SD 534 788. With the exception of those for copper, the data for each element can be partitioned into two populations (Table 2). This possibly reflects the two soil types sampled, i.e. one population being representative of the poorly developed soils on the limestone pavement areas

Table 2 A summary of analytical data for the soils from the Hutton Roof area (Area II) (taken from cumulative probability plots, figures 12-16). \bar{x} is the geometric mean and σ the standard deviation. Chemical analyses by XRF.

Element	Population	\bar{x}	$\bar{x} - \sigma$	$\bar{x} + \sigma$	$\bar{x} + 2\sigma$
Barium	A (41 %)	275	245	310	344
	B (59 %)	203	169	242	288
Lead	A (44 %)	94	44	198	410
	B (56 %)	35	24	52	73
Zinc	A (42 %)	155	80	300	580
	B (58 %)	82	62	105	138
Copper	Single	15	8	31	63
Manganese	A (25 %)	2100	1205	3800	6500
	B (75 %)	630	380	1100	1620

and the other representing the better developed soils of pasture land. As is seen in Area I, the high lead and zinc values tend to be associated with the poorly developed soils. Barium values, however, seem to be highest in areas where the soil is better developed around the margins of the limestone crags.

There are no high value anomalies and copper, with 70 per cent of the soils containing 20 ppm Cu or less, is deficient over much of the area. Most of the highest values of Cu, Pb, Zn and Mn occur in the southeast around the triangulation station on Hutton Roof [SD 5560 7745]. The element distribution maps suggest a north-easterly trending feature as defined by these anomalies, with a possible north-south component identified in the Cu distribution. At the locality called Blasterfoot Gap [SD 566 783] values of 152 and 650 ppm are recorded for copper, which are significantly high against the generally low copper background. Minor calcite veining is observed running approximately NE-SW, parallel to the Blasterfoot Gap which may represent a dip fault with a small amount (a few metres) of displacement. From their recent work, Vincent and Lee (1981) have observed loess deposits within this area [SD 555 787] but the results presented in this survey do not indicate whether the chemical data can be used to identify loess accumulation on the limestone outcrop. The age suggested by Vincent and Lee (1981) for the deposition of the loess is late Devensian which allows sufficient time for the chemical signature of any mineralisation in subcrop to become reflected in the material at the base of a soil profile.

Area III (Over Kellet and Nether Kellet)

Unlike the other three areas studied, much of Area III is characterised by well-developed deep soils and very few rock outcrops. The greater uniformity of soil type is probably reflected in the much narrower ranges of element concentrations (see Table 3). A regular sampling grid was maintained across the survey area with the exception of the limestone quarry areas to the north and east of Nether Kellet [SD 6850].

There are no outstandingly high anomalies though there are several areas where high values are interpreted as significant. The highest lead values occur in the south of the area at Halton [SD 504 654] and east of Halton Green [SD 516 653] where, near the locality called Higher Cliff Wood [SD 521 654], there is an outcrop of reefal limestone which lends support to the possibility that this part of the area lies on or close to a hinge line that separates platform from more basinal facies. This line may be a westward extension of the South Craven fault system.

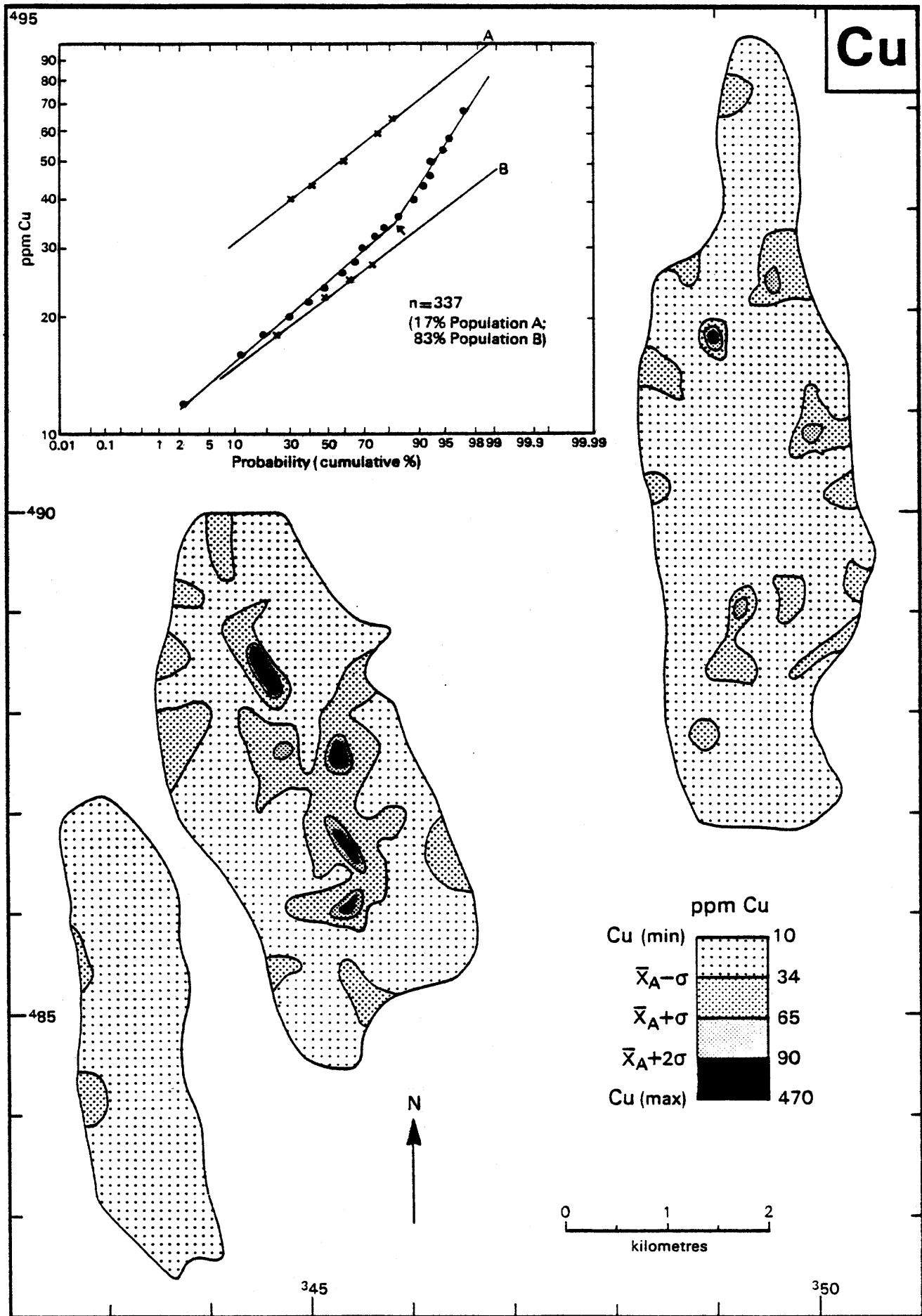


Figure 7 A distribution map of copper in the soils from Whitbarrow and Brigsteer (Area I).

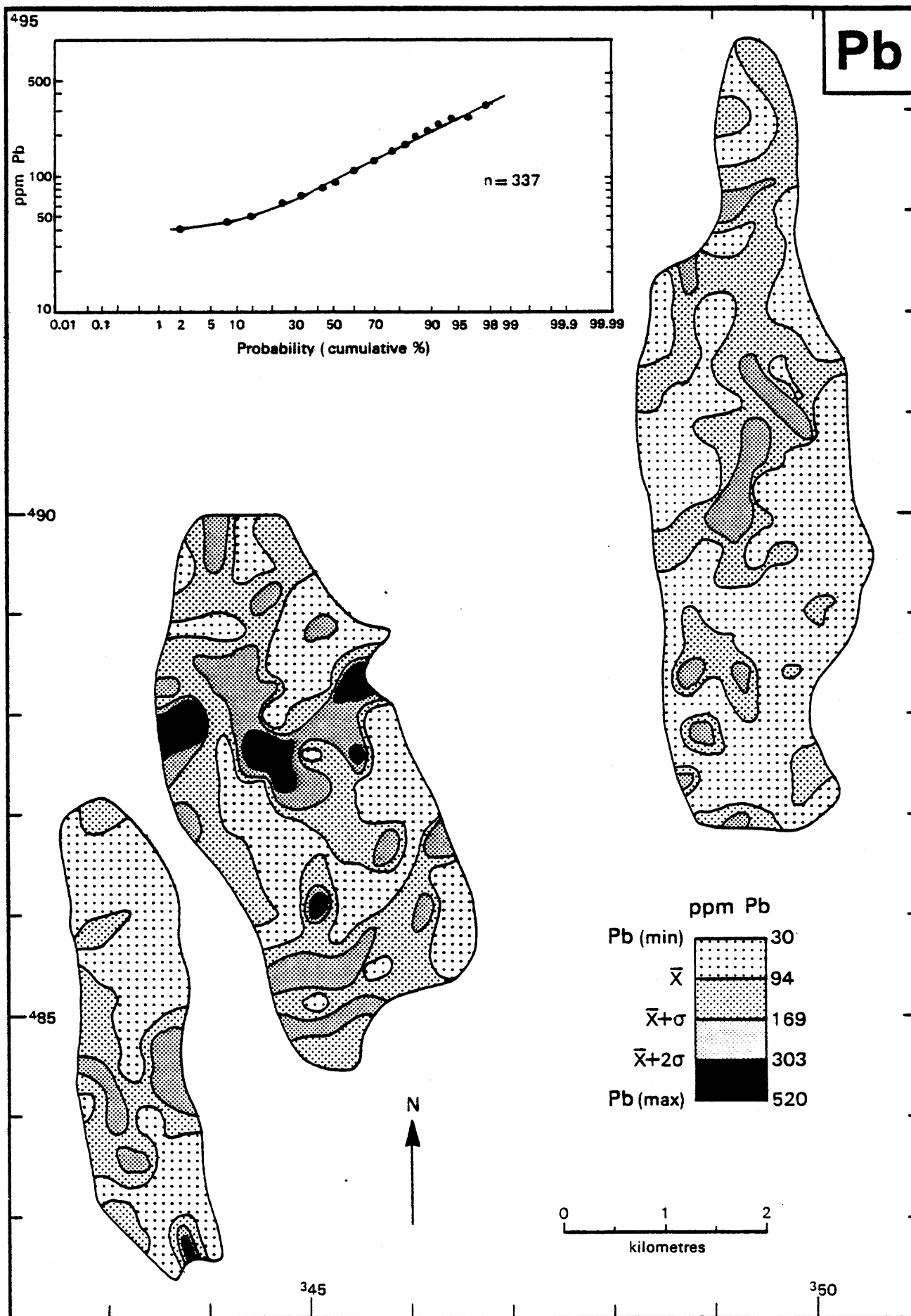


Figure 8 A distribution map of lead in the soils from Whitbarrown and Brigsteer (Area II).

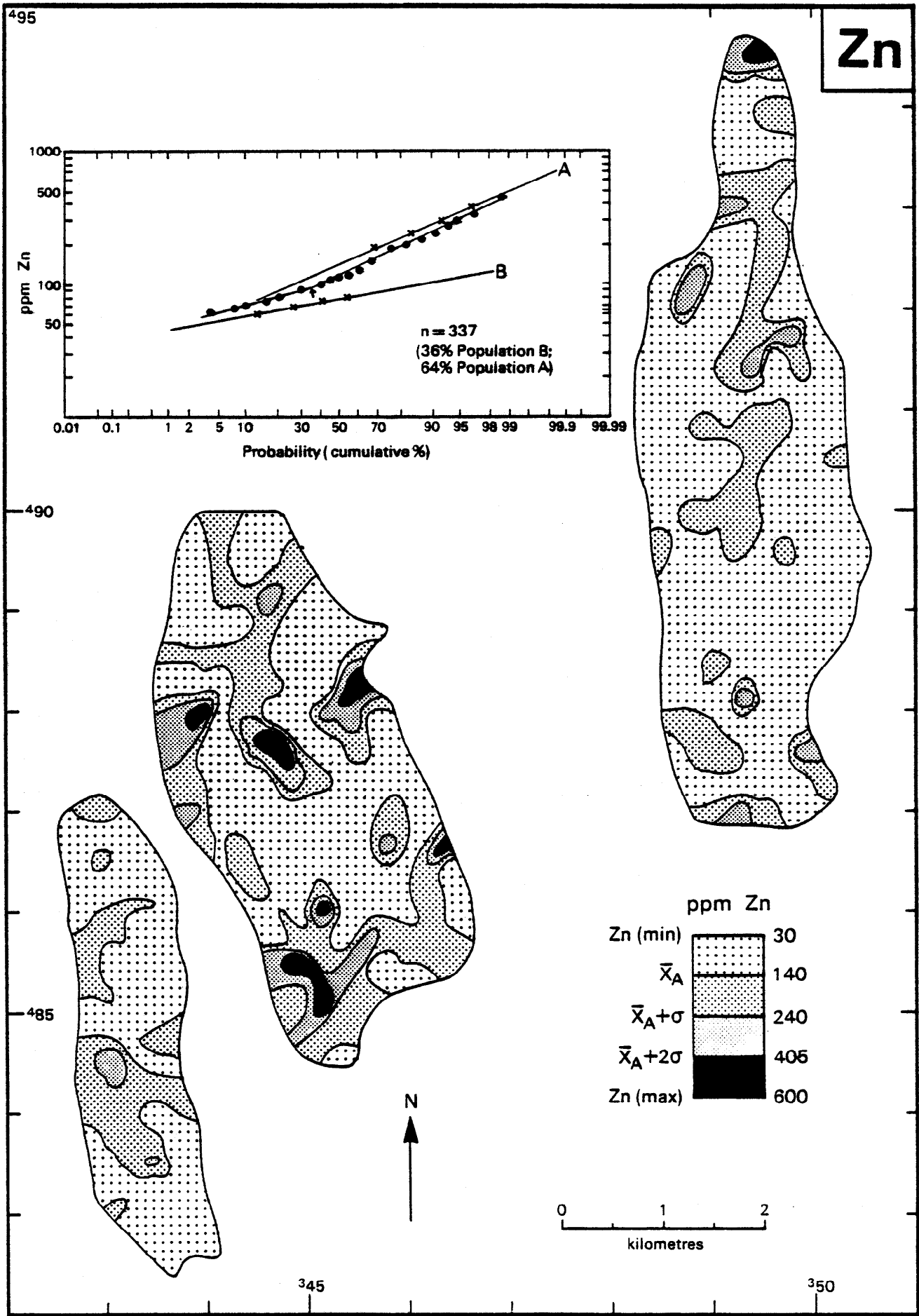


Figure 9 A distribution map of zinc in the soils from Whitbarrown and Brigsteer (Area I).

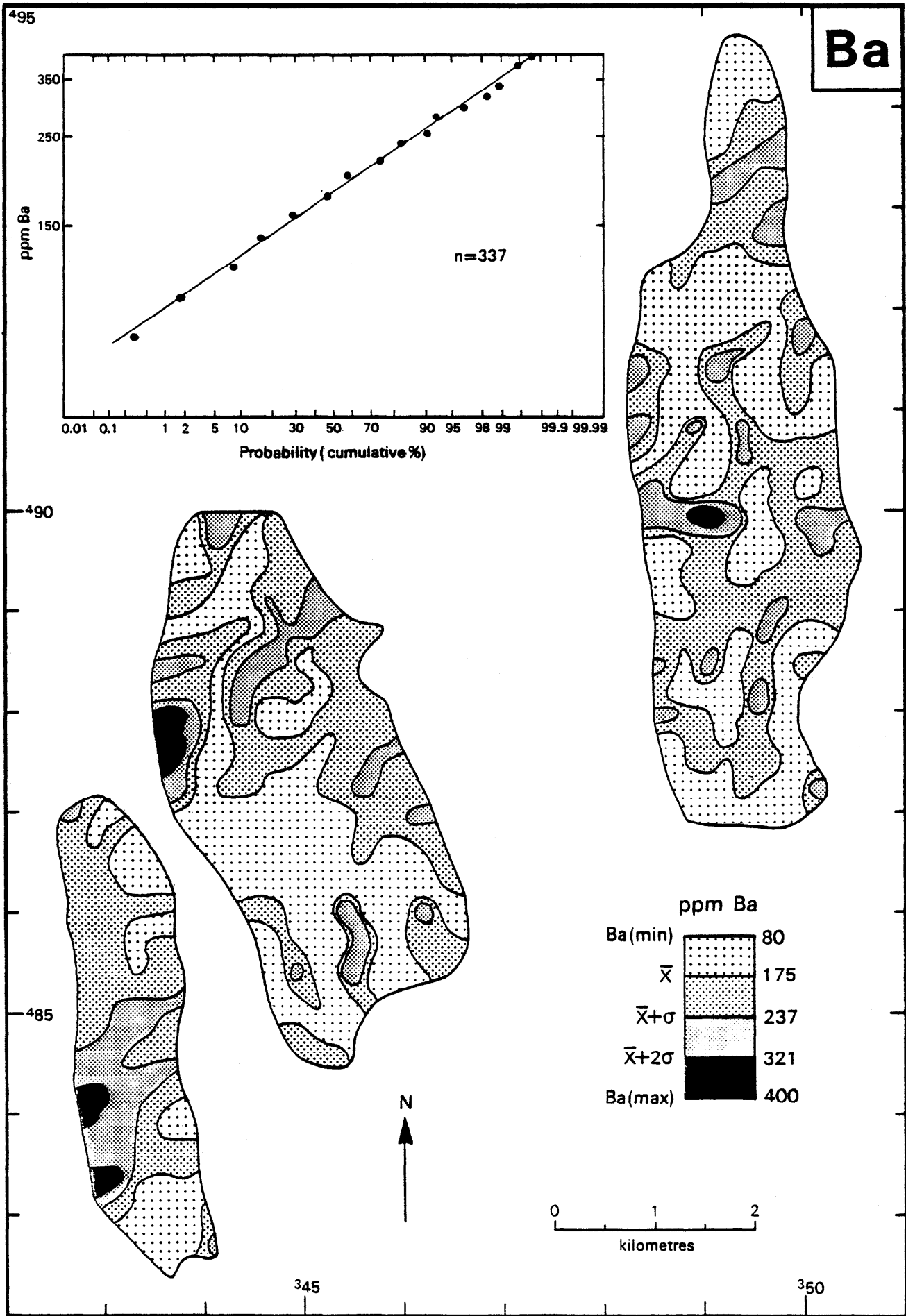


Figure 10 A distribution map of barium in the soils from Whitbarrow and Brigsteer (Area I).

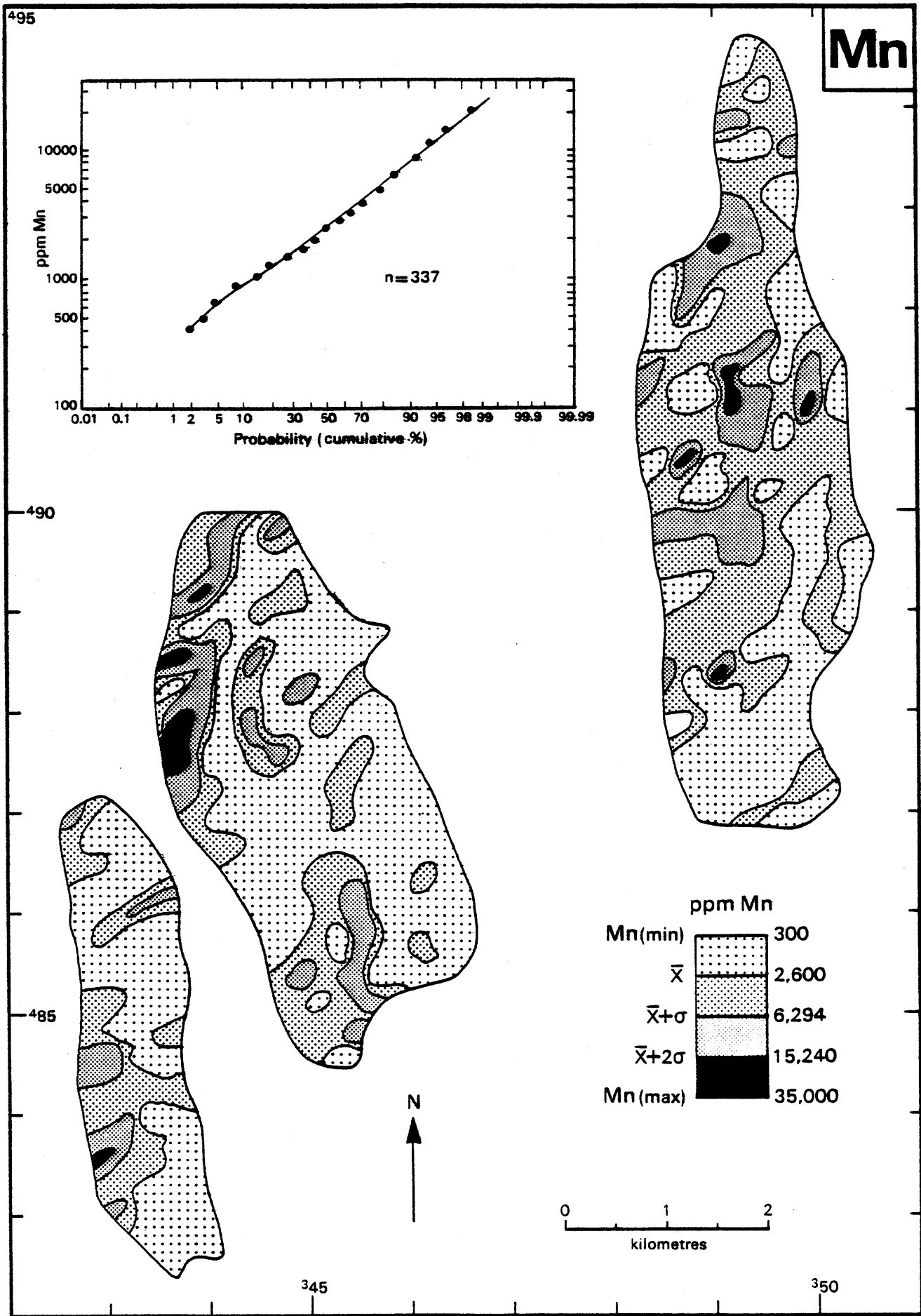


Figure 11 A distribution map of manganese in the soils from Whitbarrow and Brigsteer (Area I).

Table 3 A summary of analytical data for the soils from the Over Kellet and Nether Kellet area (Area III) (taken from cumulative probability plots, Figures 17-21). \bar{x} is the geometric mean and σ the standard deviation. Chemical analyses by XRF.

Element	Population	\bar{x}	$\bar{x} - \sigma$	$\bar{x} + \sigma$	$\bar{x} + 2\sigma$
Barium	Single	277	238	323	376
Lead	A (14 %)	57	42	78	107
	B (86 %)	32	25	40	50
Zinc	A (72 %)	61	48	78	120
	B (28 %)	41	30	56	75
Copper	A (84 %)	18	12	26	39
	B (16 %)	6	4	10	14
Manganese	A (75 %)	660	370	1160	2050
	B (25 %)	150	122	245	348

At Swantley [SD 523 677] there is a well-defined copper and manganese anomaly with a minor zinc high. During reconnaissance soil sampling the outcrop at this locality was investigated. This prominent escarpment feature is composed primarily of rubbly limestones with only a few distinct bedding features that indicate variable dip direction in excess of 45°. Accumulations of crinoidal and productid fragments, and its generally rubbly appearance, identify the outcrop as a debris deposit associated with a reef. The generally very porous character of this carbonate is indicated by the considerable amount of secondary quartz that has invaded the rock. This is accompanied along some faults and joints by veinlets containing iron, copper and lead minerals. On the scarp where a gully has been cut there are quite distinct surface coatings of azurite and malachite also evidently supergene.

A line of soil samples was collected above and below the limestone crags at Swantley. Maximum values for Pb, Zn and Cu were 6141, 183 and 765 ppm respectively.

The authors can find no reference to this mineralisation at Swantley, which has clearly been worked in the past. The presence of metalliferous mineralisation at this locality is indicated by the reconnaissance soil survey, confirming the suitability of this technique; hence isolated anomalies in other areas must be worthy of some further study if one such anomaly is attributable to mineralisation like that at Swantley. There are also isolated highs at Capernwray [SD 530 719], Over Kellet [SD 523 701], Swarthdale [SD 528 690] and Stub Hall [SD 507 668].

There is no observable mineralisation at Capernwray and Over Kellet, and these anomalies are probably the result of artificial contamination. The isolated anomalies at Swarthdale and Stub Hall similarly have no observable surface expression; both are similar smooth ridge-like features with no rock outcrops. At both localities the surface soils contain small boulders of sandstone with no carbonate material, suggesting a sandstone bedrock. Therefore, the slightly increased values of Cu, Pb and Ba possibly reflect a lithological change. The cause of the high values for Pb, Zn and Ba at a location to the north of Halton [SD 504 654] remains unresolved.

Area IV (Warton Crag, Silverdale, Arnside and Beetham)
This was the most difficult of the four areas to sample because of large areas of dense woodland. Much of the area was sampled in a non-systematic way with sample sites being accepted where access was convenient; but overall a similar density of sampling to the other areas was maintained.

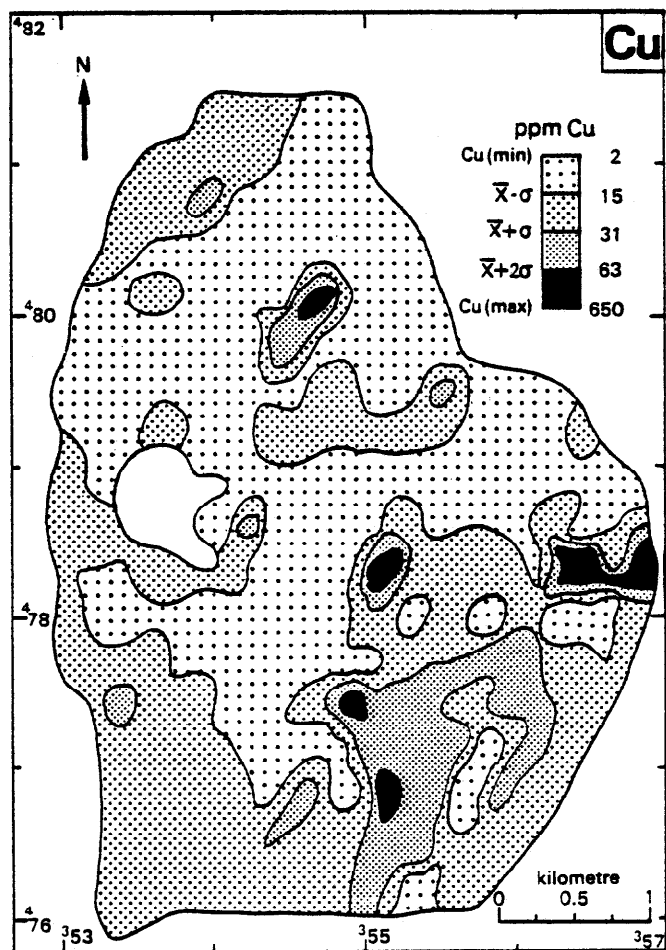
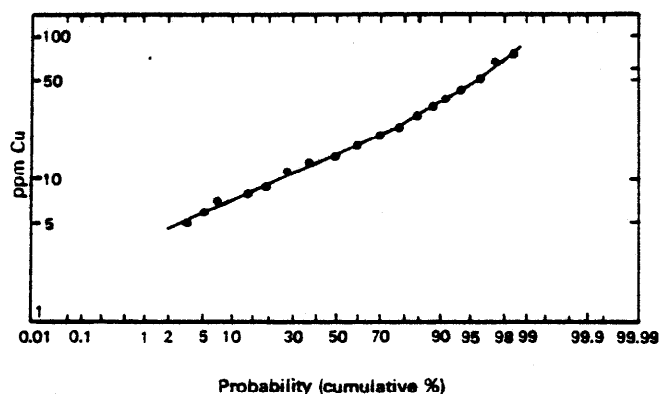


Figure 12 A distribution map of copper in the soils from Hutton Roof (Area II).

The interpretation of the geochemical data also presented a problem. The initial samples (from Warton Crag and Arnside) were analysed by the AAS technique whereas those from Silverdale, Arnside and Beetham were done by XRF. For lead, zinc and copper the different methods of analysis was of little consequence as both produced data sets with similar means and ranges. Barium determined by AAS, as might be expected, gave rise to lower results than those produced by XRF as the acid dissolution used is not suitable for extracting total barium. Manganese, on the other hand, was generally higher in the AAS than the XRF determined samples with a much greater range of values being reported. All the data for copper, lead and zinc were considered together and treated as for the other areas (Figures 22 to 24). The AAS and XRF results for manganese and barium are considered as two separate

Table 4 A summary of analytical data for the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV) (taken from cumulative probability plots, Figures 22-26). \bar{x} is the geometric mean and σ the standard deviation.

Element	Method of analysis	Population	\bar{x}	$\bar{x} - \sigma$	$\bar{x} + \sigma$	$\bar{x} + 2\sigma$
Barium	AAS	Single	145	94	224	348
	XRF	Single	239	181	317	420
Lead	AAS and XRF	Single	55	29	102	191
Zinc	AS and XRD	Single	76	51	116	175
Copper	AAS and XRF	A (7 %)	46	35	62	83
		B (93 %)	16	10	24	35
Manganese	AAS	A (14 %)	9600	5800	15800	26000
		B (86 %)	1400	670	2800	5700
	XRF	A (10 %)	5000	2600	9100	17000
		B (90 %)	920	420	1600	2800

Table 5 A summary of anomalous areas.

Locality	Grid reference	High elements	Comments
Whitbarrow	SD 437 877	Ba, Pb, Zn, Mn	Disused iron workings
South of Howe	SD 456 878	Pb, Zn	Cause not known
Hutton Roof Crags	SD 556 774	Pb, Zn, Cu	Cause not known
Blasterfoot Gap	SD 566 783	Cu, Mn	Cause not known
Swantley	SD 523 677	Cu, Mn, Zn	Reefal limestone facies. Evidence of mining.
Capernwray	SD 530 719	Cu, Mn, Ba	Cause not known; probable artificial contamination
Over Kellet	SD 523 701	Cu, Mn	Cause not known; probable artificial contamination
Swarthdale	SD 528 690	Cu, Zn	Possible change in lithology
Higher Cliff Wood	SD 521 654	Pb, Zn, Ba	Reefal limestone facies
Halton	SD 504 654	Pb, Zn, Cu	Possible reefal limestone facies
Stub Hall	SD 507 668	Cu, Ba, Zn	Possible change in lithology
Arnside Park	SD 440 772	Zn, Mn, Ba	Disused iron workings
Red Hills	SD 456 781	Zn, Mn, Ba	Possibly disused iron workings
Middlebarrow	SD 456 759	Zn, Mn, Ba, Pb	Caravan Park and Holiday Camp. Possible pollution
Warton Crag	SD 488 724	Ba, Cu, Pb	Disused iron workings
Slack Head	SD 491 789	Pb, Zn	Cause not known
Major Woods	SD 491 782	Pb, Zn	Cause not known
Creep-i'-th'-call Bridge	SD 476 782	Pb, Zn	Cause not known

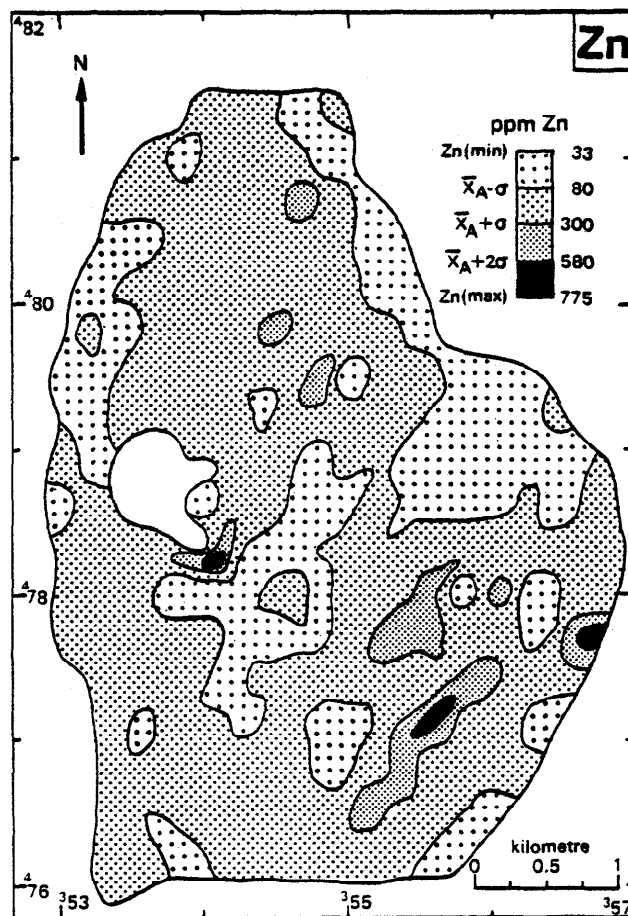
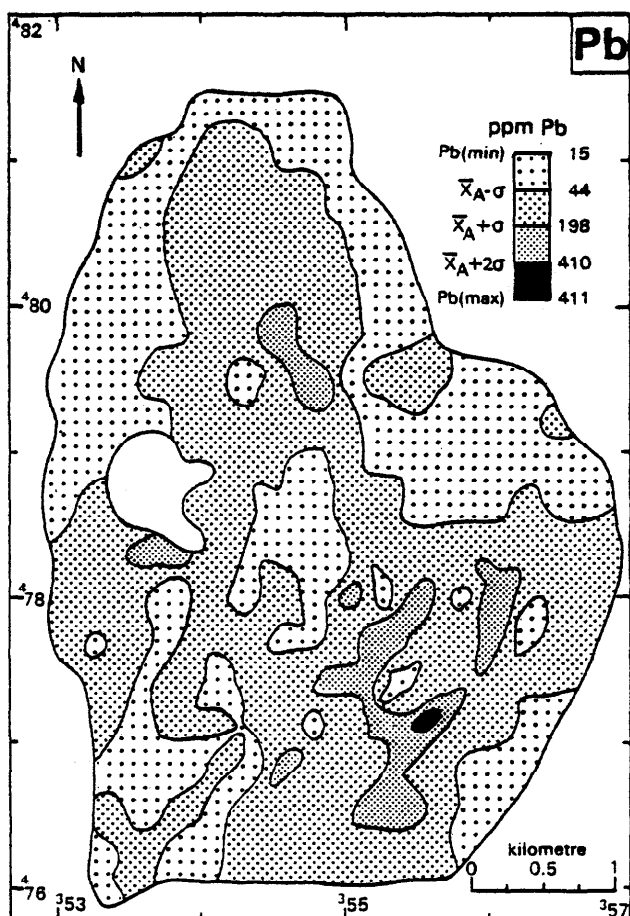
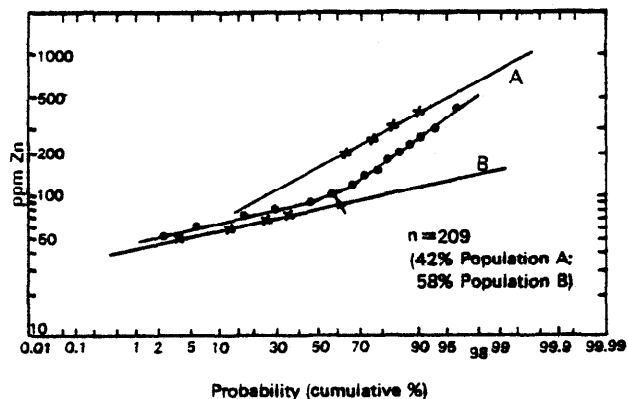
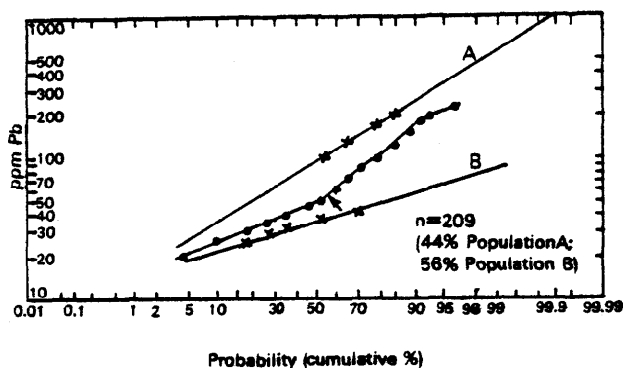


Figure 13 A distribution map of lead in the soils from Hutton Roof (Area II).

sets of data with class intervals being determined using means and standard deviations from the two cumulative probability plots (Figures 25 to 26).

Copper, as in the other areas, is generally low across the entire area with 90 per cent of the soils sampled containing less than 30 ppm Cu. There are no outstandingly high values reported for any of the elements (Table 4), though there are several localities where high values for more than one element are coincident.

(i) West of Warton at SD 488 724, by a disused shaft, all elements (and particularly lead and copper) are high. This disused shaft appears to have been associated with iron working and there is no evidence of copper, lead or zinc minerals in out-crop.

Figure 14 A distribution map of zinc in the soils from Hutton Roof (Area II).

(ii) Southwest of Arnside [SD 439 773], again adjacent to what appears to be disused iron workings, manganese, zinc and barium are enriched. Indeed, in the Arnside area where there is much evidence of old iron workings, levels of all elements are generally higher than elsewhere.

(iii) There is a number of coincident lead and zinc highs in the area from Slack Head [SD 491 791] (south of Beetham) south-westwards to Creep-i'-th'-call Bridge [SD 475 782]. No evidence of the cause of these relatively high lead/zinc values can be seen from surface exposures, but the general trend of the anomalies suggests that they could be related to minor calcite mineralisation along a major joint direction (060°).

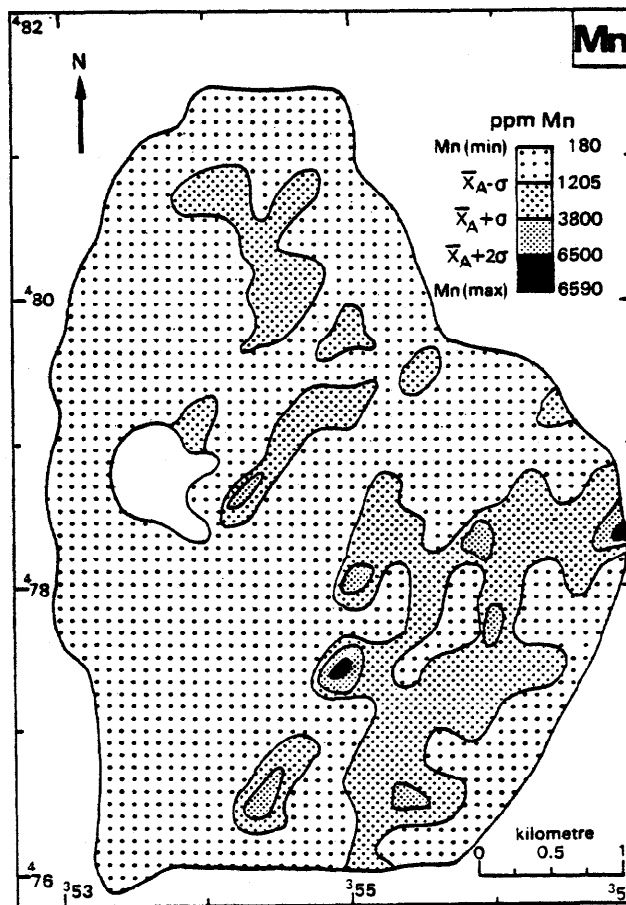
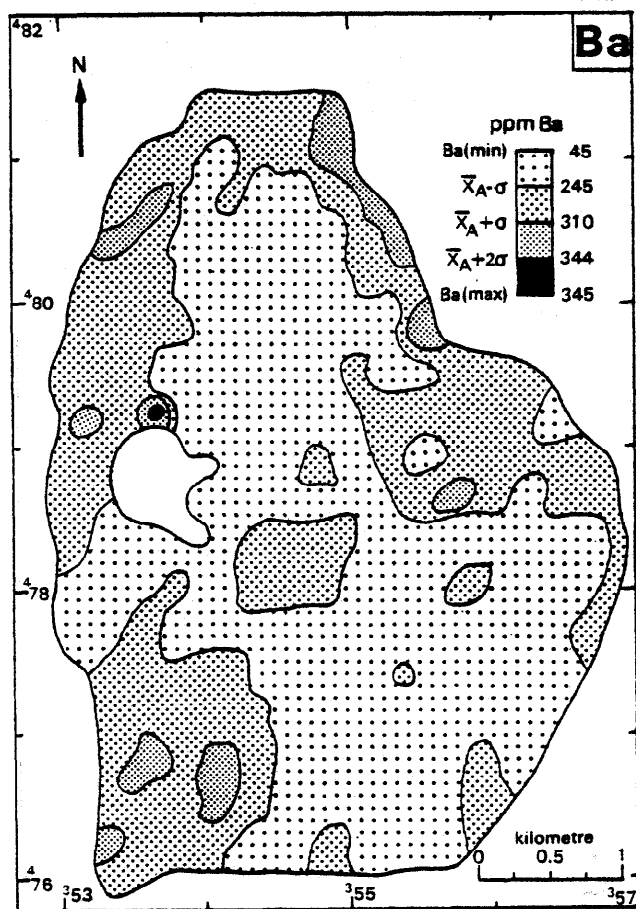
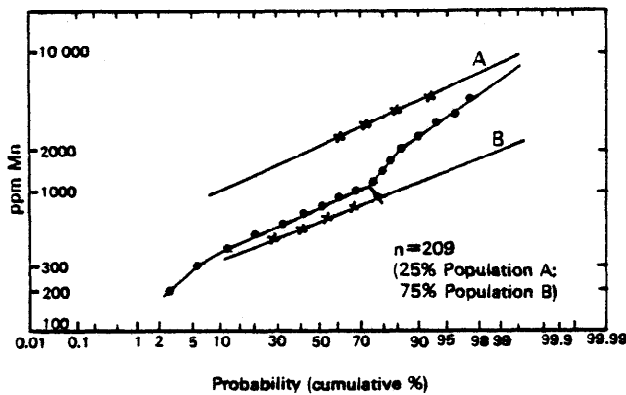
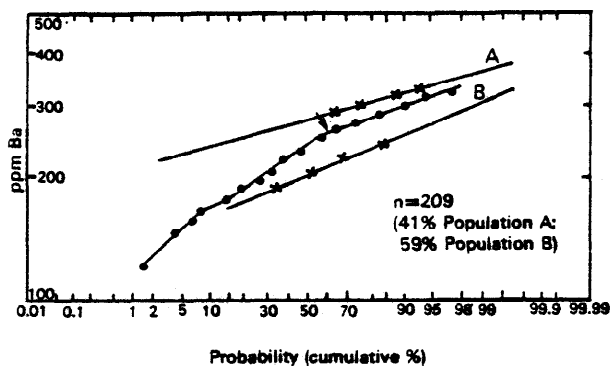


Figure 15 A distribution map of barium in the soils from Hutton Roof (Area II).

Figure 16 A distribution map of manganese in the soils from Hutton Roof (Area II).

CONCLUSIONS AND RECOMMENDATIONS

The disposition of geochemically anomalous areas is summarised in Table 5, mainly on the basis of localities where there is coincidence between the highest values of more than one element. The anomalies can be divided into three groups:-

- (i) Anomalies possibly associated with reefal limestones.
- (ii) Anomalies associated with iron-rich limestones, particularly in areas where there are disused iron workings.

- (iii) Anomalies for which there is no obvious geological explanation and which are likely to be the result of pollution.

Of the three groups, the anomalies possibly associated with areas underlain by reefal limestones are the most significant in view of similarities with areas along the Craven Fault System to the east (Wadge and others, 1983) and the association of economic mineralisation with Carboniferous reefs of Ireland. It is recommended that these anomalies be followed up using a denser soil sampling grid.

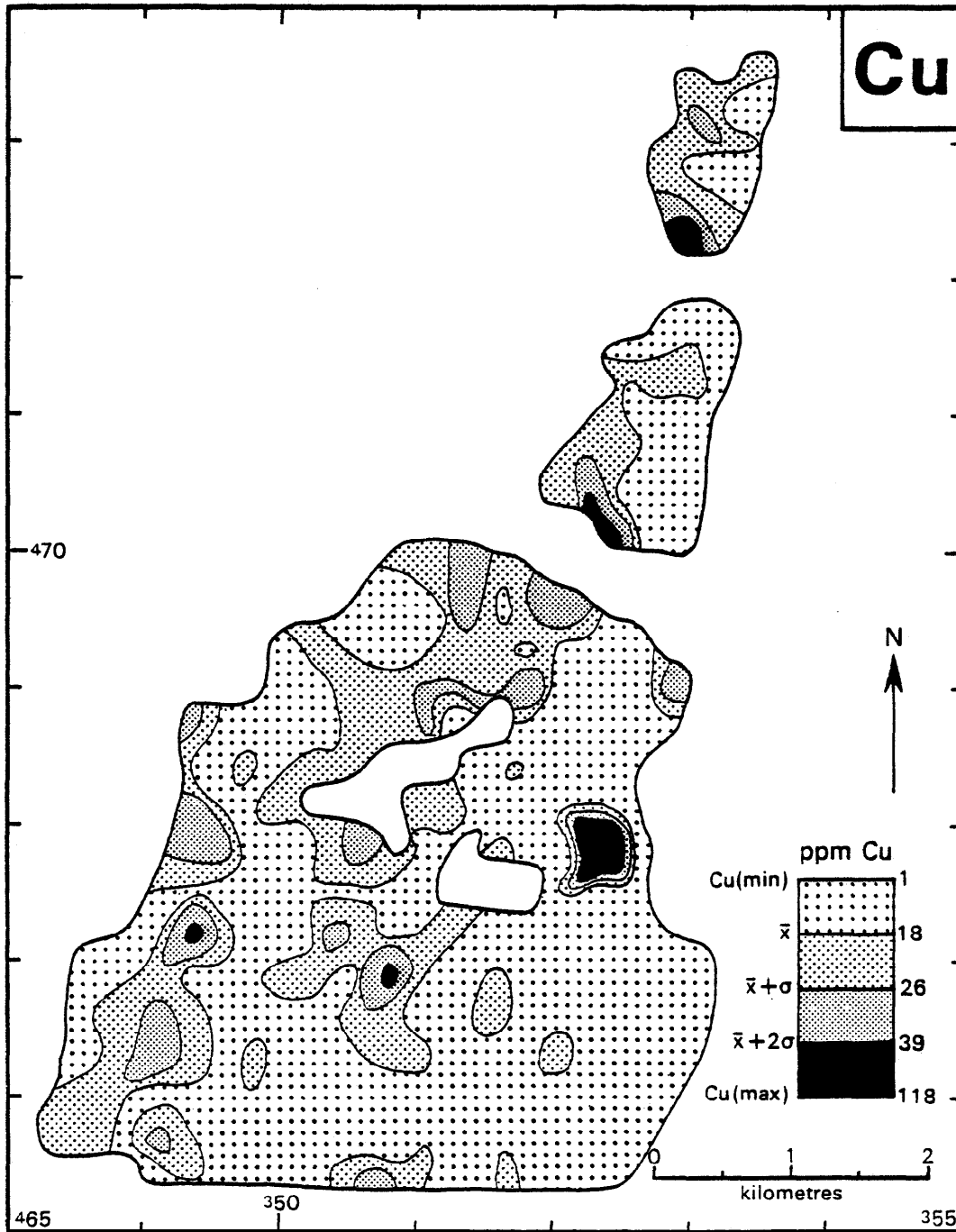
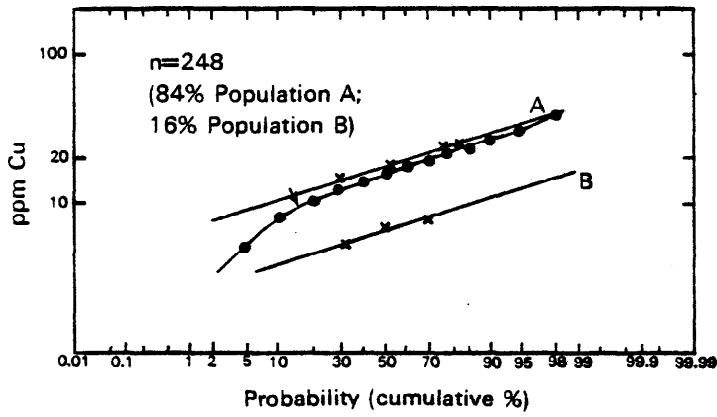


Figure 17 A distribution map of copper in the soils from Over Kellet and Nether Kellet (Area III).

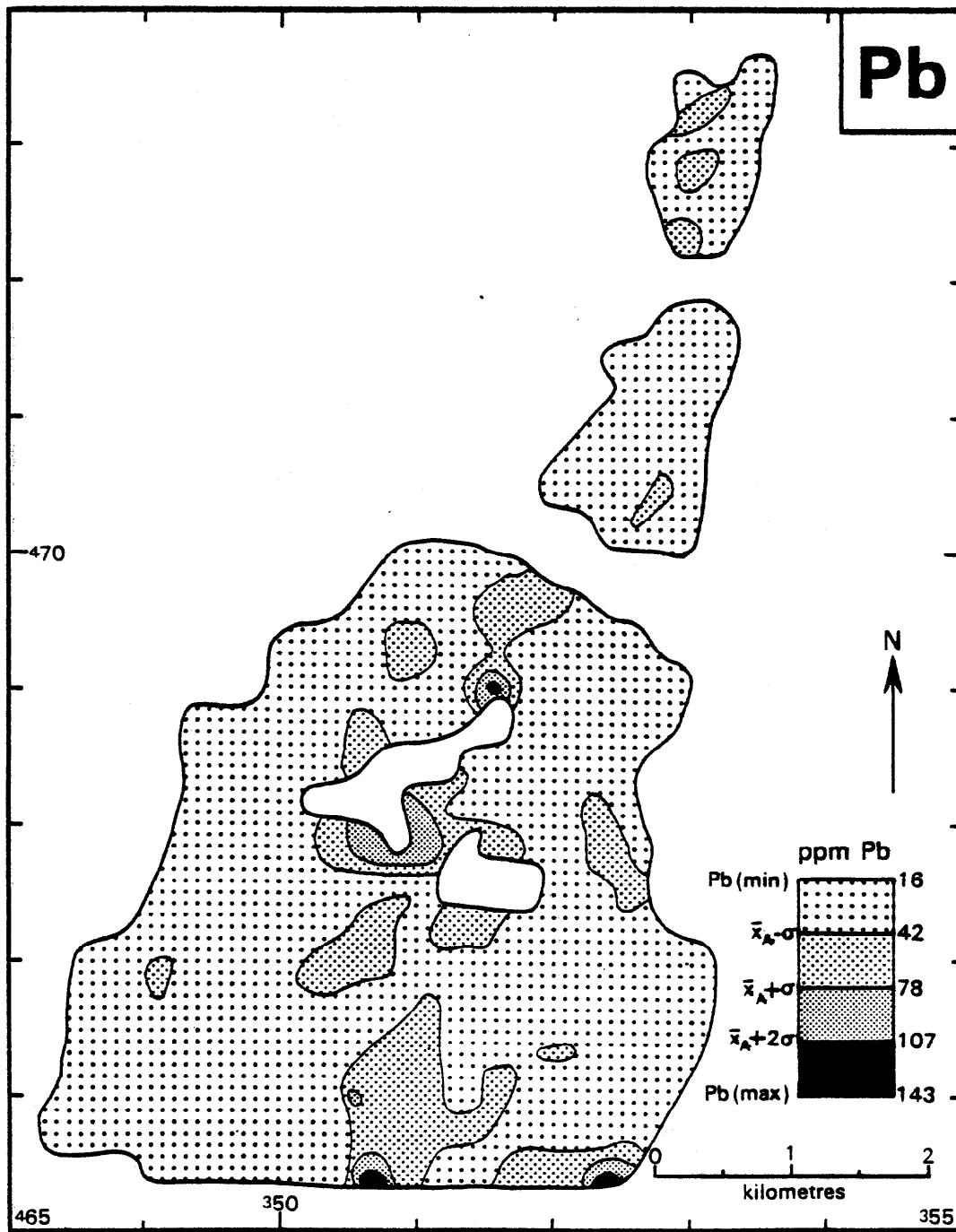
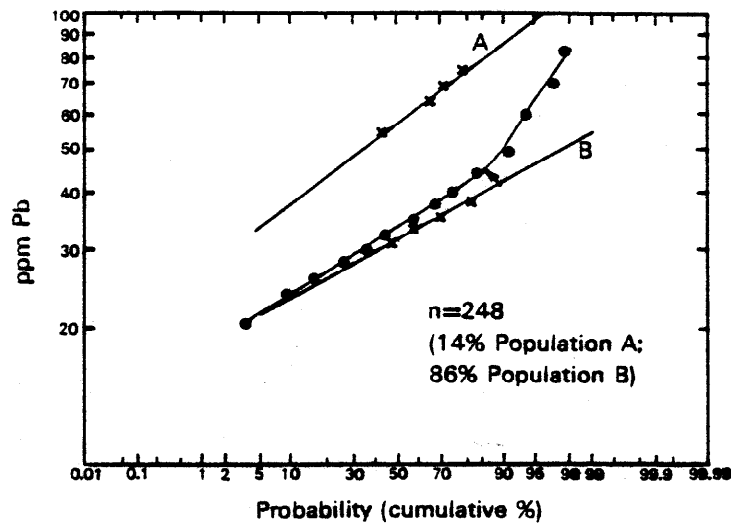


Figure 18 A distribution map of lead in the soils from Over Kellet and Nether Kellet (Area III).

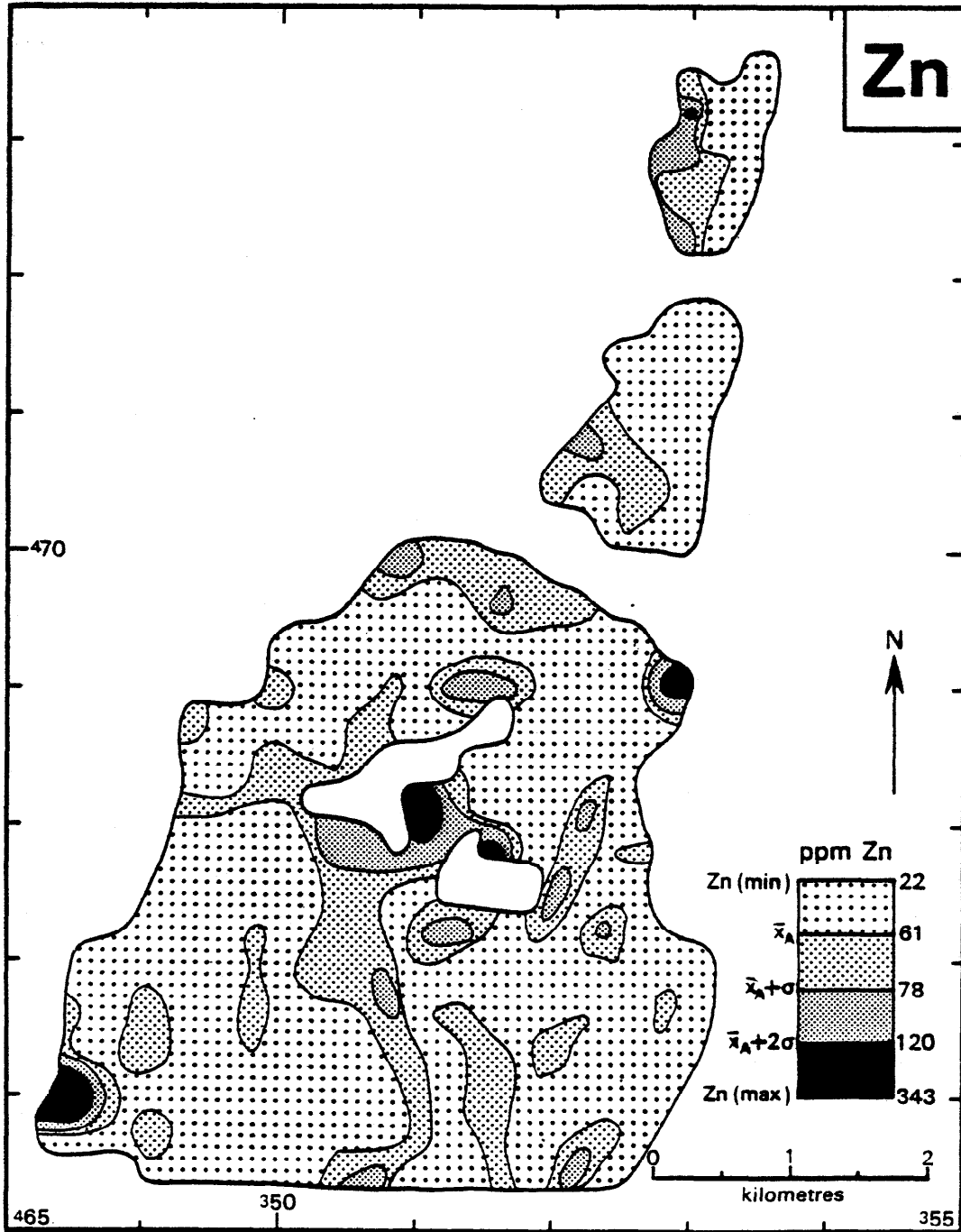
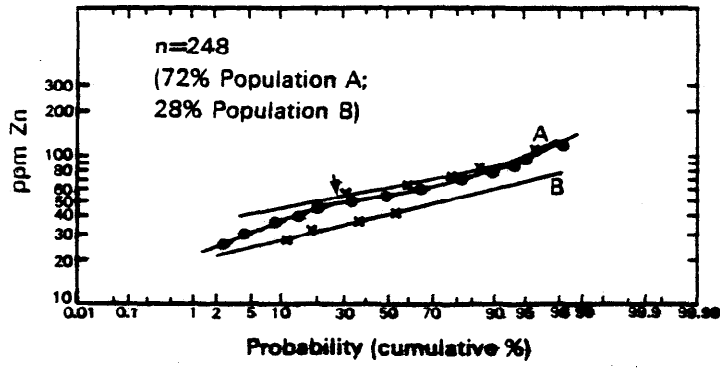


Figure 19 A distribution map of zinc in the soils from Over Kellet and Nether Kellet (Area III).

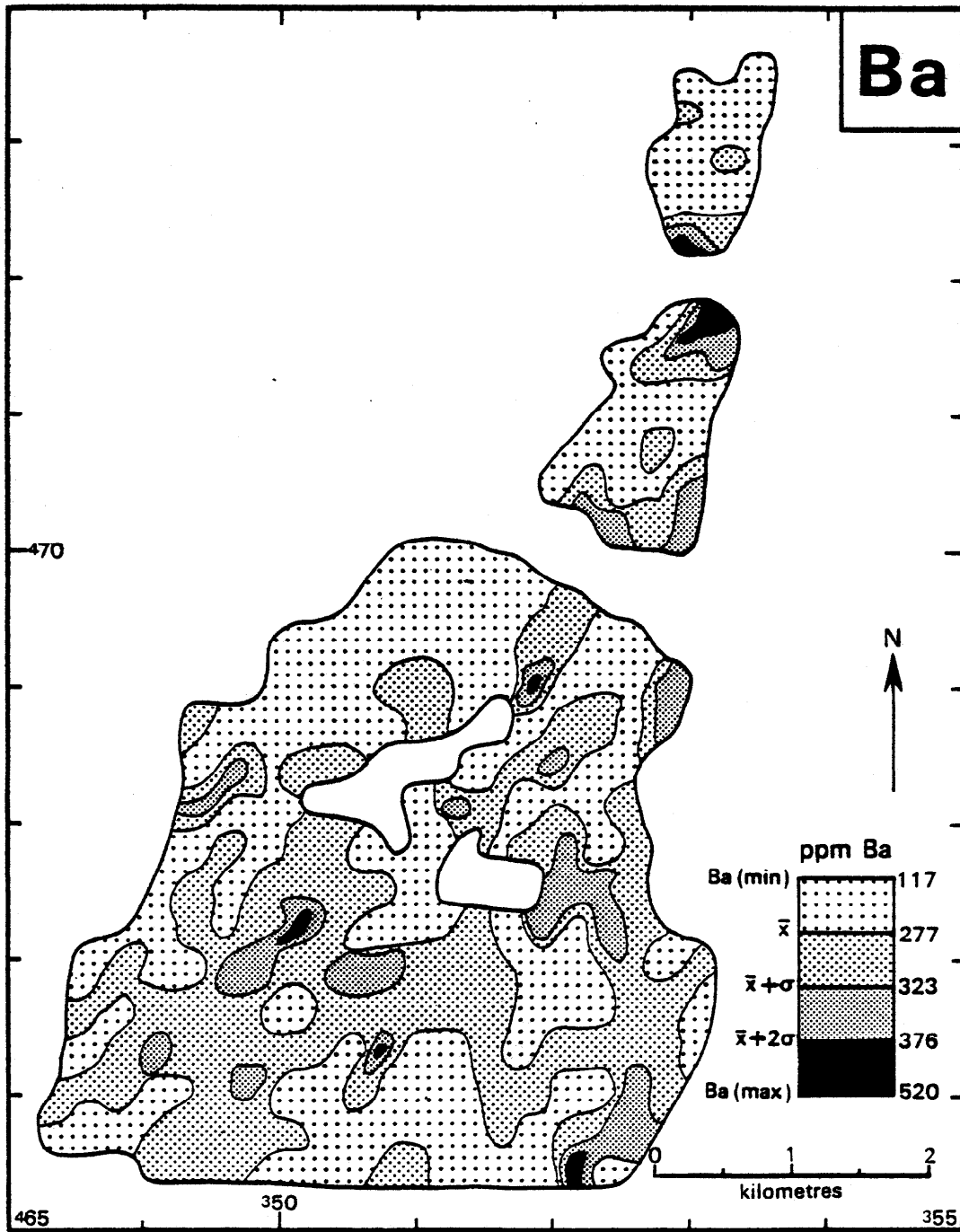
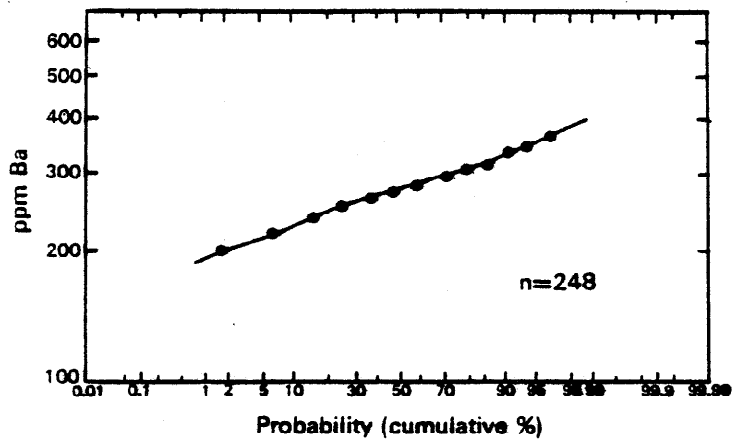


Figure 20 A distribution map of barium in the soils from Over Kellet and Nether Kellet (Area III).

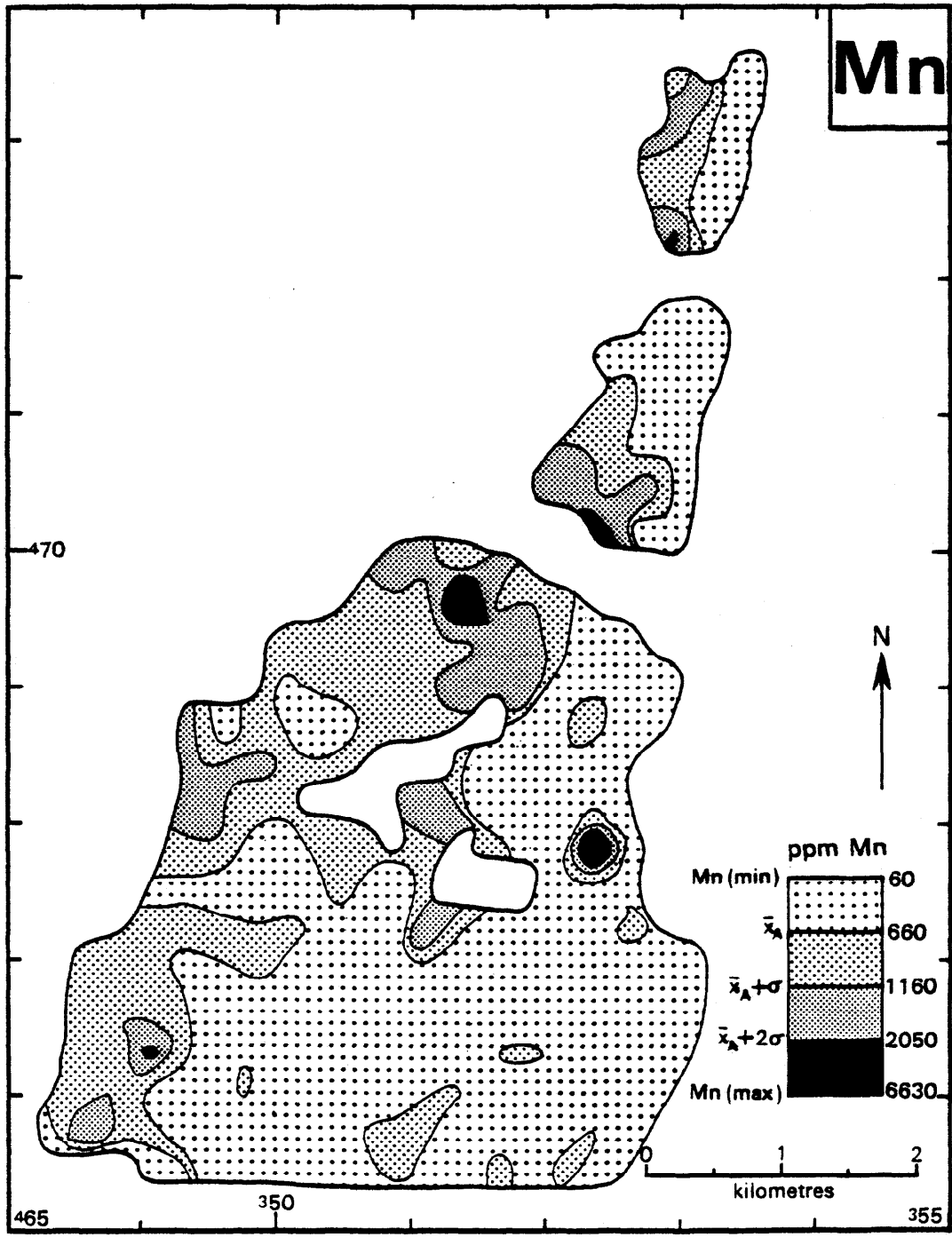
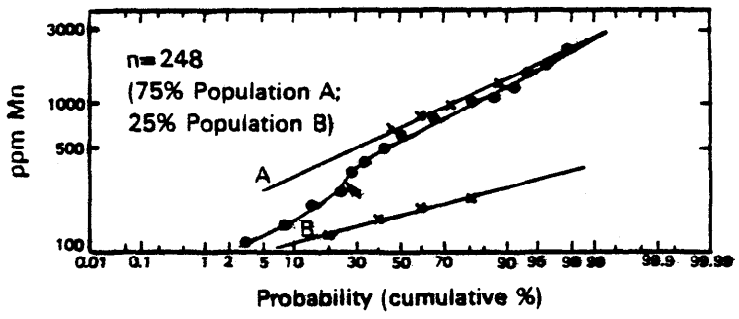


Figure 21 A distribution map of manganese in the soils from Over Kellet and Nether Kellet (Area III).

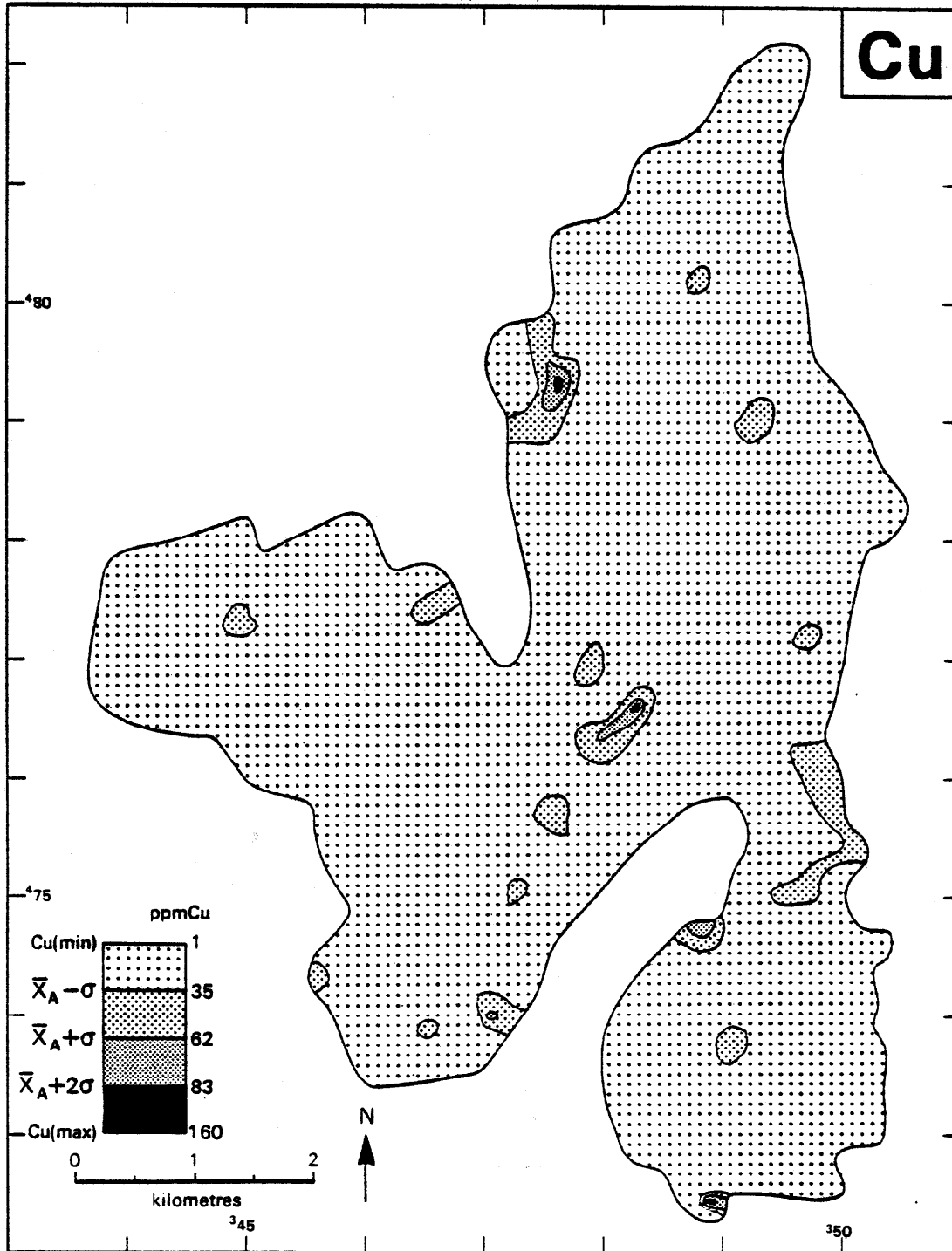
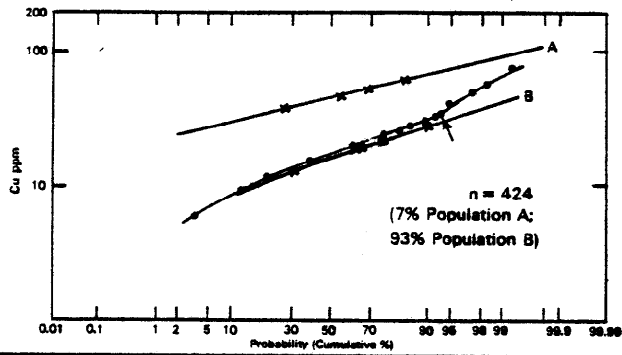


Figure 22 A distribution map of copper in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV).

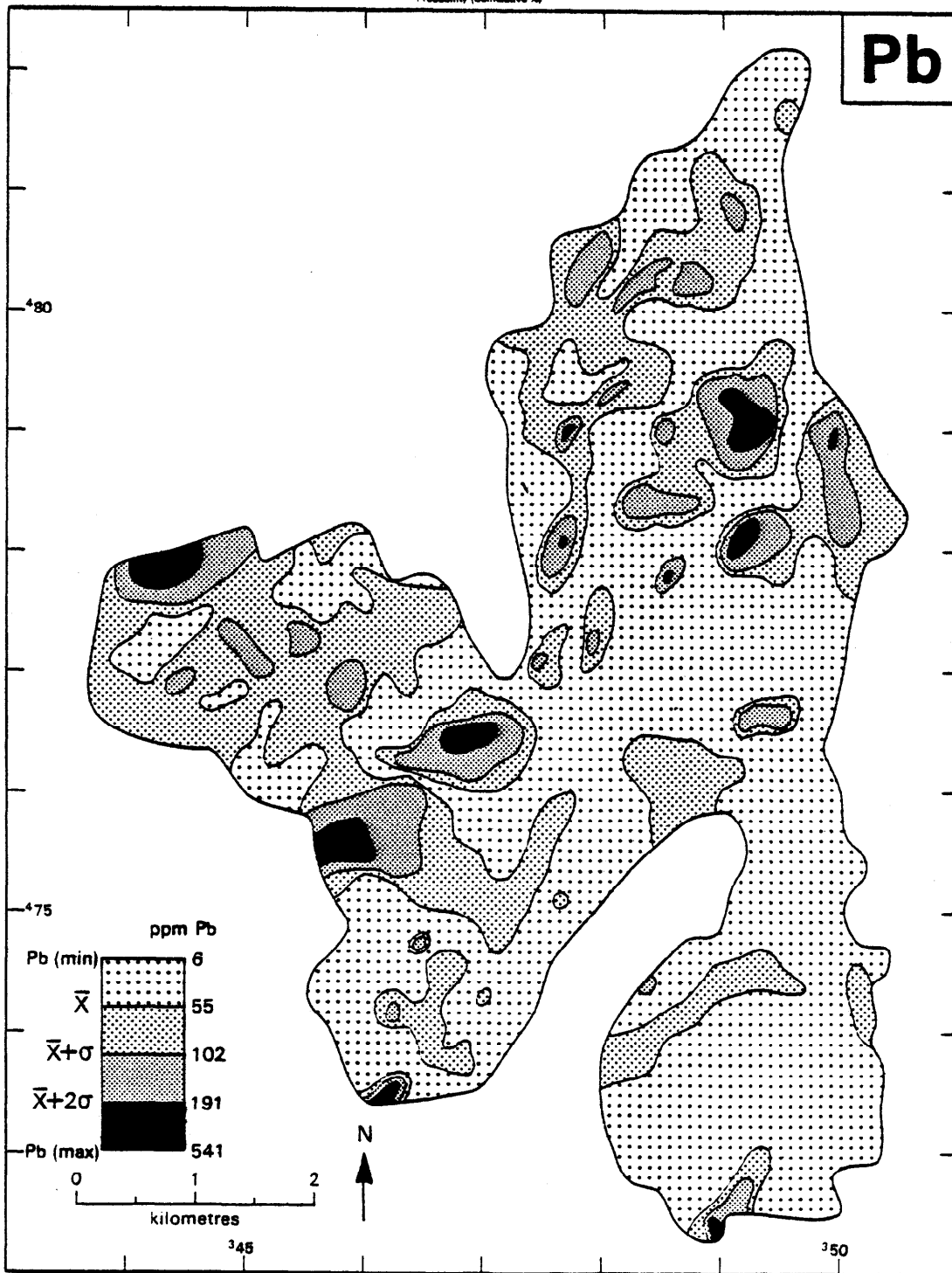
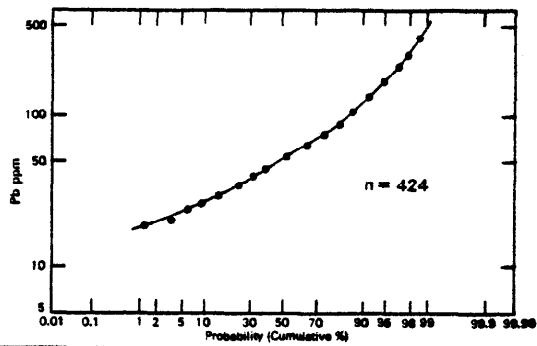


Figure 23 A distribution map of lead in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV).

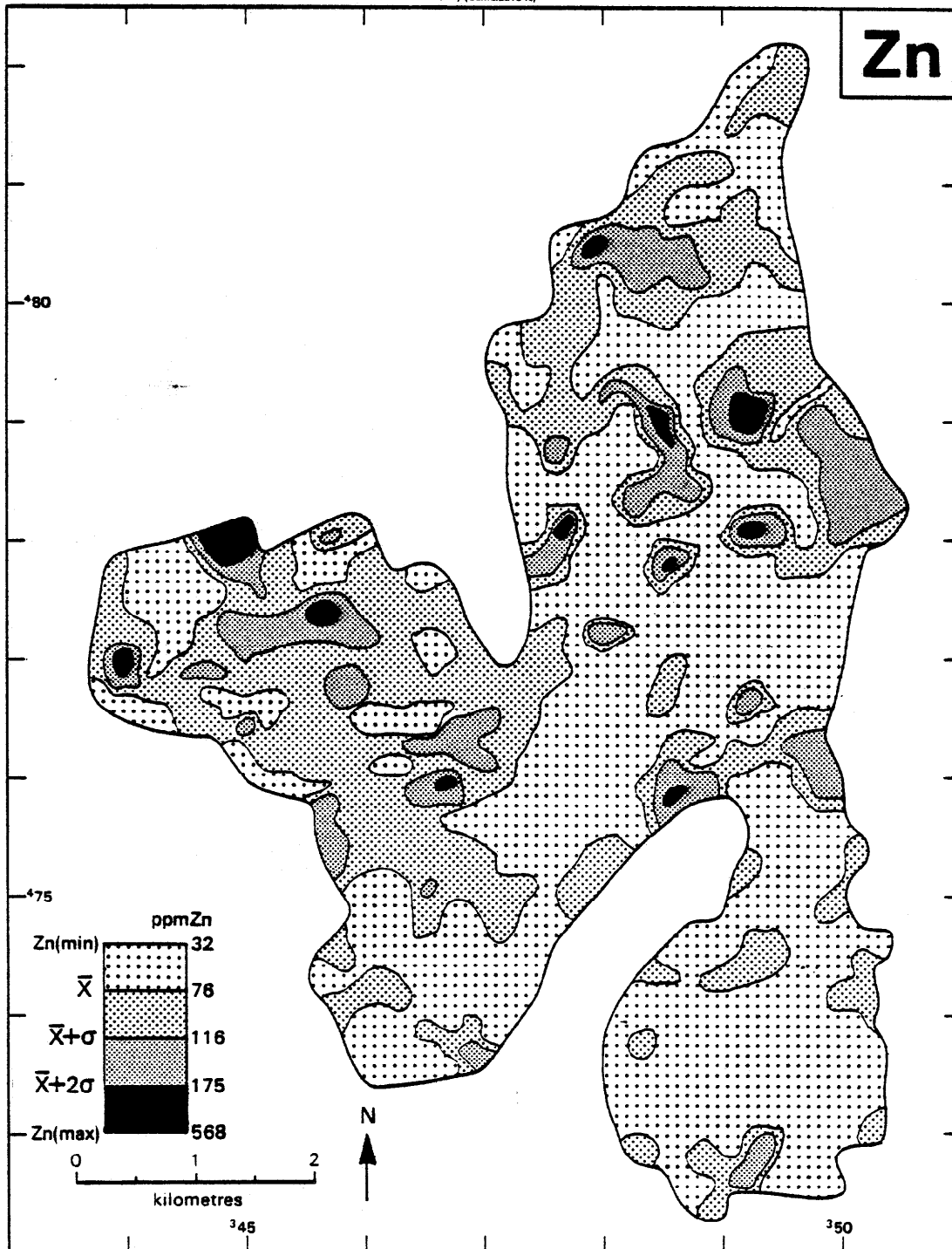
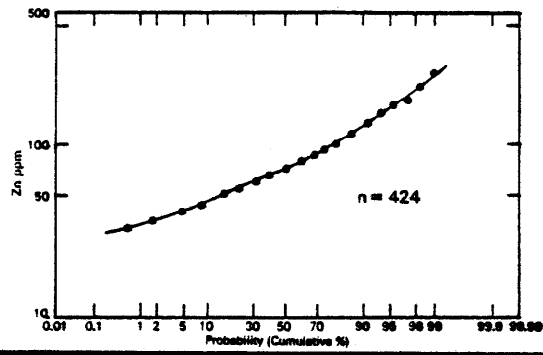


Figure 24 A distribution map of zinc in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV).

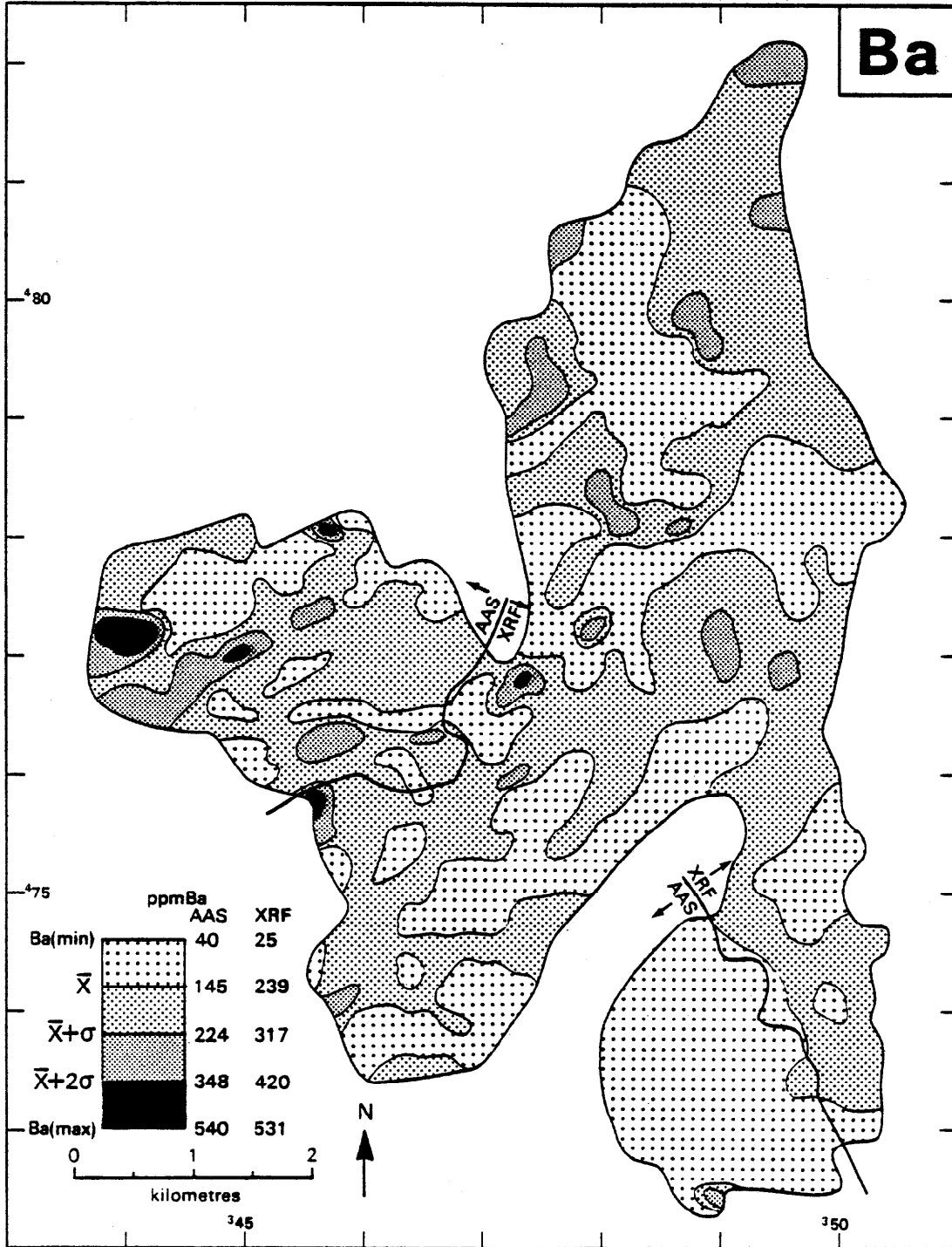
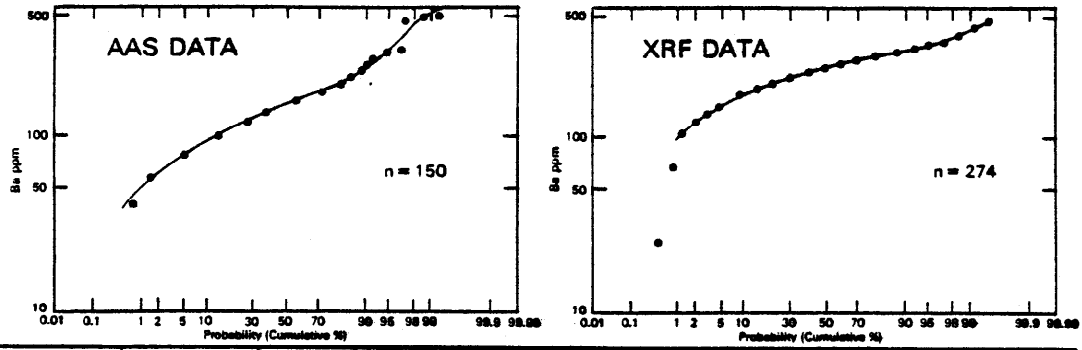


Figure 25 A distribution map of barium in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV).

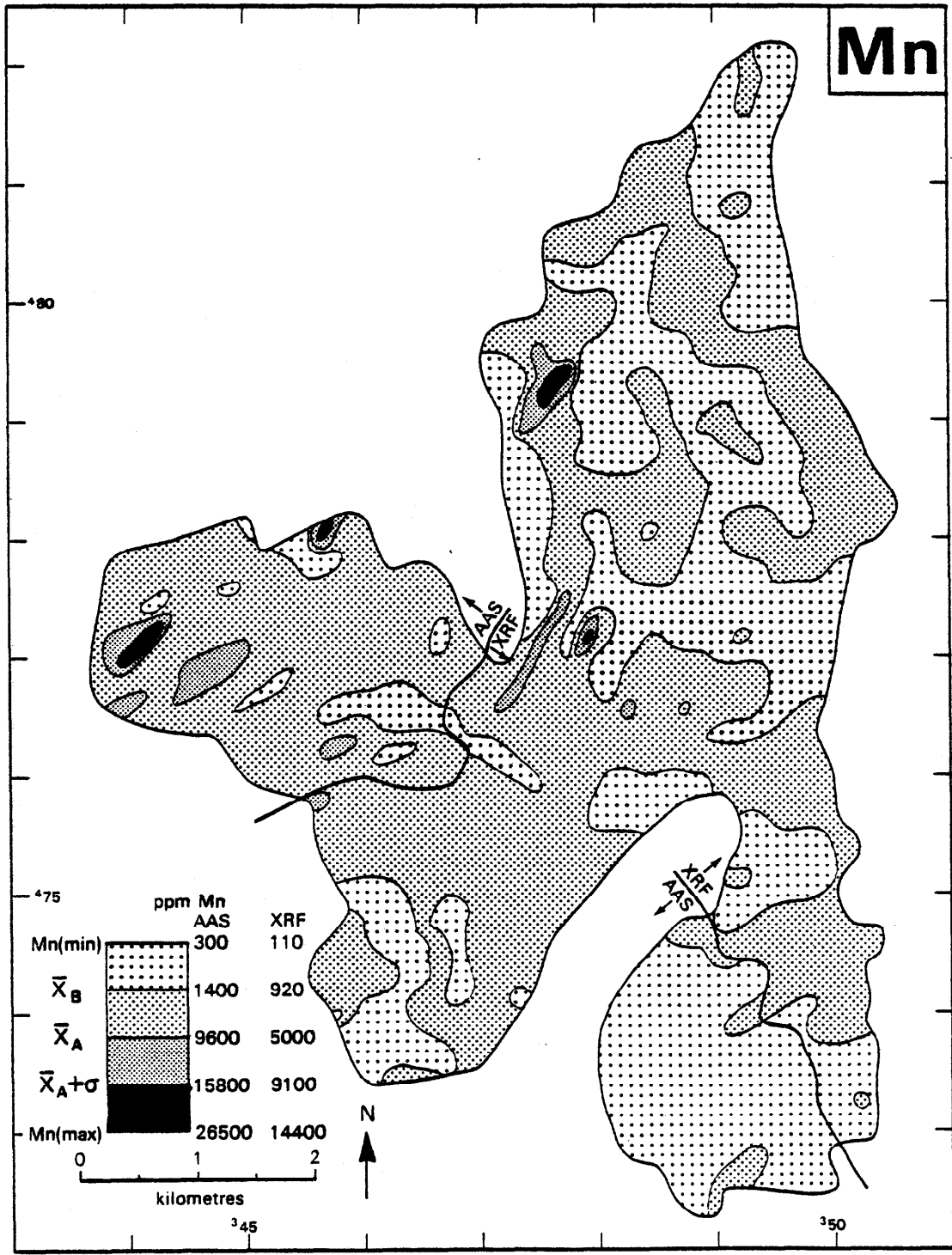
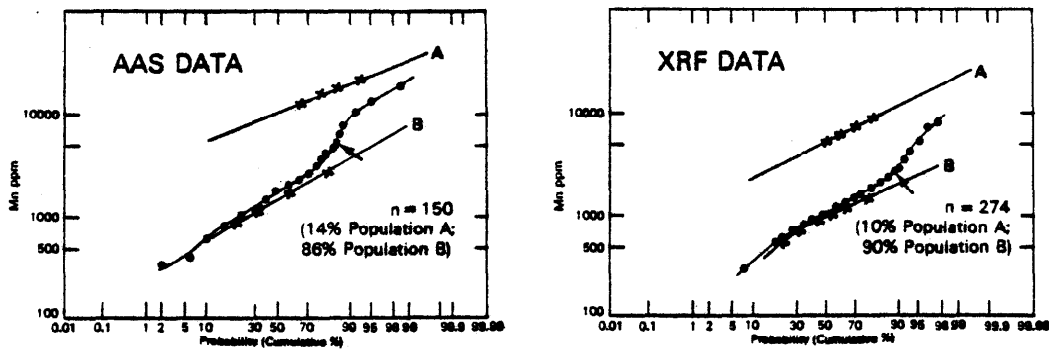


Figure 26 A distribution map of manganese in the soils from Warton Crag, Silverdale, Arnside and Beetham (Area IV).

The anomalies associated with iron workings are probably the result of scavenging the base metals by iron and manganese minerals. None of are significantly high and they cannot be considered worthy of further work.

ACKNOWLEDGEMENTS

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APPENDIX
Locational data

Sample Number	Grid Reference	
	Easting	Northing
HBS5083	34875	49230
HBS5084	34900	49230
HBS5085	34924	49230
HBS5086	34948	49230
HBS5087	34974	49230
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HBS5092	34964	49200
HBS5093	34988	49200
HBS5094	34848	49170
HBS5095	34873	49170
HBS5096	34900	49170
HBS5097	34925	49170
HBS5098	34950	49170
HBS5099	34975	49170
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HBS5151	34976	48990

Sample Number	Grid Reference	
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Sample Number	Grid Reference	
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Sample Number	Grid Reference	
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HBS5478	34449	48665
HBS5479	34480	48665
HBS5480	34512	48665
HBS5481	34533	48665
HBS5482	34550	48665
HBS5483	34573	48665
HBS5484	34601	48662
HBS5485	34625	48665
HBS5486	34409	48635
HBS5487	34434	48635
HBS5488	34459	48635
HBS5489	34480	48648
HBS5490	34504	48640

Sample Number	Grid Reference	
	Easting	Northing
HBS5491	34530	48640
HBS5492	34564	48631
HBS5493	34584	48634
HBS5494	34607	48635
HBS5495	34630	48634
HBS5496	34459	48605
HBS5497	34485	48605
HBS5498	34510	48605
HBS5499	34535	48604
HBS5500	34562	48604
HBS5501	34562	48604
HBS5502	34588	48606
HBS5503	34615	48607
HBS5504	34637	48610
HBS5505	34457	48575
HBS5506	34480	48575
HBS5507	34504	48575
HBS5508	34530	48575
HBS5509	34554	48575
HBS5510	34580	48575
HBS5511	34604	48575
HBS5512	34630	48575
HBS5513	34464	48543
HBS5514	34490	48543
HBS5515	34514	48543
HBS5516	34539	48543
HBS5517	34564	48543
HBS5518	34590	48543
HBS5519	34480	48513
HBS5520	34505	48513
HBS5521	34530	48513
HBS5522	34556	48513
HBS5524	34490	48484
HBS5525	34515	48484
HBS5526	34538	48484
HBS5527	34503	48460
HBS5528	34520	48460
HBS5530	34344	48559
HBS5531	34346	48535
HBS5532	34347	48504
HBS5533	34354	48475
HBS5534	34354	48445
HBS5535	34361	48416
HBS5536	34360	48382
HBS5537	34360	48363
HBS5538	34339	48397
HBS5539	34328	48424
HBS5540	34326	48454
HBS5541	34326	48473
HBS5542	34321	48498
HBS5543	34299	48510
HBS5544	34302	48535
HBS5545	34296	48558
HBS5546	34295	48582
HBS5547	34325	48522
HBS5548	34326	48558
HBS5549	34324	48584
HBS5550	34332	48606
HBS5551	34299	48620
HBS5552	34314	48647
HBS5553	34289	48652
HBS5554	34298	48672
HBS5555	34294	48693
HBS5556	34326	48625
HBS5557	34263	48697
HBS5558	34271	48670
HBS5559	34261	48653
HBS5560	34273	48617
HBS5561	34266	48582
HBS5562	34273	48541

Sample Number	Grid Reference	
	Easting	Northing
HBS5563	34282	48484
HBS5564	34297	48450
HBS5565	34312	48402
HBS5566	34281	48414
HBS5567	34305	48372
HBS5568	34290	48355
HBS5569	34298	48329
HBS5570	34330	48320
HBS5571	34312	48311
HBS5572	34335	48276
HBS5573	34360	48252
HBS5574	34403	48269
HBS5575	34379	48271
HBS5576	34355	48303
HBS5577	34344	48325
HBS5578	34334	48350
HBS5579	34336	48372
HBS5580	34365	48340
HBS5581	34382	48315
HBS5600	34880	47469
HBS5601	34880	47469
HBS5602	34847	47435
HBS5603	34872	47435
HBS5604	34897	47435
HBS5605	34922	47435
HBS5606	34822	47405
HBS5607	34847	47405
HBS5608	34872	47405
HBS5609	34897	47405
HBS5610	34922	47405
HBS5611	34858	47399
HBS5612	34806	47376
HBS5613	34831	47376
HBS5614	34856	47376
HBS5615	34881	47376
HBS5616	34906	47376
HBS5617	34931	47376
HBS5618	34956	47376
HBS5619	34865	47390
HBS5620	34812	47347
HBS5621	34837	47347
HBS5622	34862	47347
HBS5623	34887	47347
HBS5624	34912	47347
HBS5625	34937	47347
HBS5626	34964	47347
HBS5627	34818	47316
HBS5628	34844	47311
HBS5629	34869	47316
HBS5630	34894	47316
HBS5631	34918	47316
HBS5632	34947	47316
HBS5633	34969	47316
HBS5634	34834	47288
HBS5635	34859	47288
HBS5636	34884	47288
HBS5637	34909	47288
HBS5638	34935	47288
HBS5639	34958	47288
HBS5640	34980	47288
HBS5641	34865	47256
HBS5642	34888	47256
HBS5643	34914	47256
HBS5644	34937	47256
HBS5645	34964	47257
HBS5646	34986	47257
HBS5647	34882	47250
HBS5648	34890	47249
HBS5649	34875	47240
HBS5650	34886	47236

Sample Number	Grid Reference	
	Easting	Northing
HBS5651	34888	47245
HBS8800	34700	47454
HBS8801	34704	47430
HBS8802	34703	47400
HBS8803	34698	47384
HBS8804	34687	47373
HBS8805	34667	47358
HBS8806	34624	47352
HBS8807	34602	47350
HBS8808	34598	47367
HBS8809	34598	47367
HBS8810	34621	47366
HBS8811	34637	47366
HBS8812	34654	47370
HBS8813	34673	47377
HBS8814	34688	47389
HBS8815	34673	47394
HBS8816	34653	47392
HBS8817	34634	47391
HBS8818	34618	47394
HBS8819	34600	47396
HBS8820	34593	47381
HBS8821	34575	47402
HBS8822	34627	47416
HBS8823	34649	47407
HBS8824	34662	47402
HBS8825	34676	47414
HBS8826	34684	47431
HBS8827	34662	47432
HBS8828	34646	47436
HBS8829	34664	47455
HBS8830	34650	47459
HBS8831	34650	47475
HBS8832	34759	47662
HBS8833	34720	47640
HBS8834	34720	47662
HBS8835	34689	47667
HBS8836	34673	47643
HBS8837	34690	47644
HBS8838	34705	47629
HBS8839	34735	47600
HBS8840	34710	47600
HBS8841	34684	47600
HBS8842	34660	47571
HBS8843	34686	47571
HBS8844	34708	47571
HBS8845	34731	47572
HBS8846	34756	47575
HBS8847	34769	47539
HBS8848	34742	47533
HBS8849	34719	47539
HBS8850	34694	47540
HBS8851	34669	47540
HBS8852	34646	47540
HBS8853	34653	47510
HBS8854	34677	47510
HBS8855	34702	47510
HBS8856	34727	47510
HBS8857	34753	47510
HBS8858	34768	47510
HBS8859	34731	47418
HBS8860	34731	47454
HBS8861	34743	47482
HBS8862	34714	47480
HBS8863	34675	47476
HBS8864	34607	47436
HBS8865	34583	47433
HBS8866	34561	47432
HBS8867	34573	47458
HBS8868	34599	47461

Sample Number	Grid Reference	
	Easting	Northing
HBS8869	34566	47547
HBS8870	34579	47525
HBS8871	34593	47501
HBS8872	34602	47529
HBS8873	34602	47548
HBS8874	34585	47566
HBS8875	34564	47582
HBS8876	35032	47306
HBS8877	35023	47328
HBS8878	35025	47370
HBS8879	35010	47392
HBS8880	35019	47408
HBS8881	35015	47443
HBS8882	35033	47460
HBS8883	35005	47469
HBS8884	35011	47537
HBS8885	34995	47547
HBS8886	34994	47518
HBS8887	34990	47496
HBS8888	34972	47507
HBS8889	34943	47482
HBS8890	34934	47460
HBS8891	34970	47436
HBS8892	34995	47435
HBS8893	34997	47411
HBS8894	34975	47409
HBS8895	34988	47385
HBS8896	34907	47477
HBS8897	34922	47483
HBS8898	34915	47517
HBS8899	34948	47548
HBS8900	34930	47567
HBS8901	34960	47575
HBS8902	34947	47596
HBS8903	34983	47603
HBS8904	34911	47597
HBS8905	34884	47598
HBS8906	34856	47584
HBS8907	34823	47568
HBS8908	34798	47540
HBS8909	34769	47596
HBS8910	34798	47639
HBS8911	34815	47595
HBS8912	34837	47627
HBS8913	34864	47628
HBS8914	34886	47617
HBS8915	34911	47612
HBS8917	34951	47633
HBS8918	34928	47642
HBS8919	34906	47639
HBS8920	34800	47660
HBS8921	34825	47660
HBS8922	34900	47660
HBS8923	34925	47660
HBS8924	34952	47660
HBS8925	34850	47660
HBS8926	34875	47660
HBS9000	34910	46567
HBS9001	34935	46567
HBS9002	34959	46567
HBS9003	34991	46540
HBS9004	35016	46540
HBS9005	35040	46540
HBS9006	35065	46540
HBS9007	35091	46540
HBS9008	35116	46540
HBS9009	35141	46540
HBS9010	35166	46540
HBS9011	35189	46540
HBS9012	35213	46540

Sample Number	Grid Reference	
	Easting	Northing
HBS9013	35238	46540
HBS9014	35260	46570
HBS9015	35234	46570
HBS9016	35209	46570
HBS9017	35185	46570
HBS9018	35159	46570
HBS9019	35133	46570
HBS9020	35108	46570
HBS9021	35084	46570
HBS9022	35059	46570
HBS9023	35034	46570
HBS9024	35008	46570
HBS9026	34978	46569
HBS9027	34962	46545
HBS9028	34935	46545
HBS9029	34907	46545
HBS9030	34880	46567
HBS9031	34854	46567
HBS9032	34830	46567
HBS9033	34850	46600
HBS9034	34876	46600
HBS9035	34900	46600
HBS9036	34928	46600
HBS9037	34951	46600
HBS9038	34975	46605
HBS9039	35004	46600
HBS9040	35029	46600
HBS9041	35052	46600
HBS9042	35079	46600
HBS9043	35104	46600
HBS9044	35129	46600
HBS9045	35154	46600
HBS9046	35179	46600
HBS9047	35205	46600
HBS9048	35230	46600
HBS9049	35255	46600
HBS9050	35280	46600
HBS9051	35280	46600
HBS9052	35300	46630
HBS9053	35276	46630
HBS9054	35252	46630
HBS9055	35226	46630
HBS9056	35200	46630
HBS9057	35174	46630
HBS9058	35149	46630
HBS9059	35124	46630
HBS9060	35100	46630
HBS9061	35072	46630
HBS9062	35047	46630
HBS9063	35022	46630
HBS9064	35000	46630
HBS9065	34980	46630
HBS9066	34955	46630
HBS9067	34931	46630
HBS9068	34906	46630
HBS9069	34881	46630
HBS9070	34855	46630
HBS9071	34854	46660
HBS9072	34880	46660
HBS9073	34905	46660
HBS9074	34932	46660
HBS9075	34955	46660
HBS9076	34980	46660
HBS9077	35007	46660
HBS9078	35032	46660
HBS9079	35057	46660
HBS9080	35082	46660
HBS9081	35106	46660
HBS9082	35132	46660
HBS9083	35157	46660

Sample Number	Grid Reference	
	Easting	Northing
HBS9084	35182	46660
HBS9085	35207	46660
HBS9086	35232	46660
HBS9087	35258	46660
HBS9088	35283	46660
HBS9089	35307	46660
HBS9090	35302	46690
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HBS9092	35251	46690
HBS9093	35226	46690
HBS9094	35201	46690
HBS9095	35183	46690
HBS9096	35158	46690
HBS9097	35132	46690
HBS9098	35103	46690
HBS9099	35077	46690
HBS9100	35051	46690
HBS9101	35026	46690
HBS9102	35001	46690
HBS9103	34982	46690
HBS9104	34957	46690
HBS9105	34932	46690
HBS9106	34907	46690
HBS9107	34882	46690
HBS9108	34856	46690
HBS9109	34910	46720
HBS9110	34935	46720
HBS9111	34960	46720
HBS9112	34985	46720
HBS9113	35011	46720
HBS9114	35037	46720
HBS9115	35063	46720
HBS9116	35089	46720
HBS9117	35114	46720
HBS9118	35139	46720
HBS9119	35164	46720
HBS9120	35189	46720
HBS9121	35214	46720
HBS9122	35239	46720
HBS9123	35264	46720
HBS9124	35264	46720
HBS9125	35253	46751
HBS9126	35229	46751
HBS9127	35203	46751
HBS9128	35100	46751
HBS9129	35070	46751
HBS9130	35045	46751
HBS9131	35020	46751
HBS9132	34985	46750
HBS9133	34962	46750
HBS9134	34935	46750
HBS9135	34935	46780
HBS9136	34960	46780
HBS9137	34985	46780
HBS9138	35009	46780
HBS9139	35034	46780
HBS9140	35060	46780
HBS9141	35110	46780
HBS9142	35161	46780
HBS9143	35186	46780
HBS9144	35211	46780
HBS9145	35235	46780
HBS9146	35261	46780
HBS9147	35250	46810
HBS9148	35225	46815
HBS9149	35201	46816
HBS9150	35175	46816
HBS9151	35150	46810
HBS9152	35125	46810
HBS9153	35100	46810

Sample Number	Grid Reference	
	Easting	Northing
HBS9154	35018	46840
HBS9155	35042	46840
HBS9156	35144	46840
HBS9157	35172	46840
HBS9158	35197	46840
HBS9159	35221	46840
HBS9160	35247	46840
HBS9161	35280	46870
HBS9162	35255	46870
HBS9163	35229	46870
HBS9164	35204	46870
HBS9165	35179	46870
HBS9166	35131	46870
HBS9167	35107	46870
HBS9168	35082	46870
HBS9169	35055	46870
HBS9170	35032	46870
HBS9172	35006	46900
HBS9173	35031	46900
HBS9174	35057	46900
HBS9175	35082	46900
HBS9176	35107	46900
HBS9177	35132	46900
HBS9178	35157	46900
HBS9179	35183	46900
HBS9180	35206	46900
HBS9182	35258	46900
HBS9183	35283	46900
HBS9184	35258	46930
HBS9185	35233	46930
HBS9186	35208	46930
HBS9187	35183	46930
HBS9188	35158	46930
HBS9189	35132	46930
HBS9191	35083	46930
HBS9192	35057	46930
HBS9193	35031	46930
HBS9194	35006	46930
HBS9197	35062	46960
HBS9198	35087	46960
HBS9199	35112	46960
HBS9200	35136	46960
HBS9201	35162	46960
HBS9202	35187	46960
HBS9203	35213	46960
HBS9204	35165	46990
HBS9205	35139	46990
HBS9206	35114	46990
HBS9207	35089	46990
HBS9209	34942	46810
HBS9210	34967	46810
HBS9211	34992	46810
HBS9212	34993	46840
HBS9213	34969	46840
HBS9214	34944	46840
HBS9215	34935	46870
HBS9216	34960	46870
HBS9217	34984	46870
HBS9220	35242	47014
HBS9221	35267	47014
HBS9222	35291	47014
HBS9223	35297	47044
HBS9224	35272	47044
HBS9225	35246	47044
HBS9226	35246	47044
HBS9227	35222	47044
HBS9228	35200	47044
HBS9229	35224	47076
HBS9230	35249	47076
HBS9231	35274	47076

Sample Number	Grid Reference	
	Easting	Northing
HBS9232	35300	47076
HBS9233	35307	47107
HBS9234	35282	47107
HBS9235	35257	47107
HBS9236	35319	47138
HBS9237	35295	47138
HBS9238	35269	47138
HBS9239	35244	47138
HBS9240	35284	47169
HBS9241	35309	47169
HBS9243	35291	47229
HBS9244	35316	47229
HBS9245	35283	47258
HBS9246	35307	47258
HBS9247	35331	47258
HBS9248	35323	47288
HBS9249	35298	47288
HBS9250	35273	47288
HBS9251	35298	47306
HBS9252	35315	47306
HBS9253	35299	47323
HBS9254	35312	47333
HBS9255	35296	47340
HBS9256	35338	47302
HBS9257	35334	47328
HBS9258	35346	47352
HBS9259	35347	47316
HBS9300	35396	48130
HBS9301	35420	48130
HBS9302	35445	48130
HBS9303	35470	48130
HBS9304	35496	48130
HBS9305	35485	48100
HBS9306	35460	48100
HBS9307	35435	48104
HBS9308	35410	48100
HBS9309	35384	48100
HBS9310	35359	48100
HBS9311	35342	48070
HBS9312	35367	48070
HBS9313	35392	48070
HBS9314	35418	48070
HBS9315	35443	48070
HBS9316	35468	48070
HBS9317	35493	48070
HBS9318	35518	48070
HBS9319	35538	48040
HBS9320	35512	48040
HBS9321	35486	48040
HBS9322	35461	48040
HBS9323	35436	48040
HBS9324	35411	48040
HBS9325	35387	48040
HBS9326	35362	48040
HBS9327	35336	48040
HBS9328	35319	48010
HBS9329	35344	48010
HBS9330	35364	48010
HBS9331	35393	48010
HBS9332	35420	48010
HBS9333	35445	48010
HBS9334	35470	48010
HBS9335	35495	48010
HBS9336	35520	48010
HBS9337	35546	48010
HBS9338	35547	47980
HBS9339	35521	47980
HBS9340	35499	47980
HBS9341	35474	47980
HBS9342	35449	47980

Sample Number	Grid Reference	
	Easting	Northing
HBS9343	35424	47980
HBS9344	35401	47980
HBS9345	35370	47980
HBS9346	35345	47980
HBS9347	35320	47980
HBS9348	35302	47948
HBS9349	35326	47948
HBS9350	35326	47948
HBS9351	35351	47948
HBS9352	35376	47948
HBS9353	35404	47948
HBS9354	35426	47947
HBS9355	35450	47948
HBS9356	35479	47948
HBS9357	35503	47948
HBS9358	35528	47948
HBS9359	35553	47948
HBS9360	35578	47948
HBS9361	35604	47948
HBS9362	35630	47948
HBS9363	35643	47919
HBS9364	35618	47919
HBS9365	35592	47919
HBS9366	35567	47919
HBS9367	35541	47919
HBS9368	35517	47919
HBS9369	35492	47919
HBS9370	35467	47919
HBS9371	35442	47919
HBS9372	35418	47919
HBS9373	35392	47910
HBS9374	35368	47925
HBS9375	35342	47919
HBS9376	35317	47919
HBS9377	35300	47890
HBS9378	35325	47890
HBS9381	35425	47890
HBS9382	35450	47890
HBS9383	35476	47890
HBS9384	35500	47890
HBS9385	35525	47890
HBS9386	35550	47890
HBS9387	35575	47890
HBS9388	35600	47890
HBS9389	35625	47890
HBS9390	35650	47890
HBS9391	35675	47890
HBS9392	35673	47860
HBS9393	35647	47860
HBS9394	35622	47860
HBS9395	35597	47860
HBS9396	35572	47860
HBS9397	35546	47860
HBS9398	35521	47860
HBS9399	35496	47860
HBS9400	35471	47860
HBS9401	35446	47860
HBS9402	35421	47860
HBS9403	35396	47860
HBS9404	35321	47860
HBS9405	35298	47860
HBS9406	35310	47830
HBS9407	35335	47830
HBS9408	35360	47830
HBS9410	35407	47820
HBS9411	35435	47830
HBS9412	35460	47830
HBS9413	35486	47830
HBS9414	35511	47830
HBS9415	35536	47830

Sample Number	Grid Reference	
	Easting	Northing
HBS9416	35561	47830
HBS9417	35587	47830
HBS9418	35611	47830
HBS9419	35636	47830
HBS9420	35662	47830
HBS9421	35687	47830
HBS9422	35679	47800
HBS9423	35654	47800
HBS9424	35629	47800
HBS9425	35604	47800
HBS9426	35579	47800
HBS9427	35554	47800
HBS9428	35528	47800
HBS9429	35503	47800
HBS9430	35478	47800
HBS9431	35453	47800
HBS9432	35428	47800
HBS9433	35402	47800
HBS9434	35402	47800
HBS9435	35378	47800
HBS9436	35352	47800
HBS9437	35327	47800
HBS9438	35302	47800
HBS9439	35300	47770
HBS9440	35326	47770
HBS9441	35351	47770
HBS9442	35376	47770
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HBS9444	35425	47770
HBS9445	35451	47770
HBS9446	35476	47770
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HBS9460	35488	47740
HBS9461	35463	47740
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HBS9463	35412	47740
HBS9464	35386	47740
HBS9465	35361	47740
HBS9466	35335	47740
HBS9467	35328	47710
HBS9468	35354	47710
HBS9469	35378	47710
HBS9470	35403	47710
HBS9471	35428	47710
HBS9472	35453	47710
HBS9473	35478	47710
HBS9474	35504	47710
HBS9475	35529	47710
HBS9476	35554	47710
HBS9477	35579	47710
HBS9478	35605	47710
HBS9479	35629	47710
HBS9480	35612	47680
HBS9481	35586	47680
HBS9482	35561	47680
HBS9483	35535	47680
HBS9484	35510	47680
HBS9485	35485	47680

Sample Number	Grid Reference	
	Easting	Northing
HBS9486	35459	47680
HBS9487	35433	47680
HBS9488	35408	47680
HBS9489	35383	47680
HBS9490	35358	47680
HBS9491	35333	47680
HBS9492	35334	47649
HBS9493	35358	47649
HBS9494	35384	47649
HBS9495	35408	47649
HBS9496	35434	47649
HBS9497	35459	47649
HBS9498	35484	47649
HBS9499	35509	47649
HBS9500	35534	47649
HBS9501	35560	47649
HBS9502	35586	47649
HBS9503	35556	47619
HBS9504	35531	47619
HBS9505	35505	47619
HBS9506	35480	47619
HBS9507	35454	47619
HBS9508	35430	47619
HBS9509	35406	47619
HBS9510	35381	47619
HBS9511	35355	47619
HBS9512	35330	47619
HBS9513	35334	47594
HBS9522	34974	47690
HBS9523	34959	47690
HBS9524	34934	47690
HBS9525	34909	47690
HBS9526	34885	47690
HBS9527	34860	47690
HBS9528	34836	47691
HBS9529	34813	47695
HBS9530	34786	47690
HBS9531	34760	47690
HBS9532	34734	47679
HBS9533	34750	47709
HBS9534	34775	47710
HBS9535	34793	47720
HBS9537	34849	47720
HBS9538	34873	47720
HBS9539	34898	47720
HBS9540	34922	47720
HBS9541	34947	47720
HBS9542	34972	47720
HBS9543	34997	47720
HBS9544	34997	47750
HBS9545	34972	47750
HBS9546	34947	47750
HBS9547	34923	47750
HBS9548	34896	47750
HBS9549	34872	47750
HBS9550	34850	47753
HBS9551	34823	47750
HBS9552	34798	47750
HBS9553	34772	47751
HBS9554	34753	47751
HBS9555	34758	47780
HBS9556	34783	47780
HBS9557	34810	47780
HBS9558	34830	47780
HBS9559	34858	47780
HBS9560	34883	47780
HBS9561	34883	47780
HBS9562	34908	47780
HBS9563	34937	47772
HBS9564	34953	47781

Sample Number	Grid Reference	
	Easting	Northing
HBS9565	34983	47780
HBS9566	35007	47777
HBS9567	35002	47810
HBS9568	34969	47810
HBS9569	34944	47810
HBS9570	34919	47810
HBS9571	34896	47810
HBS9572	34869	47810
HBS9573	34844	47810
HBS9574	34819	47810
HBS9575	34796	47810
HBS9576	34769	47810
HBS9577	34746	47810
HBS9578	34729	47840
HBS9579	34754	47840
HBS9580	34779	47840
HBS9581	34804	47840
HBS9582	34829	47840
HBS9583	34854	47840
HBS9584	34879	47840
HBS9585	34904	47840
HBS9586	34926	47840
HBS9587	34950	47840
HBS9588	34998	47847
HBS9589	35051	47826
HBS9590	35012	47866
HBS9591	34996	47890
HBS9592	34968	47863
HBS9594	34938	47870
HBS9595	34886	47870
HBS9596	34863	47870
HBS9597	34838	47870
HBS9598	34814	47870
HBS9599	34787	47870
HBS9600	34762	47870
HBS9601	34733	47870
HBS9602	34978	47900
HBS9603	35005	47900
HBS9604	34987	47930
HBS9605	34962	47930
HBS9606	34940	47960
HBS9607	34915	47960
HBS9608	34952	47990
HBS9609	34926	47990
HBS9610	34901	47990
HBS9611	34876	47990
HBS9700	34935	48200
HBS9701	34960	48200
HBS9702	34912	48170
HBS9703	34927	48170
HBS9704	34952	48170
HBS9705	34899	48138
HBS9706	34933	48138
HBS9707	34832	48110
HBS9708	34858	48110
HBS9709	34883	48110
HBS9710	34934	48110
HBS9714	34942	48080
HBS9715	34916	48080
HBS9716	34893	48080
HBS9717	34867	48080
HBS9718	34841	48080
HBS9719	34768	48050
HBS9720	34792	48050
HBS9722	34842	48050
HBS9723	34869	48050
HBS9724	34893	48050
HBS9725	34918	48050
HBS9726	34943	48050
HBS9730	34955	48020

Sample Number	Grid Reference	
	Easting	Northing
HBS9731	34930	48020
HBS9732	34903	48020
HBS9733	34881	48020
HBS9734	34855	48020
HBS9735	34829	48020
HBS9736	34803	48020
HBS9737	34780	48020
HBS9738	34782	47990
HBS9739	34805	47990
HBS9740	34831	47990
HBS9741	34857	47990
HBS9742	34893	47962
HBS9743	34868	47962
HBS9744	34843	47956
HBS9745	34818	47952
HBS9746	34795	47956
HBS9747	34769	47962
HBS9748	34747	47962
HBS9749	34724	47962
HBS9750	34712	47930
HBS9751	34738	47930
HBS9752	34763	47930
HBS9753	34787	47930
HBS9754	34808	47930
HBS9755	34837	47930
HBS9756	34862	47930
HBS9757	34887	47930
HBS9758	34909	47926
HBS9759	34935	47930
HBS9760	34951	47900
HBS9761	34930	47903
HBS9762	34900	47900
HBS9763	34877	47900
HBS9764	34848	47900
HBS9765	34823	47900
HBS9766	34797	47900
HBS9767	34797	47900
HBS9768	34773	47900
HBS9769	34738	47900

AAS Soil data

Sample Number	Copper	Lead	Zinc	Barium	Manganese	Sample Number	Copper	Lead	Zinc	Barium	Manganese
HBS5083	36	180	290	180	12500	HBS5153	30	65	110	240	5000
HBS5084	16	115	116	120	4500	HBS5154	20	135	180	160	5800
HBS5085	14	125	80	120	5200	HBS5155	18	110	92	160	3600
HBS5086	74	160	190	160	2750	HBS5156	24	60	96	180	4600
HBS5087	40	70	90	140	1750	HBS5157	22	165	160	180	6500
HBS5088	20	155	340	140	8000	HBS5158	28	75	96	160	7500
HBS5089	18	55	70	120	1900	HBS5159	26	125	160	160	3400
HBS5090	32	75	94	100	6500	HBS5160	28	45	70	220	1850
HBS5091	30	130	160	100	5000	HBS5161	32	75	116	240	2600
HBS5092	28	40	58	160	2050	HBS5162	28	60	80	200	2350
HBS5093	30	45	70	200	1450	HBS5163	20	40	62	180	1600
HBS5094	16	45	108	120	1350	HBS5164	20	100	104	180	5400
HBS5095	22	100	116	140	3000	HBS5165	30	95	130	160	3500
HBS5096	92	65	86	140	5400	HBS5166	34	85	118	180	4600
HBS5097	20	140	160	140	4300	HBS5167	34	75	120	200	2350
HBS5098	34	140	240	200	8000	HBS5168	32	70	92	220	2900
HBS5099	14	150	300	120	1200	HBS5169	48	90	114	200	2500
HBS5100	20	70	90	260	3700	HBS5170	22	95	114	140	5000
HBS5101	22	55	78	200	3250	HBS5171	22	65	86	220	2750
HBS5102	52	95	120	280	10000	HBS5172	68	65	94	200	3500
HBS5103	34	100	108	180	2800	HBS5173	28	85	106	220	3000
HBS5104	22	90	72	120	950	HBS5174	38	80	110	240	2250
HBS5105	30	150	170	320	21000	HBS5175	24	100	110	220	3900
HBS5106	22	185	250	120	4000	HBS5176	26	90	112	220	4000
HBS5107	16	40	56	140	800	HBS5177	24	65	92	200	2500
HBS5108	32	140	160	200	12000	HBS5178	30	60	82	200	4100
HBS5109	22	100	108	160	2600	HBS5179	22	110	116	200	4100
HBS5110	30	95	120	220	6000	HBS5180	34	95	108	220	5600
HBS5111	34	75	88	100	1500	HBS5181	28	75	100	160	1150
HBS5112	16	75	88	140	1500	HBS5182	30	60	74	240	1450
HBS5113	24	90	120	200	18000	HBS5183	16	50	76	100	1750
HBS5114	22	110	120	80	7500	HBS5184	34	70	78	160	3000
HBS5115	20	275	140	120	3700	HBS5185	28	60	80	240	7000
HBS5116	38	95	104	280	26000	HBS5186	14	250	74	100	2400
HBS5117	18	40	70	140	2050	HBS5187	36	100	180	240	23500
HBS5118	24	45	30	300	4000	HBS5188	42	200	106	160	3000
HBS5119	16	75	80	80	6000	HBS5189	26	50	66	200	4100
HBS5120	22	145	170	280	6000	HBS5190	34	95	82	160	2050
HBS5121	20	155	140	160	7000	HBS5191	18	50	64	200	1750
HBS5122	24	190	230	240	9000	HBS5192	20	45	50	180	4000
HBS5123	18	105	180	120	2500	HBS5193	16	75	116	120	800
HBS5124	74	190	110	160	5000	HBS5194	14	50	68	140	1900
HBS5125	38	65	88	160	4000	HBS5195	20	155	340	160	3000
HBS5126	36	60	86	160	4000	HBS5196	19	45	70	300	750
HBS5127	24	80	120	120	1300	HBS5197	26	55	86	140	1400
HBS5128	26	85	106	100	2550	HBS5199	22	80	150	240	10500
HBS5129	32	45	74	160	1600	HBS5200	38	265	200	200	2800
HBS5130	20	55	106	200	35000	HBS5201	38	260	210	180	2800
HBS5131	18	55	68	120	1750	HBS5202	22	60	96	160	2500
HBS5132	18	110	106	120	2750	HBS5203	24	55	72	180	2350
HBS5133	26	185	180	240	5500	HBS5204	24	45	66	160	1800
HBS5134	32	95	68	200	4200	HBS5207	10	75	140	160	1300
HBS5135	24	45	74	200	5000	HBS5208	30	70	150	200	2500
HBS5136	30	85	150	220	3700	HBS5209	20	80	190	180	2250
HBS5137	36	50	96	240	4200	HBS5210	22	45	68	220	1550
HBS5138	18	40	64	100	1750	HBS5211	24	40	70	200	1550
HBS5139	18	75	110	140	1200	HBS5212	18	125	260	120	2650
HBS5140	24	240	220	180	6500	HBS5214	16	240	116	120	1650
HBS5141	10	55	60	100	850	HBS5215	20	55	110	140	2550
HBS5142	18	85	130	220	5000	HBS5216	16	60	116	140	1750
HBS5143	34	60	88	120	1750	HBS5217	20	40	58	200	1550
HBS5144	38	75	96	200	3700	HBS5218	20	40	64	140	2600
HBS5145	24	85	72	220	11000	HBS5219	20	120	110	140	4900
HBS5146	20	135	180	300	10000	HBS5220	20	65	160	280	1600
HBS5147	26	205	190	400	9000	HBS5221	10	95	150	160	1500
HBS5148	30	215	240	280	10500	HBS5222	16	210	330	160	2900
HBS5149	14	100	120	140	5200	HBS5223	16	110	200	120	2200
HBS5150	30	60	96	180	2250	HBS5224	14	50	70	140	1600
HBS5151	28	55	94	200	2150	HBS5225	22	80	114	200	15500
HBS5152	32	50	84	240	1500	HBS5226	24	80	120	200	16000

Sample Number	Copper	Lead	Zinc	Barium	Manganese	Sample Number	Copper	Lead	Zinc	Barium	Manganese
HBS5227	22	60	72	180	9000	HBS5354	10	30	60	100	700
HBS5228	44	140	200	240	3700	HBS5355	12	65	90	80	700
HBS5229	26	240	300	220	10000	HBS5356	14	75	104	100	1900
HBS5230	26	120	150	200	2900	HBS5357	20	90	140	140	4200
HBS5231	24	50	48	240	450	HBS5358	20	60	76	60	550
HBS5232	24	160	150	300	6000	HBS5359	16	40	74	80	1750
HBS5233	24	170	160	220	2400	HBS5360	18	20	68	120	2400
HBS5234	10	65	54	140	1500	HBS5361	12	70	84	100	1350
HBS5235	20	60	54	220	700	HBS5362	40	110	130	80	2000
HBS5236	16	110	116	280	8000	HBS5363	16	80	114	160	1500
HBS5237	14	165	106	160	7000	HBS5364	14	55	80	140	1600
HBS5238	14	75	180	200	3000	HBS5365	12	30	60	160	900
HBS5240	54	90	160	140	2650	HBS5366	12	50	70	160	1150
HBS5241	16	65	82	160	2400	HBS5367	14	60	68	140	700
HBS5242	16	115	120	120	3000	HBS5368	34	75	78	160	2150
HBS5243	14	75	310	140	1600	HBS5369	24	70	94	160	1400
HBS5244	18	150	470	160	2900	HBS5370	22	500	74	160	3800
HBS5300	24	70	80	180	2100	HBS5371	14	440	70	140	1700
HBS5301	24	65	76	180	2100	HBS5372	28	175	220	180	3700
HBS5302	12	55	50	300	8000	HBS5373	26	160	250	160	1150
HBS5303	24	55	48	320	10000	HBS5374	10	55	76	200	7500
HBS5304	16	55	72	220	6500	HBS5375	14	35	100	260	14000
HBS5305	14	75	80	260	9500	HBS5376	14	75	94	140	1400
HBS5306	14	75	90	460	13000	HBS5377	24	140	170	180	2800
HBS5307	20	50	94	500	19000	HBS5378	16	50	88	200	2450
HBS5308	16	90	140	180	4000	HBS5379	16	65	100	180	2550
HBS5309	20	45	200	460	26500	HBS5380	10	30	54	160	800
HBS5310	16	45	76	180	2300	HBS5381	14	50	106	200	8000
HBS5311	20	70	94	220	2900	HBS5382	12	50	112	180	4200
HBS5312	22	110	116	300	10000	HBS5383	14	40	76	200	1250
HBS5313	18	75	100	300	13500	HBS5384	8	30	50	120	300
HBS5314	16	50	70	160	1900	HBS5385	8	40	60	140	450
HBS5315	14	60	76	160	2400	HBS5386	8	30	46	120	350
HBS5316	14	55	120	280	15500	HBS5387	10	95	82	160	1900
HBS5317	18	45	80	160	2700	HBS5388	14	60	102	280	15000
HBS5318	16	55	94	480	11500	HBS5389	14	60	76	160	4500
HBS5319	22	135	150	280	2500	HBS5390	18	125	130	160	3900
HBS5320	16	85	106	200	5800	HBS5391	12	50	180	220	12000
HBS5321	20	120	112	160	2650	HBS5392	18	145	120	140	2450
HBS5322	22	95	106	200	1800	HBS5393	24	160	112	220	2900
HBS5323	16	70	130	180	1700	HBS5394	8	40	58	100	650
HBS5324	20	170	140	240	4300	HBS5395	20	90	92	200	3000
HBS5325	30	20	260	280	4900	HBS5396	26	190	150	240	2200
HBS5326	14	60	94	140	3400	HBS5397	14	100	112	160	2050
HBS5327	14	40	72	180	2100	HBS5400	26	100	120	160	3500
HBS5328	12	70	94	120	1700	HBS5401	26	95	116	180	4000
HBS5329	12	40	82	140	1850	HBS5402	50	280	200	320	11500
HBS5330	22	55	74	200	2200	HBS5403	14	50	68	140	1100
HBS5331	14	65	120	140	1900	HBS5404	26	125	120	180	8000
HBS5332	16	35	54	160	600	HBS5405	20	75	92	160	2750
HBS5333	14	65	76	120	2000	HBS5406	40	170	150	180	11000
HBS5334	14	80	80	160	1650	HBS5407	18	55	62	140	650
HBS5335	10	55	60	140	1100	HBS5408	14	50	60	160	900
HBS5336	20	55	76	220	2600	HBS5409	24	125	160	220	2600
HBS5337	12	85	84	120	1550	HBS5410	34	115	100	220	17500
HBS5338	8	50	60	100	1450	HBS5411	16	140	150	100	2300
HBS5339	10	50	44	100	1500	HBS5412	20	145	150	100	2000
HBS5340	18	50	88	180	5000	HBS5413	34	230	280	240	3000
HBS5341	20	75	94	160	4000	HBS5414	22	75	140	220	2850
HBS5342	18	60	84	140	2400	HBS5415	28	45	84	260	1200
HBS5343	20	60	92	160	2800	HBS5416	18	90	96	120	1350
HBS5344	14	50	80	140	2200	HBS5417	26	75	70	160	2900
HBS5345	22	80	104	180	2600	HBS5418	40	70	80	200	2500
HBS5346	22	90	130	160	3500	HBS5419	30	135	200	140	2200
HBS5347	20	70	106	180	7500	HBS5420	30	75	90	240	2500
HBS5348	12	65	104	160	4800	HBS5421	20	140	140	260	2150
HBS5349	46	90	116	140	1800	HBS5422	30	85	116	220	2300
HBS5350	18	50	60	140	1600	HBS5423	24	40	96	220	1000
HBS5351	18	60	76	140	1950	HBS5424	52	145	150	280	16000
HBS5352	24	100	120	140	3000	HBS5425	24	170	150	240	8500
HBS5353	18	85	140	540	23500	HBS5426	22	170	150	160	1800

Sample Number	Copper	Lead	Zinc	Barium	Manganese
HBS5427	98	210	240	240	7000
HBS5428	18	30	58	260	550
HBS5429	22	55	62	160	850
HBS5430	26	80	88	220	1200
HBS5431	22	65	80	200	1150
HBS5432	18	140	120	200	14500
HBS5433	24	175	104	160	1500
HBS5434	26	205	200	300	4800
HBS5435	100	185	150	180	1550
HBS5436	20	85	94	200	5400
HBS5437	28	55	60	160	350
HBS5438	52	390	600	220	3400
HBS5439	28	50	94	200	900
HBS5440	34	215	280	180	1900
HBS5441	36	265	250	180	5800
HBS5442	20	110	92	160	1050
HBS5443	18	75	92	160	500
HBS5444	44	205	240	240	7500
HBS5445	16	110	96	140	1500
HBS5446	50	520	430	260	14500
HBS5447	42	350	320	400	26500
HBS5448	58	280	280	340	16500
HBS5449	24	115	86	100	1600
HBS5450	14	65	84	140	2050
HBS5451	58	430	450	200	5800
HBS5452	68	510	500	220	7500
HBS5453	22	85	112	180	1550
HBS5454	210	125	118	160	1450
HBS5455	42	310	210	200	4800
HBS5456	32	70	130	240	1400
HBS5457	26	150	180	240	11500
HBS5458	18	130	130	140	3900
HBS5459	22	50	66	200	800
HBS5460	34	50	62	180	600
HBS5461	38	340	320	160	2450
HBS5462	36	280	230	140	1550
HBS5463	64	165	116	200	3700
HBS5464	30	45	80	260	1400
HBS5465	30	40	94	200	900
HBS5466	24	240	270	160	4400
HBS5467	16	125	130	100	1000
HBS5468	18	35	94	120	1350
HBS5469	34	40	54	160	950
HBS5470	16	50	70	120	450
HBS5471	64	125	76	140	1000
HBS5472	40	145	90	160	4100
HBS5473	30	55	92	180	1250
HBS5474	38	90	200	220	1700
HBS5475	30	50	86	240	1050
HBS5476	14	165	140	160	4500
HBS5477	20	145	190	140	3000
HBS5478	22	55	64	120	400
HBS5479	14	45	56	120	350
HBS5480	54	90	106	120	1450
HBS5481	470	160	112	100	1500
HBS5482	46	135	120	200	1900
HBS5483	32	240	250	160	1650
HBS5484	20	80	120	160	1350
HBS5485	42	270	480	200	1750
HBS5486	16	130	120	100	1150
HBS5487	18	135	190	100	1900
HBS5488	22	85	92	120	300
HBS5489	24	35	54	140	350
HBS5490	34	130	120	140	2900
HBS5491	22	40	70	120	1100
HBS5492	54	50	62	100	350
HBS5493	10	70	94	80	700
HBS5494	18	145	200	80	4100
HBS5495	34	40	82	180	1150
HBS5496	18	95	140	200	1850
HBS5497	44	85	120	80	1350

Sample Number	Copper	Lead	Zinc	Barium	Manganese
HBS5354	10	30	60	100	700
HBS5355	12	65	90	80	700
HBS5356	14	75	104	100	1900
HBS5357	20	90	140	140	4200
HBS5358	20	60	76	60	550
HBS5359	16	40	74	80	1750
HBS5360	18	20	68	120	2400
HBS5361	12	70	84	100	1350
HBS5362	40	110	130	80	2000
HBS5363	16	80	114	160	1500
HBS5364	14	55	80	140	1600
HBS5365	12	30	60	160	900
HBS5366	12	50	70	160	1150
HBS5367	14	60	68	140	700
HBS5368	34	75	78	160	2150
HBS5369	24	70	94	160	1400
HBS5370	22	500	74	160	3800
HBS5371	14	440	70	140	1700
HBS5372	28	175	220	180	3700
HBS5373	26	160	250	160	1150
HBS5374	10	55	76	200	7500
HBS5375	14	35	100	260	14000
HBS5376	14	75	94	140	1400
HBS5377	24	140	170	180	2800
HBS5378	16	50	88	200	2450
HBS5379	16	65	100	180	2550
HBS5380	10	30	54	160	800
HBS5381	14	50	106	200	8000
HBS5382	12	50	112	180	4200
HBS5383	14	40	76	200	1250
HBS5384	8	30	50	120	300
HBS5385	8	40	60	140	450
HBS5386	8	30	46	120	350
HBS5387	10	95	82	160	1900
HBS5388	14	60	102	280	15000
HBS5389	14	60	76	160	4500
HBS5390	18	125	130	160	3900
HBS5391	12	50	180	220	12000
HBS5392	18	145	120	140	2450
HBS5393	24	160	112	220	2900
HBS5394	8	40	58	100	650
HBS5395	20	90	92	200	3000
HBS5396	26	190	150	240	2200
HBS5397	14	100	112	160	2050
HBS5400	26	100	120	160	3500
HBS5401	26	95	116	180	4000
HBS5402	50	280	200	320	11500
HBS5403	14	50	68	140	1100
HBS5404	26	125	120	180	8000
HBS5405	20	75	92	160	2750
HBS5406	40	170	150	180	11000
HBS5407	18	55	62	140	650
HBS5408	14	50	60	160	900
HBS5409	24	125	160	220	2600
HBS5410	34	115	100	220	17500
HBS5411	16	140	150	100	2300
HBS5412	20	145	150	100	2000
HBS5413	34	230	280	240	3000
HBS5414	22	75	140	220	2850
HBS5415	28	45	84	260	1200
HBS5416	18	90	96	120	1350
HBS5417	26	75	70	160	2900
HBS5418	40	70	80	200	2500
HBS5419	30	135	200	140	2200
HBS5420	30	75	90	240	2500
HBS5421	20	140	140	260	2150
HBS5422	30	85	116	220	2300
HBS5423	24	40	96	220	1000
HBS5424	52	145	150	280	16000
HBS5425	24	170	150	240	8500
HBS5426	22	170	150	160	1800

Sample Number	Copper	Lead	Zinc	Barium	Manganese
HBS5571	18	125	140	200	6500
HBS5572	14	105	92	100	1400
HBS5573	12	35	74	160	1200
HBS5574	20	75	90	240	950
HBS5575	14	350	76	140	1350
HBS5576	30	30	70	160	1150
HBS5577	18	50	92	160	1700
HBS5578	30	215	240	220	4500
HBS5579	24	135	150	220	2850
HBS5580	26	60	112	180	1450
HBS5581	28	55	80	160	1200
HBS5600	72	30	32	120	8000
HBS5601	72	30	34	140	8500
HBS5602	18	80	78	120	500
HBS5603	10	50	40	40	360
HBS5604	12	65	78	120	1800
HBS5605	24	60	88	120	1200
HBS5606	40	30	56	100	900
HBS5607	14	60	64	100	900
HBS5608	14	65	56	60	330
HBS5609	20	30	56	100	950
HBS5610	16	35	50	100	1000
HBS5611	10	60	56	80	600
HBS5612	20	85	42	80	390
HBS5613	34	100	102	80	950
HBS5614	14	35	48	80	430
HBS5615	12	35	54	80	900
HBS5616	58	25	64	140	1600
HBS5617	20	30	54	120	1250
HBS5618	14	25	50	100	1000
HBS5619	16	20	38	60	420
HBS5620	8	20	40	80	550
HBS5621	20	35	46	100	1150
HBS5622	10	25	38	80	400
HBS5623	12	30	52	100	800
HBS5624	12	30	40	80	340
HBS5625	8	20	40	60	420
HBS5626	28	45	52	160	850
HBS5627	14	30	54	100	1100
HBS5628	20	35	48	100	700
HBS5629	20	30	34	60	300
HBS5630	14	20	36	80	370
HBS5631	14	35	44	100	600
HBS5632	30	25	40	120	750
HBS5633	18	40	50	140	1000
HBS5634	26	55	86	140	1150
HBS5635	22	40	60	140	950
HBS5636	14	55	80	100	950
HBS5637	12	35	50	80	800
HBS5638	20	90	140	120	1550
HBS5639	20	25	48	100	1100
HBS5640	20	40	62	140	1250
HBS5641	12	50	62	100	600
HBS5642	14	35	56	140	800
HBS5643	30	120	160	140	1450
HBS5644	16	30	46	120	950
HBS5645	24	30	54	120	1150
HBS5646	30	55	64	120	1100
HBS5647	28	45	58	140	1150
HBS5648	22	70	102	180	1450
HBS5649	22	45	72	140	1150
HBS5650	20	75	82	140	1500
HBS5651	160	225	86	260	1500

XRF Soil data

Sample Number	Barium	Lead	Zinc	Copper	Manganese	Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS8800	262	50	68	28	1730	HBS8871	243	37	59	15	610
HBS8801	198	69	71	19	1120	HBS8872	246	50	77	14	1610
HBS8802	234	51	62	73	1100	HBS8873	297	348	94	19	3420
HBS8803	221	30	50	21	1390	HBS8874	284	434	100	17	2740
HBS8804	184	93	123	29	970	HBS8875	459	143	168	22	7790
HBS8805	252	30	63	28	910	HBS8876	190	67	86	8	820
HBS8806	244	336	77	14	1330	HBS8877	268	27	67	20	1300
HBS8807	219	23	33	1	240	HBS8878	261	26	53	10	680
HBS8808	231	26	43	8	580	HBS8879	240	26	47	17	1280
HBS8810	223	27	55	6	640	HBS8880	299	110	118	28	1090
HBS8811	239	48	52	6	570	HBS8881	292	73	80	25	1210
HBS8812	213	54	63	7	780	HBS8882	282	46	63	20	1410
HBS8813	210	59	82	12	1190	HBS8883	248	46	59	12	1090
HBS8814	266	63	98	29	2290	HBS8884	243	60	87	39	2040
HBS8815	244	26	68	16	1350	HBS8885	178	42	67	31	810
HBS8816	237	56	80	41	1380	HBS8886	211	29	55	16	590
HBS8817	219	34	44	9	220	HBS8887	162	109	107	24	2450
HBS8818	179	28	36	3	180	HBS8888	218	43	57	47	460
HBS8819	194	34	40	6	310	HBS8889	262	29	54	27	970
HBS8820	186	47	54	4	490	HBS8890	263	90	101	33	1190
HBS8821	333	33	110	17	8710	HBS8891	266	55	60	21	1080
HBS8822	263	111	110	24	870	HBS8892	262	23	43	12	970
HBS8823	283	58	65	18	1220	HBS8893	216	79	89	19	1040
HBS8824	283	52	66	21	1450	HBS8894	257	42	64	19	880
HBS8825	206	42	47	10	570	HBS8895	266	40	52	25	1320
HBS8826	215	35	44	12	680	HBS8896	269	28	61	31	460
HBS8827	260	66	62	15	1370	HBS8897	257	31	68	30	900
HBS8828	208	28	44	10	710	HBS8898	255	55	82	17	1280
HBS8829	254	74	60	15	1000	HBS8899	271	26	56	18	770
HBS8830	248	54	54	13	410	HBS8900	297	26	55	33	870
HBS8831	222	121	89	27	950	HBS8901	292	21	57	33	1270
HBS8832	272	41	64	18	2260	HBS8902	265	45	68	22	1100
HBS8833	177	121	107	26	1630	HBS8903	253	72	145	43	2550
HBS8834	319	105	113	26	7040	HBS8904	267	31	70	29	1470
HBS8835	159	65	79	10	950	HBS8905	187	101	141	15	540
HBS8836	25	293	168	26	240	HBS8906	145	99	316	23	390
HBS8837	219	218	166	13	4290	HBS8907	238	21	44	18	340
HBS8838	122	177	91	16	370	HBS8908	235	92	109	19	5580
HBS8839	334	24	57	16	240	HBS8909	214	56	68	11	2310
HBS8840	273	71	85	17	1560	HBS8910	274	38	67	53	1960
HBS8841	248	97	91	18	1800	HBS8911	270	19	54	18	700
HBS8842	251	54	77	20	1550	HBS8912	248	77	51	22	1280
HBS8843	265	31	50	11	730	HBS8913	228	80	101	14	4710
HBS8844	294	35	67	18	1000	HBS8914	209	59	69	14	1490
HBS8845	180	52	62	15	1290	HBS8915	224	70	103	20	1120
HBS8846	194	66	60	50	2030	HBS8917	302	47	116	34	1040
HBS8847	276	44	59	29	2180	HBS8918	197	26	42	7	260
HBS8848	160	66	62	23	2310	HBS8919	198	47	73	11	740
HBS8849	246	33	60	19	1400	HBS8920	267	30	59	9	960
HBS8850	277	76	116	27	1590	HBS8921	304	41	70	86	8990
HBS8851	259	60	95	13	1960	HBS8922	288	14	56	12	1060
HBS8852	196	110	104	11	1810	HBS8923	235	114	159	21	4720
HBS8853	306	61	118	21	3430	HBS8924	247	118	74	25	730
HBS8854	212	75	101	17	970	HBS8925	244	51	80	13	1110
HBS8855	230	81	84	26	1770	HBS8926	255	31	49	10	780
HBS8856	225	63	80	40	2200						
HBS8857	190	45	75	12	950	HBS9000	305	38	66	29	800
HBS8858	148	70	82	14	1660	HBS9001	303	36	58	18	480
HBS8859	229	28	61	17	400	HBS9002	293	22	48	8	400
HBS8860	245	36	63	13	1290	HBS9003	204	27	53	10	350
HBS8861	278	29	70	19	920	HBS9004	228	20	37	4	210
HBS8862	218	71	97	28	2910	HBS9005	262	38	62	21	680
HBS8863	222	40	55	13	320	HBS9006	277	143	112	32	570
HBS8864	311	51	79	24	1900	HBS9007	314	53	54	23	770
HBS8865	290	47	74	11	1650	HBS9008	256	26	47	11	400
HBS8866	212	47	58	39	1740	HBS9009	266	24	32	8	150
HBS8867	239	47	83	7	1960	HBS9010	263	63	77	21	880
HBS8868	284	54	68	19	920	HBS9011	200	73	22	7	150
HBS8869	331	268	150	22	3090	HBS9012	520	52	117	17	830
HBS8870	207	69	118	11	2300	HBS9013	215	126	33	9	290

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9014	350	30	53	12	250
HBS9015	323	35	67	18	680
HBS9016	288	25	57	12	430
HBS9017	212	24	45	4	160
HBS9018	279	36	65	17	460
HBS9019	212	45	51	10	230
HBS9020	261	58	65	17	730
HBS9021	276	22	55	9	810
HBS9022	242	47	60	14	630
HBS9023	248	20	43	11	170
HBS9024	281	33	30	7	150
HBS9026	282	36	54	13	290
HBS9027	284	24	52	18	340
HBS9028	298	34	59	21	700
HBS9029	294	25	59	14	430
HBS9030	270	26	56	17	700
HBS9031	265	36	52	26	1530
HBS9032	239	33	56	21	580
HBS9033	281	27	343	22	860
HBS9034	292	40	64	23	1050
HBS9035	244	28	57	13	530
HBS9036	274	27	49	17	620
HBS9037	293	27	47	16	350
HBS9038	342	43	59	18	770
HBS9039	228	27	45	3	120
HBS9040	255	23	39	1	100
HBS9041	303	84	50	14	550
HBS9042	261	31	54	12	180
HBS9043	289	44	67	16	660
HBS9044	255	29	50	10	670
HBS9045	300	45	73	19	580
HBS9046	305	29	55	10	370
HBS9047	250	27	53	9	230
HBS9048	223	24	54	13	450
HBS9049	338	28	42	12	230
HBS9050	290	34	75	16	560
HBS9052	269	34	52	12	260
HBS9053	312	29	54	6	380
HBS9054	314	36	56	14	470
HBS9055	313	34	47	10	120
HBS9056	315	47	98	23	660
HBS9057	269	40	60	12	750
HBS9058	281	40	72	17	450
HBS9059	247	38	49	14	540
HBS9060	262	54	74	20	590
HBS9061	425	54	56	20	310
HBS9062	253	30	49	13	120
HBS9063	296	38	57	14	560
HBS9064	292	37	57	16	470
HBS9065	317	32	61	19	590
HBS9066	287	29	44	15	340
HBS9067	312	26	59	22	700
HBS9068	328	35	69	37	2070
HBS9069	313	41	58	20	780
HBS9070	236	34	60	12	840
HBS9071	280	36	62	18	1040
HBS9072	267	29	50	21	1070
HBS9073	290	41	69	32	910
HBS9074	291	29	54	24	720
HBS9075	304	28	47	16	450
HBS9076	278	38	66	15	480
HBS9077	235	26	55	8	600
HBS9078	283	38	58	14	310
HBS9079	311	31	59	24	600
HBS9080	296	38	79	19	690
HBS9081	302	44	48	12	310
HBS9082	301	26	69	15	370
HBS9083	302	34	50	23	160
HBS9084	244	27	48	13	160
HBS9085	238	29	37	6	70
HBS9086	243	24	50	8	340

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9087	292	29	44	10	340
HBS9088	283	34	65	11	480
HBS9089	240	27	34	9	150
HBS9090	279	22	45	9	110
HBS9091	268	31	47	9	200
HBS9092	322	34	59	12	270
HBS9093	262	39	52	13	210
HBS9094	276	23	29	7	80
HBS9095	257	31	32	9	60
HBS9096	295	29	44	18	220
HBS9097	288	33	45	9	180
HBS9098	295	31	49	18	190
HBS9099	347	42	78	46	470
HBS9100	370	44	75	11	440
HBS9101	314	60	69	21	660
HBS9102	297	38	56	22	570
HBS9103	353	34	61	17	700
HBS9104	338	24	46	15	610
HBS9105	248	25	39	12	200
HBS9106	272	44	51	18	890
HBS9107	282	38	55	16	960
HBS9108	269	30	53	14	1010
HBS9109	272	32	55	16	830
HBS9110	302	33	60	44	1020
HBS9111	276	34	54	19	780
HBS9112	308	36	64	15	670
HBS9113	471	43	49	10	780
HBS9114	297	34	68	32	540
HBS9115	261	60	75	20	660
HBS9116	244	30	59	15	630
HBS9117	272	45	86	22	2020
HBS9118	291	44	82	16	490
HBS9119	253	30	41	5	140
HBS9120	365	28	66	4	690
HBS9121	266	32	47	11	250
HBS9122	345	30	80	9	510
HBS9123	296	36	53	15	800
HBS9125	283	47	25	5	200
HBS9126	340	27	32	1	200
HBS9127	335	28	106	8	140
HBS9128	262	36	48	14	540
HBS9129	282	37	61	17	550
HBS9130	301	39	67	15	700
HBS9131	280	29	49	17	440
HBS9132	315	24	36	11	260
HBS9133	259	34	52	13	430
HBS9134	290	27	54	18	500
HBS9135	239	26	46	28	1050
HBS9136	289	34	56	27	1060
HBS9137	260	33	31	6	280
HBS9138	280	32	43	6	210
HBS9139	301	68	84	24	960
HBS9140	267	82	93	29	780
HBS9141	238	100	102	15	970
HBS9142	276	62	121	22	1120
HBS9143	316	26	23	7	90
HBS9144	343	37	70	8	240
HBS9145	193	50	59	118	4460
HBS9146	302	28	64	10	420
HBS9147	299	32	40	5	130
HBS9148	251	46	86	13	240
HBS9149	277	26	24	7	90
HBS9150	203	24	26	3	250
HBS9151	286	27	38	10	130
HBS9152	371	38	84	22	1710
HBS9153	213	88	191	21	1420
HBS9154	284	33	65	26	740
HBS9155	283	42	61	23	810
HBS9156	245	41	50	9	430
HBS9157	314	26	45	20	600
HBS9158	351	23	51	10	150

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9159	274	22	26	8	160
HBS9160	218	19	51	10	460
HBS9161	355	23	41	11	480
HBS9162	262	17	25	1	310
HBS9163	316	29	36	4	1000
HBS9164	292	26	46	18	390
HBS9165	213	24	54	10	600
HBS9166	256	31	52	7	720
HBS9167	314	20	56	27	1040
HBS9168	270	36	59	19	850
HBS9169	269	71	69	23	840
HBS9170	221	16	34	13	110
HBS9172	234	20	63	9	470
HBS9173	258	28	43	16	760
HBS9174	272	29	57	23	990
HBS9175	295	40	62	23	930
HBS9176	296	33	55	27	940
HBS9177	275	56	100	27	1720
HBS9178	177	112	104	23	2820
HBS9179	419	28	61	39	2150
HBS9180	256	27	57	9	180
HBS9182	260	38	38	7	130
HBS9183	352	35	131	28	310
HBS9184	263	23	28	8	120
HBS9185	228	17	46	16	120
HBS9186	288	36	50	15	930
HBS9187	298	30	46	16	1770
HBS9188	224	42	50	21	1420
HBS9189	262	33	52	19	700
HBS9191	204	69	50	12	920
HBS9192	258	29	49	15	810
HBS9193	227	29	42	21	1000
HBS9194	238	24	50	18	1070
HBS9197	217	31	47	14	730
HBS9198	236	18	46	12	940
HBS9199	227	29	48	12	880
HBS9200	348	42	58	38	6630
HBS9201	215	68	80	16	1150
HBS9202	275	44	71	29	1180
HBS9203	293	41	70	34	830
HBS9204	256	41	74	20	1270
HBS9205	270	28	71	34	1060
HBS9206	252	37	61	22	1170
HBS9207	227	32	103	19	1580
HBS9209	349	41	66	31	1780
HBS9210	266	31	61	12	920
HBS9211	270	39	59	22	740
HBS9212	276	40	66	15	1260
HBS9213	329	26	56	21	1290
HBS9214	231	24	45	5	1170
HBS9215	279	55	69	28	1190
HBS9216	243	35	40	13	340
HBS9217	216	42	58	15	1010
HBS9220	358	41	71	45	2700
HBS9221	300	31	37	10	190
HBS9222	324	22	31	12	120
HBS9223	337	27	34	8	260
HBS9224	273	48	101	19	1810
HBS9225	261	40	60	16	860
HBS9226	252	36	57	15	860
HBS9227	323	27	49	40	1550
HBS9228	261	31	71	23	1170
HBS9229	264	41	80	25	1160
HBS9230	253	33	73	24	920
HBS9231	295	29	39	13	340
HBS9232	264	20	31	7	140
HBS9233	249	31	54	17	150
HBS9234	255	27	44	15	220
HBS9235	261	34	54	16	1020
HBS9236	329	23	37	9	430
HBS9237	313	42	60	26	440

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9238	299	33	49	18	550
HBS9239	262	33	45	18	450
HBS9240	272	31	58	12	660
HBS9241	410	23	39	12	220
HBS9243	400	45	91	79	2260
HBS9244	321	34	58	25	500
HBS9245	190	40	68	26	1010
HBS9246	247	29	65	20	660
HBS9247	258	28	42	18	200
HBS9248	281	35	63	12	610
HBS9249	265	48	84	17	850
HBS9250	237	39	81	24	1150
HBS9251	254	37	84	22	1410
HBS9252	253	37	46	27	680
HBS9253	304	59	121	28	1530
HBS9254	225	43	61	24	1630
HBS9255	250	39	76	19	1010
HBS9256	265	34	52	22	300
HBS9257	271	24	32	10	550
HBS9258	249	32	59	20	540
HBS9259	235	30	48	13	370
HBS9300	300	37	82	20	620
HBS9301	284	43	87	17	610
HBS9302	297	36	83	17	430
HBS9303	308	20	57	5	190
HBS9304	314	29	87	8	460
HBS9305	323	26	61	5	190
HBS9306	287	40	94	13	530
HBS9307	268	49	134	16	540
HBS9308	213	90	221	28	710
HBS9309	286	25	77	13	540
HBS9310	268	47	91	18	770
HBS9311	286	42	96	21	570
HBS9312	322	35	86	21	970
HBS9313	238	103	139	33	3660
HBS9314	248	73	140	12	1820
HBS9315	201	81	116	8	680
HBS9316	189	146	349	7	1740
HBS9317	267	26	120	4	330
HBS9318	313	37	64	7	240
HBS9319	324	18	77	7	380
HBS9320	299	19	71	7	350
HBS9321	180	72	100	7	750
HBS9322	171	84	224	13	980
HBS9323	228	98	205	13	1660
HBS9324	191	91	300	9	830
HBS9325	203	73	120	7	590
HBS9326	261	38	77	13	1020
HBS9327	324	27	74	18	570
HBS9328	248	24	68	14	500
HBS9329	292	31	83	15	530
HBS9330	282	27	155	17	980
HBS9331	199	66	181	10	900
HBS9332	172	74	97	8	660
HBS9333	184	97	113	14	2490
HBS9334	221	74	93	75	2670
HBS9335	241	53	99	6	550
HBS9336	253	26	64	5	460
HBS9337	301	19	70	10	330
HBS9338	333	22	75	13	810
HBS9339	227	37	123	3	320
HBS9340	209	49	139	11	1670
HBS9341	194	129	119	13	550
HBS9342	151	319	412	54	2650
HBS9343	216	58	116	12	900
HBS9344	238	50	146	7	910
HBS9345	280	27	98	6	450
HBS9346	275	33	68	10	460
HBS9347	258	38	84	13	640
HBS9348	284	30	68	10	470
HBS9349	286	35	72	13	460

Sample Number	Barium	Lead	Zinc	Copper	Manganese	Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9351	259	41	93	12	570	HBS9425	124	389	319	29	2380
HBS9352	155	100	246	5	720	HBS9426	275	33	76	9	890
HBS9353	171	114	179	13	1150	HBS9427	167	225	432	22	1540
HBS9354	241	36	81	14	560	HBS9428	227	41	116	13	1020
HBS9355	178	45	81	12	340	HBS9429	178	231	270	28	4760
HBS9356	134	304	399	37	1070	HBS9430	266	31	75	7	680
HBS9357	263	36	70	13	570	HBS9431	262	101	117	15	740
HBS9358	207	63	146	10	1170	HBS9432	260	27	65	9	610
HBS9359	243	149	157	42	2420	HBS9433	228	66	69	4	340
HBS9360	264	20	69	7	440	HBS9435	253	28	65	14	650
HBS9361	278	26	64	9	450	HBS9436	229	49	89	13	910
HBS9362	260	26	79	12	550	HBS9437	175	68	85	9	340
HBS9363	195	48	84	19	1700	HBS9438	231	70	110	21	990
HBS9364	255	33	65	8	640	HBS9439	227	59	97	18	1120
HBS9365	273	31	55	11	520	HBS9440	228	43	104	16	910
HBS9366	249	19	55	7	470	HBS9441	271	47	92	25	750
HBS9367	264	43	92	16	1030	HBS9442	239	42	86	14	580
HBS9368	280	38	113	18	770	HBS9443	217	58	88	10	430
HBS9369	120	150	195	17	2190	HBS9444	172	53	63	7	180
HBS9370	168	138	281	22	2100	HBS9445	186	42	47	3	220
HBS9371	164	48	78	20	670	HBS9446	179	40	70	9	340
HBS9372	205	70	122	8	700	HBS9447	200	93	127	12	870
HBS9373	168	100	153	8	1300	HBS9448	53	401	365	26	880
HBS9374	345	31	100	22	680	HBS9449	172	182	435	31	2470
HBS9375	286	25	95	13	570	HBS9450	181	94	180	43	690
HBS9376	313	22	62	13	450	HBS9451	187	211	226	43	5990
HBS9377	256	41	107	20	720	HBS9452	193	43	77	16	910
HBS9378	266	15	66	7	450	HBS9453	248	59	690	15	430
HBS9381	244	49	123	8	770	HBS9454	224	49	102	21	1310
HBS9382	236	90	190	14	1420	HBS9455	245	48	89	33	2420
HBS9383	254	15	46	7	190	HBS9456	187	192	405	34	3180
HBS9384	188	52	95	7	850	HBS9457	198	106	283	19	3130
HBS9385	267	24	81	11	620	HBS9458	249	33	95	38	910
HBS9386	232	25	53	9	450	HBS9459	182	219	226	35	1610
HBS9387	247	25	52	4	650	HBS9460	228	226	204	66	6590
HBS9388	267	28	65	12	830	HBS9461	150	166	171	17	850
HBS9389	251	28	64	11	820	HBS9462	172	96	85	10	200
HBS9390	262	36	69	11	610	HBS9463	270	36	76	10	480
HBS9391	286	27	83	12	780	HBS9464	281	58	100	21	800
HBS9392	260	28	98	16	1940	HBS9465	254	43	93	20	880
HBS9393	284	18	59	8	470	HBS9466	266	75	115	37	1050
HBS9394	227	54	85	24	2880	HBS9467	296	66	90	21	690
HBS9395	259	38	66	11	830	HBS9468	308	29	73	16	390
HBS9396	333	19	62	15	820	HBS9469	297	46	89	22	590
HBS9397	301	25	60	13	600	HBS9470	266	46	101	17	950
HBS9398	217	103	139	18	1710	HBS9471	267	44	79	9	580
HBS9399	232	46	33	8	220	HBS9472	171	70	111	9	350
HBS9400	233	33	46	2	300	HBS9473	205	41	76	13	450
HBS9401	225	31	95	8	710	HBS9474	213	63	70	42	510
HBS9402	214	174	231	33	5560	HBS9475	174	209	238	21	3490
HBS9403	149	83	78	6	210	HBS9476	124	411	775	54	1790
HBS9404	250	96	144	28	1170	HBS9477	182	114	187	13	2330
HBS9405	295	28	73	19	580	HBS9478	237	67	100	37	1120
HBS9406	274	55	105	15	740	HBS9479	226	29	77	17	370
HBS9407	227	98	124	14	1050	HBS9480	226	41	92	22	800
HBS9408	45	276	260	24	1200	HBS9481	250	41	83	32	1090
HBS9410	197	110	735	16	1110	HBS9482	150	109	136	9	870
HBS9411	285	40	75	12	630	HBS9483	165	200	334	51	2760
HBS9412	282	33	66	8	790	HBS9484	177	102	135	78	1870
HBS9413	306	35	81	12	920	HBS9485	191	88	58	8	180
HBS9414	190	47	88	140	1410	HBS9486	124	229	193	37	2870
HBS9415	144	137	176	20	2480	HBS9487	277	37	82	14	610
HBS9416	185	96	122	27	770	HBS9488	319	46	98	18	660
HBS9417	219	185	287	29	4000	HBS9489	300	32	84	19	710
HBS9418	186	126	129	14	1540	HBS9490	334	34	85	25	700
HBS9419	196	119	159	650	3370	HBS9491	275	41	88	20	580
HBS9420	186	151	200	31	2740	HBS9492	303	65	87	26	780
HBS9421	248	116	138	152	6590	HBS9493	284	36	80	17	640
HBS9422	252	65	81	23	1070	HBS9494	286	55	97	24	680
HBS9423	201	70	92	12	1320	HBS9495	328	34	89	17	850
HBS9424	191	44	61	6	310	HBS9496	266	123	126	31	5810

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9497	224	84	136	20	1020
HBS9498	222	69	179	20	1130
HBS9499	203	199	479	42	1260
HBS9500	167	267	273	34	4150
HBS9501	179	178	194	16	3690
HBS9502	281	38	73	24	290
HBS9503	190	50	77	27	580
HBS9504	192	55	214	11	870
HBS9505	156	146	136	34	1240
HBS9506	254	69	101	23	570
HBS9507	224	122	107	18	950
HBS9508	223	93	135	27	980
HBS9509	256	40	81	15	820
HBS9510	298	40	74	21	690
HBS9511	278	61	93	26	930
HBS9512	312	36	81	23	1040
HBS9513	278	43	85	20	900
HBS9522	316	10	46	8	350
HBS9523	352	21	52	25	590
HBS9524	298	59	73	23	1040
HBS9525	321	21	55	17	920
HBS9526	298	28	63	18	980
HBS9527	289	31	81	15	1950
HBS9528	222	34	64	7	1490
HBS9529	254	34	67	14	270
HBS9530	199	53	57	51	960
HBS9531	298	58	83	16	1360
HBS9532	531	32	108	10	8550
HBS9533	187	111	128	11	6620
HBS9534	198	46	43	5	550
HBS9535	410	147	166	34	14400
HBS9537	259	52	66	17	930
HBS9538	230	28	69	5	850
HBS9539	334	24	46	19	820
HBS9540	277	33	58	31	1220
HBS9541	271	23	56	16	310
HBS9542	247	36	57	45	780
HBS9543	259	32	51	16	310
HBS9544	269	15	43	10	290
HBS9545	191	49	43	3	230
HBS9546	248	26	50	6	660
HBS9547	255	6	35	7	300
HBS9548	308	20	53	14	480
HBS9549	314	22	58	14	680
HBS9550	242	58	75	10	820
HBS9551	157	48	52	5	320
HBS9552	131	70	44	12	130
HBS9553	255	40	69	17	7270
HBS9554	238	35	57	7	650
HBS9555	153	102	147	8	960
HBS9556	297	32	61	16	1030
HBS9557	204	34	51	5	500
HBS9558	228	42	63	8	1610
HBS9559	217	199	186	32	1900
HBS9560	317	22	53	7	280
HBS9562	286	20	50	22	300
HBS9563	275	32	50	12	800
HBS9564	206	70	79	18	1270
HBS9565	266	48	82	26	1370
HBS9566	214	83	47	10	580
HBS9567	187	118	141	10	4640
HBS9568	164	55	67	4	660
HBS9569	176	169	153	28	3020
HBS9570	108	341	261	31	2210
HBS9571	225	27	44	6	330
HBS9572	321	29	55	23	1140
HBS9573	287	39	72	21	850
HBS9574	417	32	75	22	3530
HBS9575	231	39	62	16	330
HBS9576	148	261	242	30	2560
HBS9577	211	38	72	10	350

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9578	295	23	62	15	360
HBS9579	275	27	54	10	750
HBS9580	263	73	73	20	1220
HBS9581	330	43	71	28	1440
HBS9582	148	157	162	32	1980
HBS9583	233	123	106	25	1810
HBS9584	181	114	128	20	2350
HBS9585	276	29	55	12	680
HBS9586	205	29	42	5	260
HBS9587	205	43	56	10	390
HBS9588	132	139	135	11	3630
HBS9589	195	76	116	14	1390
HBS9590	282	76	139	44	4020
HBS9591	257	214	170	41	9030
HBS9592	185	75	83	7	790
HBS9594	220	90	80	25	940
HBS9595	300	24	47	11	580
HBS9596	258	81	129	18	1950
HBS9597	153	39	42	9	190
HBS9598	289	39	58	15	770
HBS9599	265	59	73	20	910
HBS9600	247	84	129	20	2410
HBS9601	154	43	49	10	570
HBS9602	297	111	128	33	2750
HBS9603	293	71	104	24	1440
HBS9604	288	52	74	21	1410
HBS9605	269	30	87	20	1730
HBS9606	284	86	97	24	1130
HBS9607	272	47	89	20	1060
HBS9608	276	28	58	17	780
HBS9609	318	34	65	17	840
HBS9610	302	35	69	18	980
HBS9611	374	28	64	23	980
HBS9700	328	43	73	24	960
HBS9701	325	44	80	23	850
HBS9702	308	36	71	13	770
HBS9703	273	48	92	20	1000
HBS9704	275	69	96	26	610
HBS9705	265	51	75	16	670
HBS9706	248	34	38	2	380
HBS9707	267	28	74	13	1190
HBS9708	276	40	84	16	1340
HBS9709	262	74	88	15	910
HBS9710	305	36	67	18	680
HBS9714	343	25	69	16	770
HBS9715	266	166	103	21	1500
HBS9716	288	66	72	12	790
HBS9717	290	35	67	15	950
HBS9718	224	53	86	11	1270
HBS9719	317	41	73	22	1280
HBS9720	142	179	183	17	1320
HBS9722	192	56	140	8	580
HBS9723	247	97	154	16	2000
HBS9724	276	60	85	23	1430
HBS9725	262	73	87	34	710
HBS9726	284	38	81	13	860
HBS9730	293	39	77	16	810
HBS9731	296	28	70	12	850
HBS9732	266	74	83	19	1220
HBS9733	291	188	136	48	1100
HBS9734	242	96	115	15	1710
HBS9735	136	150	130	13	390
HBS9736	224	52	75	10	770
HBS9737	67	149	103	15	520
HBS9738	233	66	93	24	1610
HBS9739	213	96	75	4	1860
HBS9740	221	47	76	5	540
HBS9741	308	46	79	16	1230
HBS9742	324	35	67	23	1270
HBS9743	211	48	66	6	350
HBS9744	189	62	69	7	410

Sample Number	Barium	Lead	Zinc	Copper	Manganese
HBS9745	222	53	61	9	290
HBS9746	229	83	65	10	460
HBS9747	256	49	80	19	1530
HBS9748	363	66	108	49	7960
HBS9749	212	53	70	4	1340
HBS9750	280	35	81	16	750
HBS9751	293	65	55	17	660
HBS9752	350	50	81	90	14370
HBS9753	250	28	56	16	600
HBS9754	190	113	161	18	630
HBS9755	240	63	99	19	1280
HBS9756	185	40	48	7	200
HBS9757	140	109	84	9	240
HBS9758	105	222	172	17	290
HBS9759	237	120	95	20	760
HBS9760	255	35	61	9	450
HBS9761	310	541	363	60	580
HBS9762	234	129	166	23	1890
HBS9763	214	82	41	10	240
HBS9764	168	184	568	23	1340
HBS9765	179	39	40	7	110
HBS9766	274	42	80	13	1180
HBS9768	184	193	91	24	1630
HBS9769	340	59	79	43	5300