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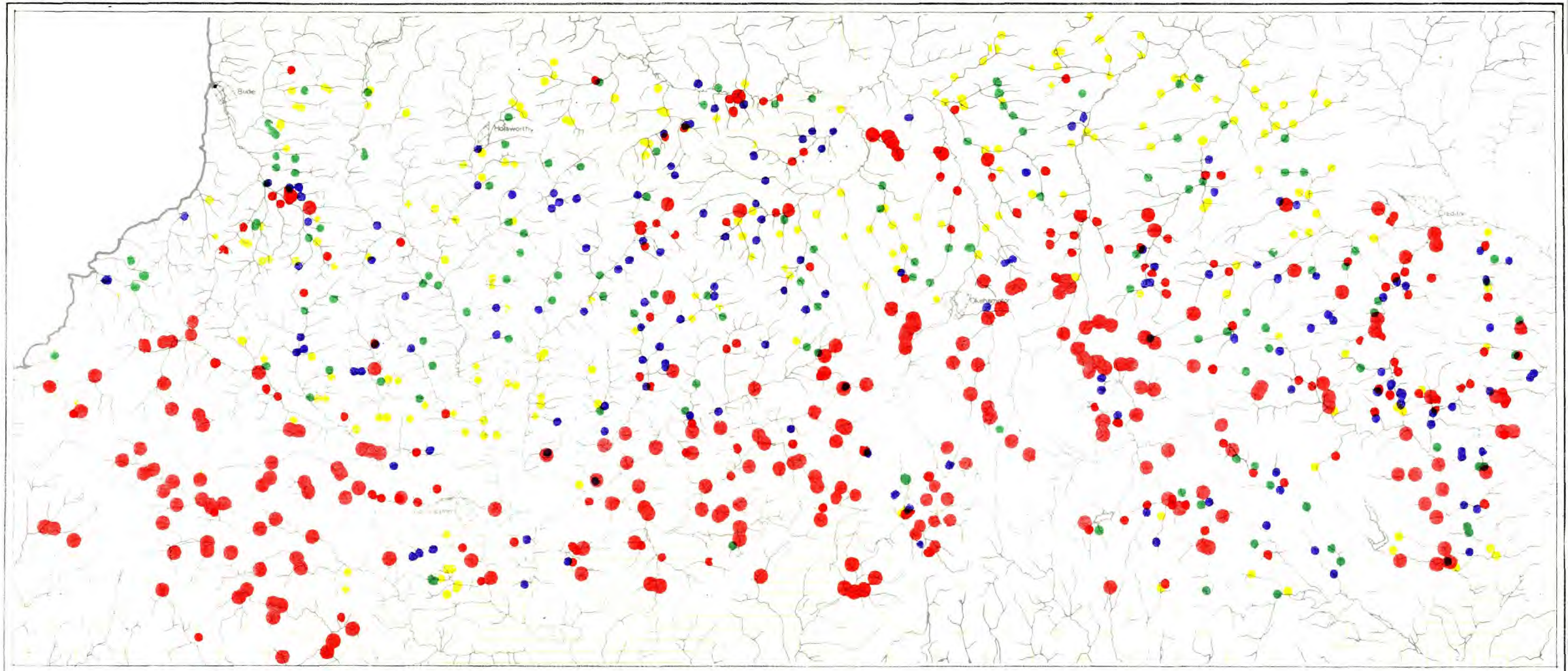
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FIGURE 1



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

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GEOLOGICAL KEY

TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

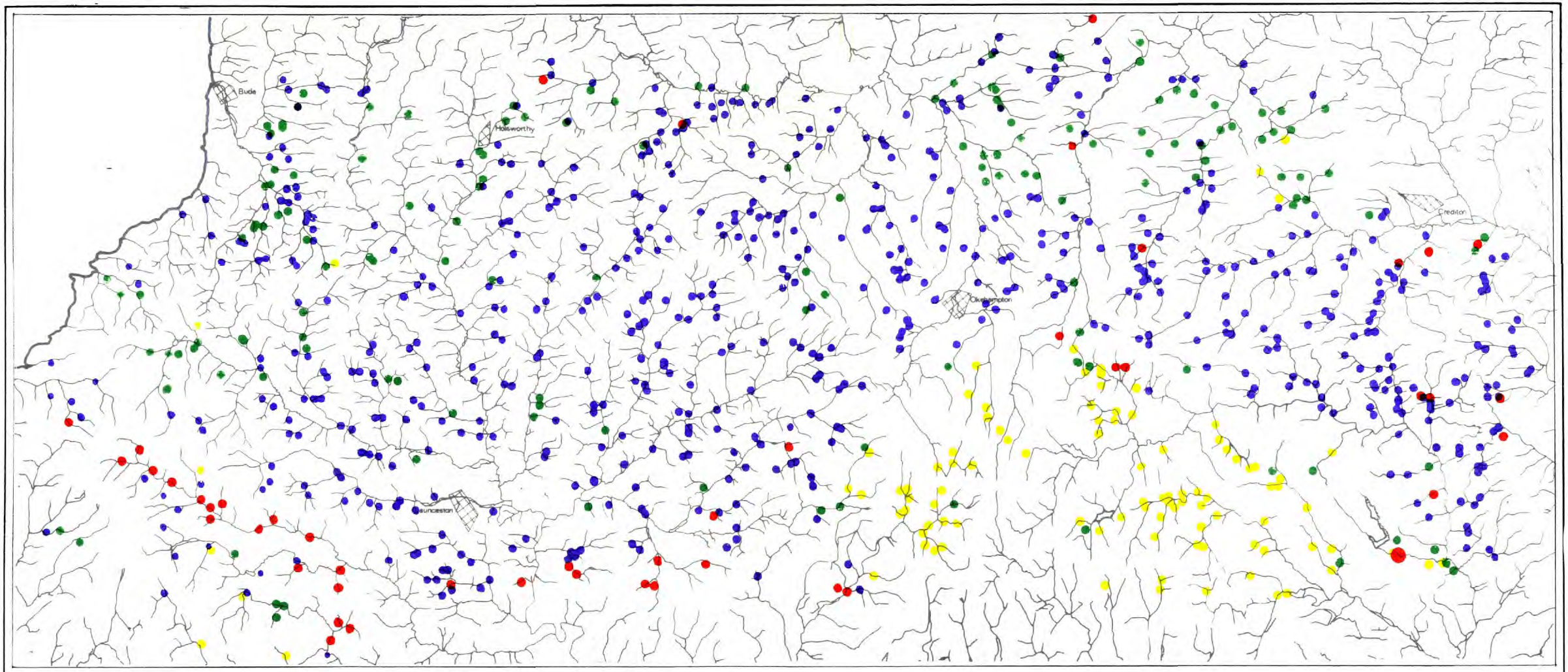
ARSENIC

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0-3
- 3-7
- 7-15
- 15-30
- >30

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FIGURE 5



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
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- GRANITE
- DOLERITE

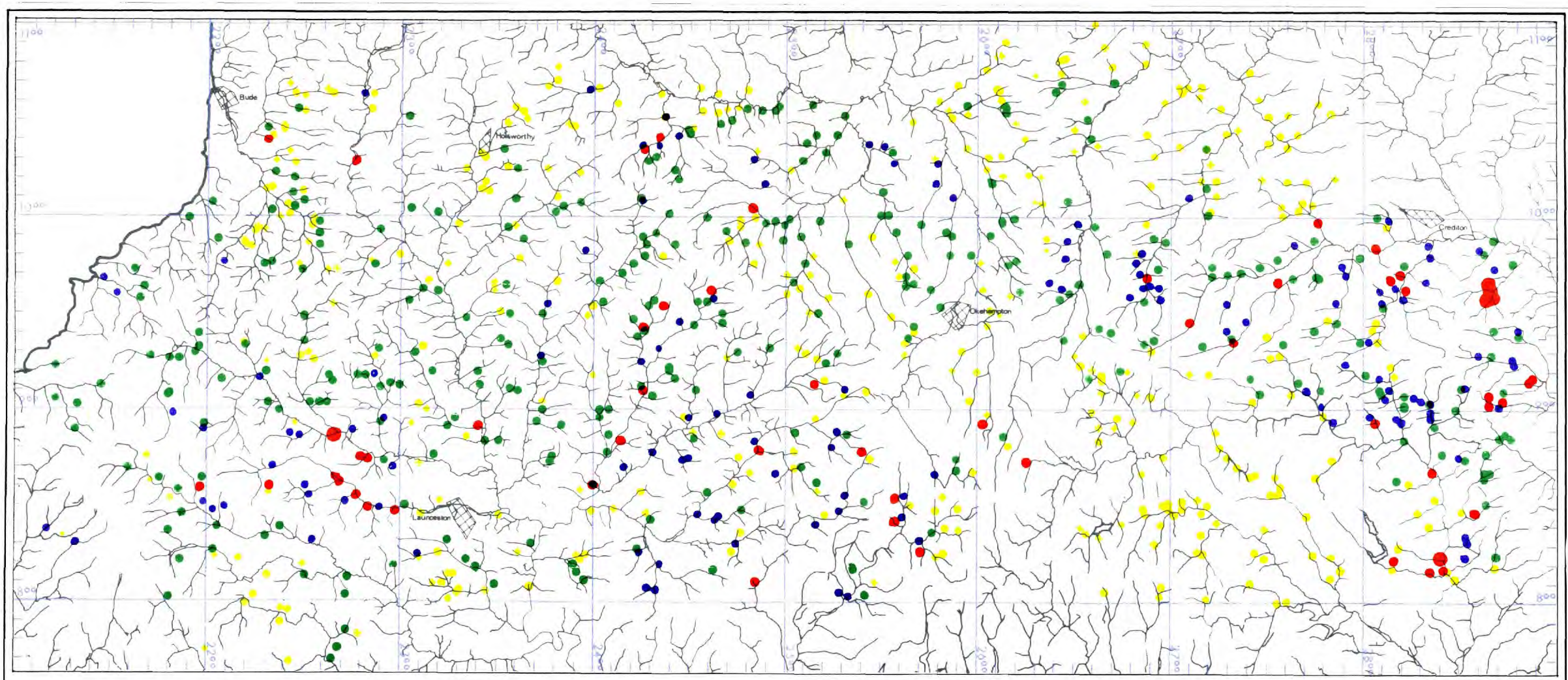
CHROMIUM

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0-30
- 30-70
- 70-150
- 150-300
- >300

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FIGURE 3



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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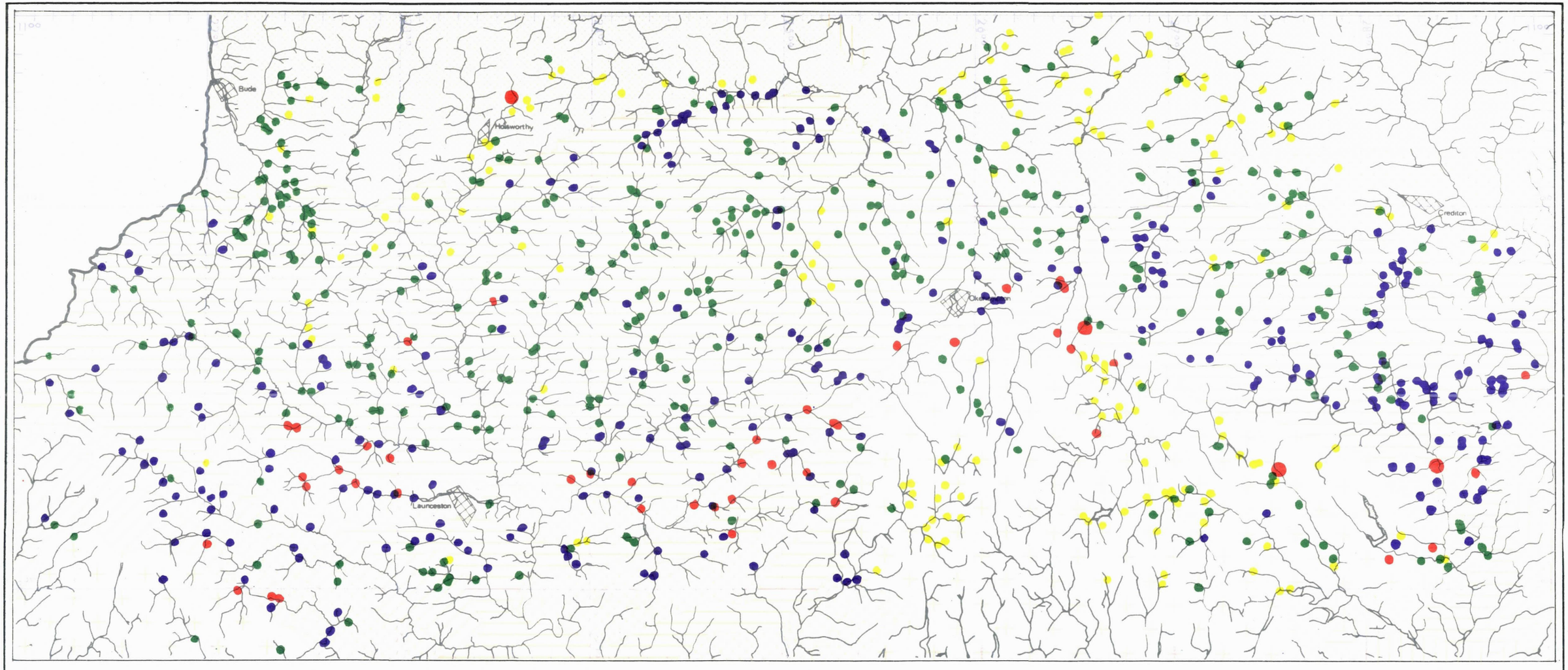
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

COBALT

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

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GEOLOGICAL KEY

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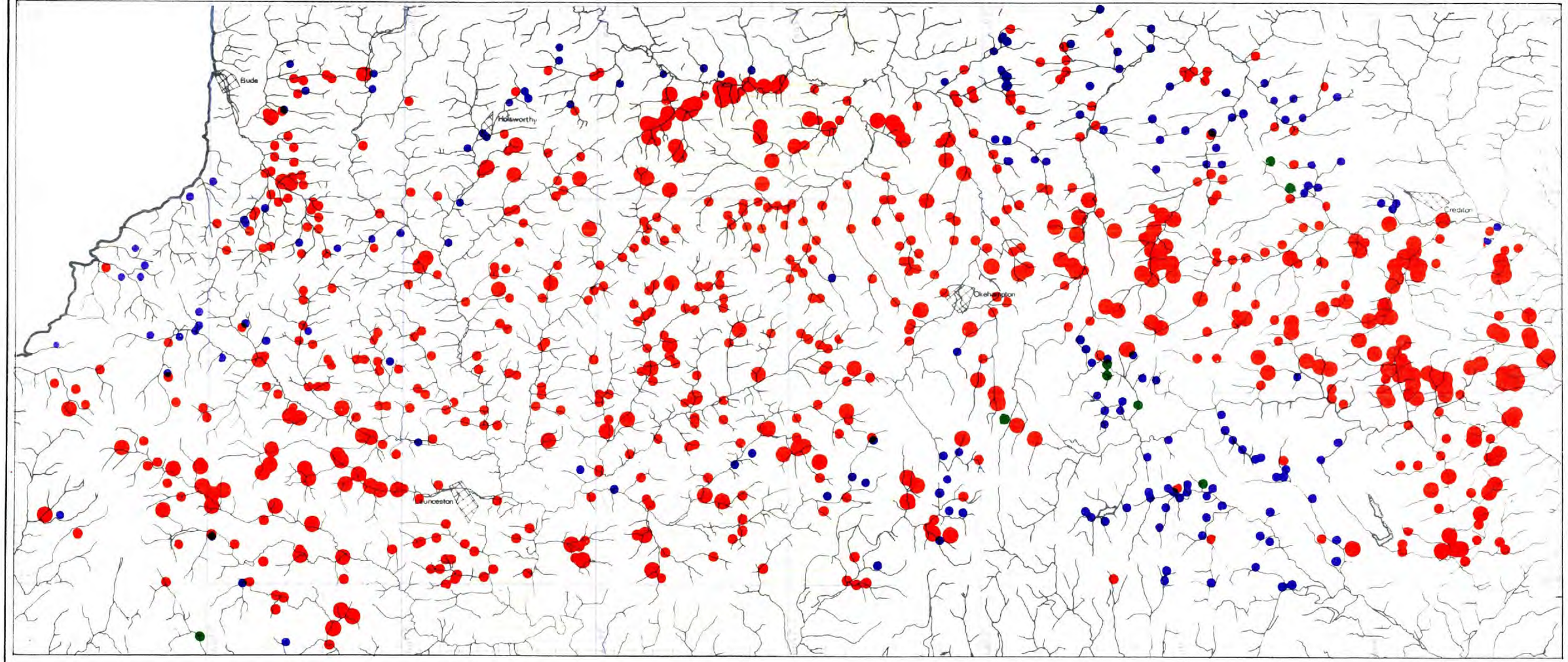
COPPER

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

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FIGURA 5



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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GEOLOGICAL KEY

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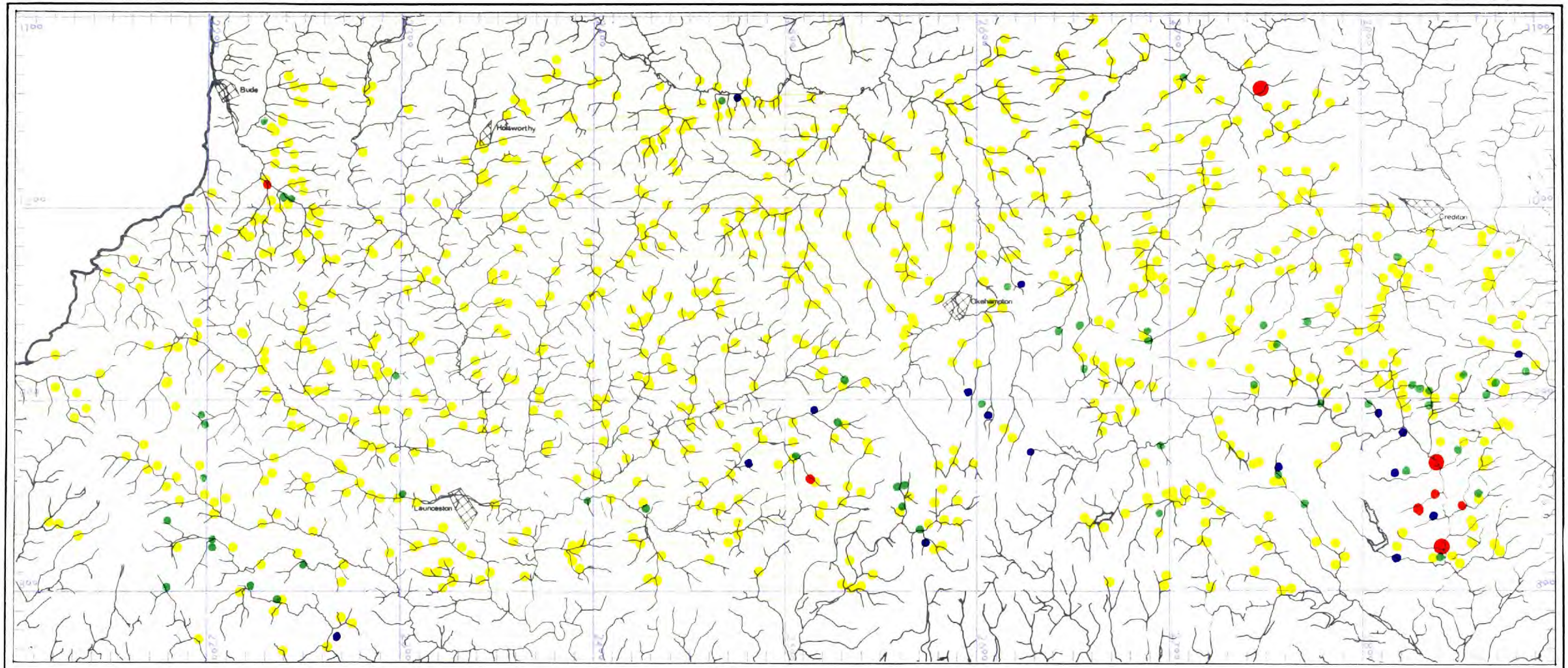
FERRIC OXIDE

Metal content of stream sediments
(% in minus 80-mesh fraction)

- 0·0-0·7
- 0·7-1·5
- 1·5-3·0
- 3·0-7·0
- >7·0

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FIGURE 6



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY
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GEOLOGICAL KEY

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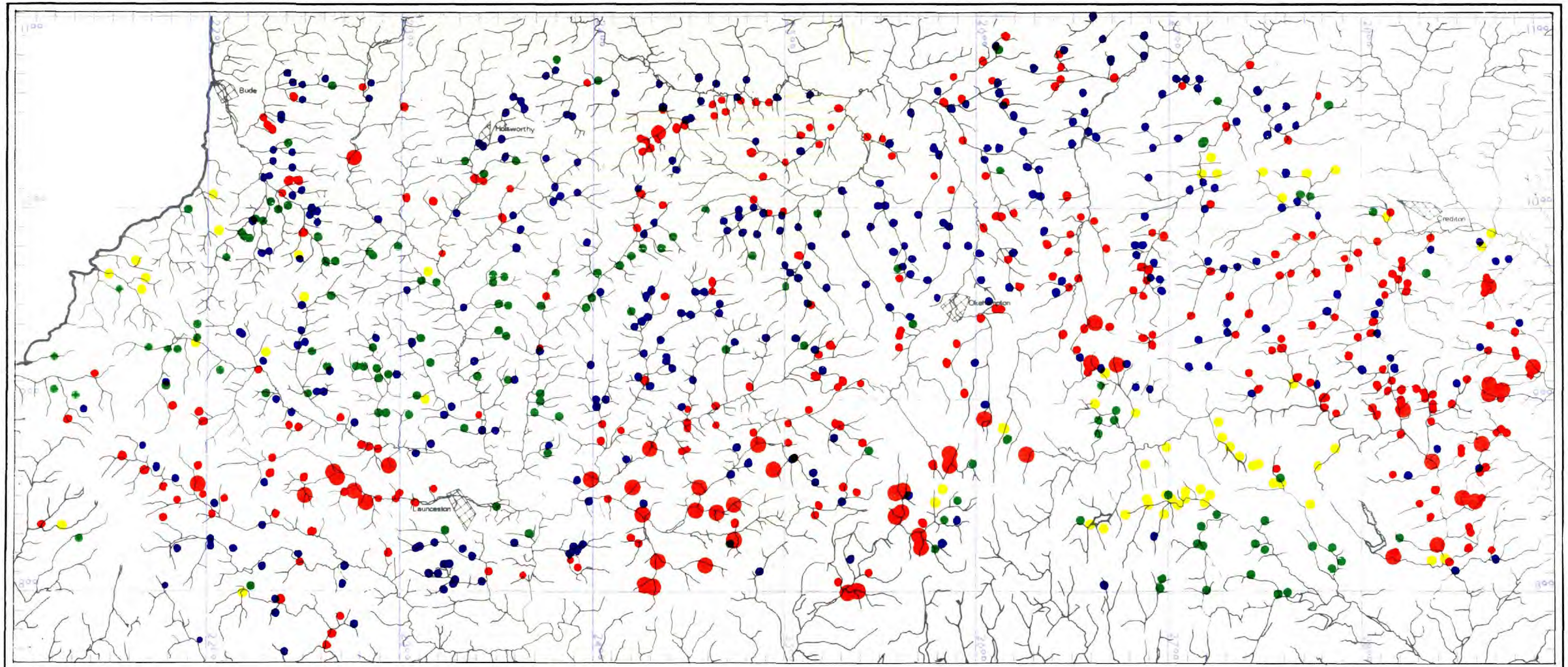
LEAD

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0 - 70
- 70 - 150
- 150 - 300
- 300 - 700
- >700

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FIGURE 7



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

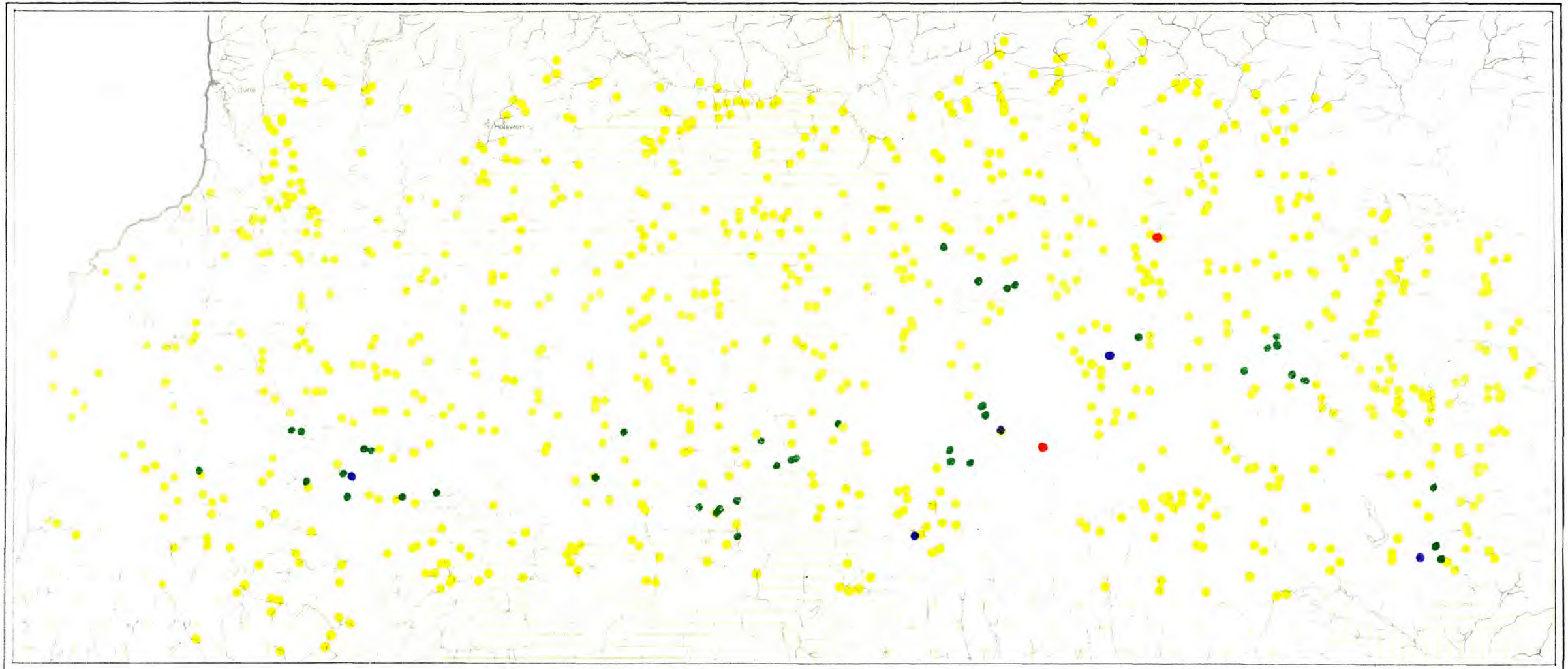
MANGANESE

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0 - 300
- 300 - 700
- 700 - 1500
- 1500 - 3000
- >3000

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FIGURE 5



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

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GEOLOGICAL KEY

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WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

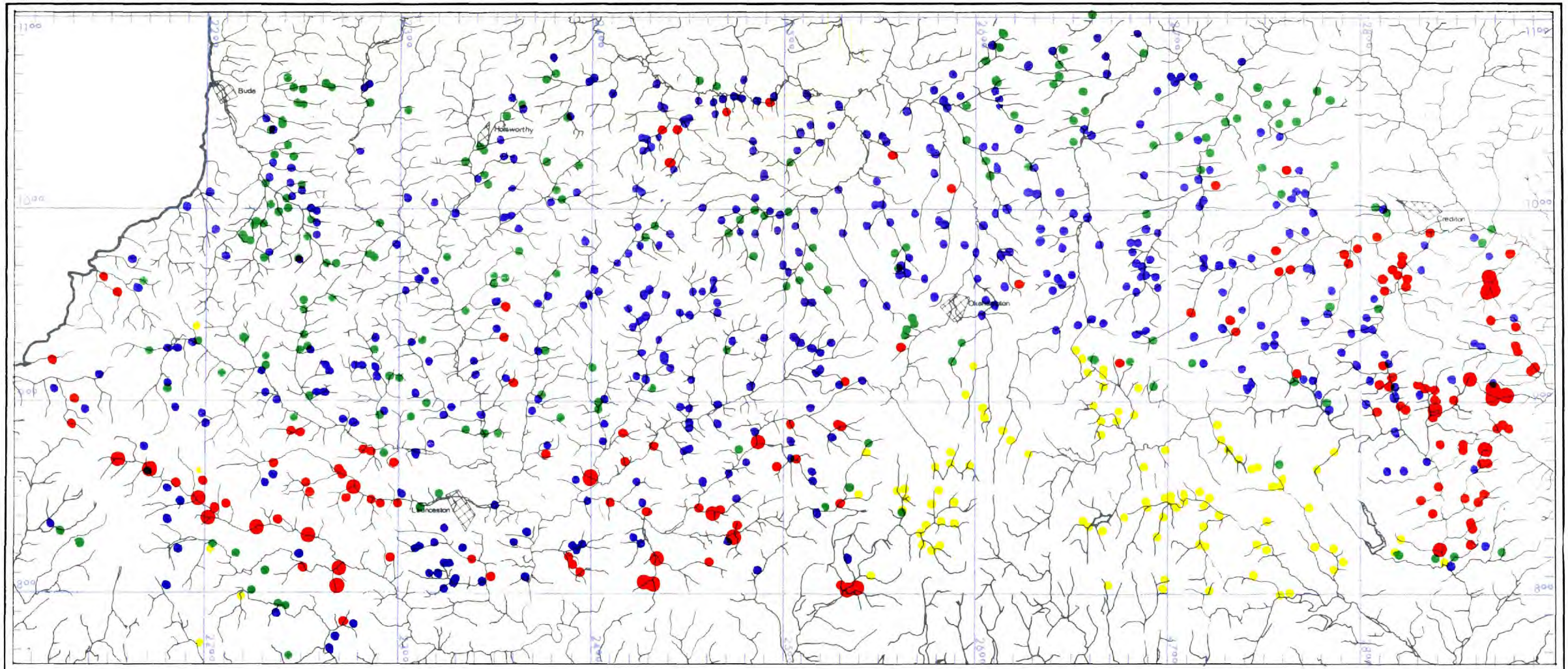
MOLYBDENUM

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0-3
- 3-7
- 7-15
- >15

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FIGURE 9



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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miles

N

GEOLOGICAL KEY

TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

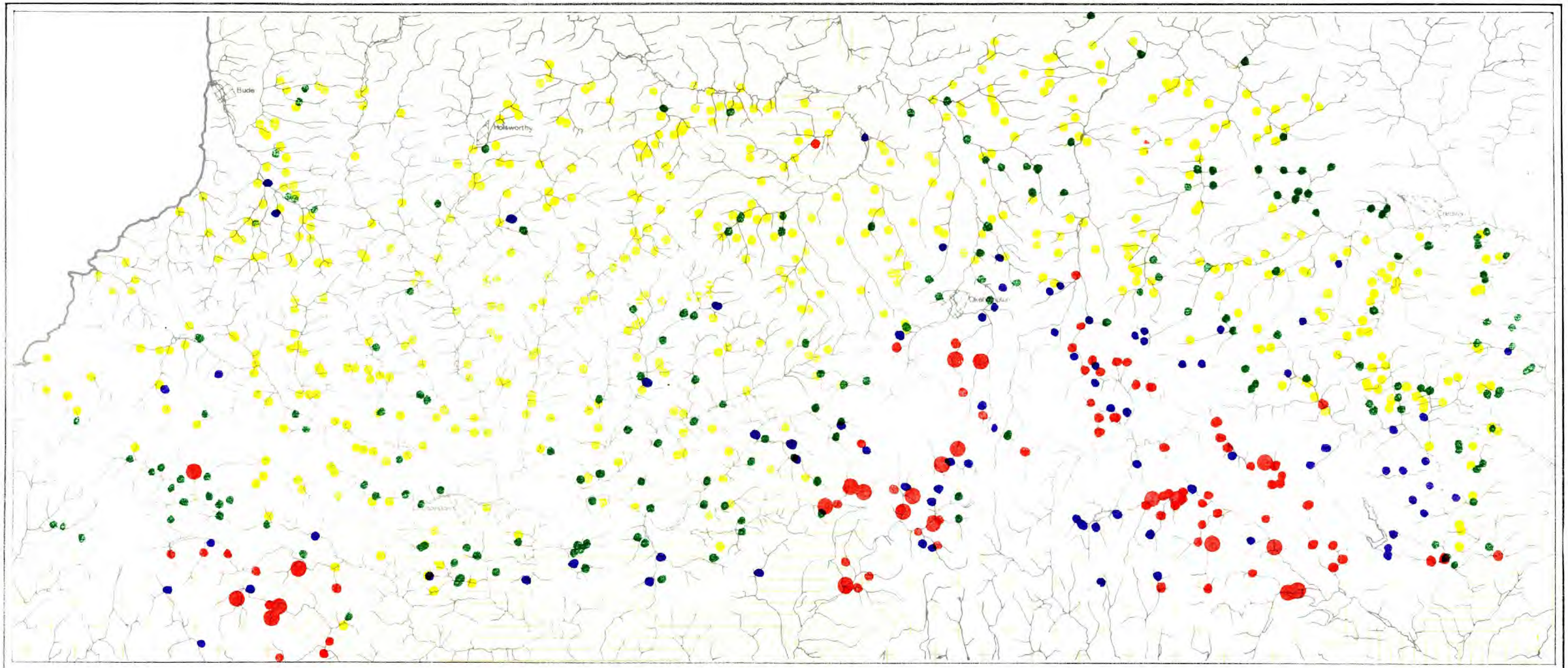
NICKEL

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0 - 15
- 15 - 30
- 30 - 70
- 70 - 150
- >150

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FIGURE 10



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DEVONSHIRE

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Imperial College, London, S.W.7.

0 1 2 3 4
miles

N

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

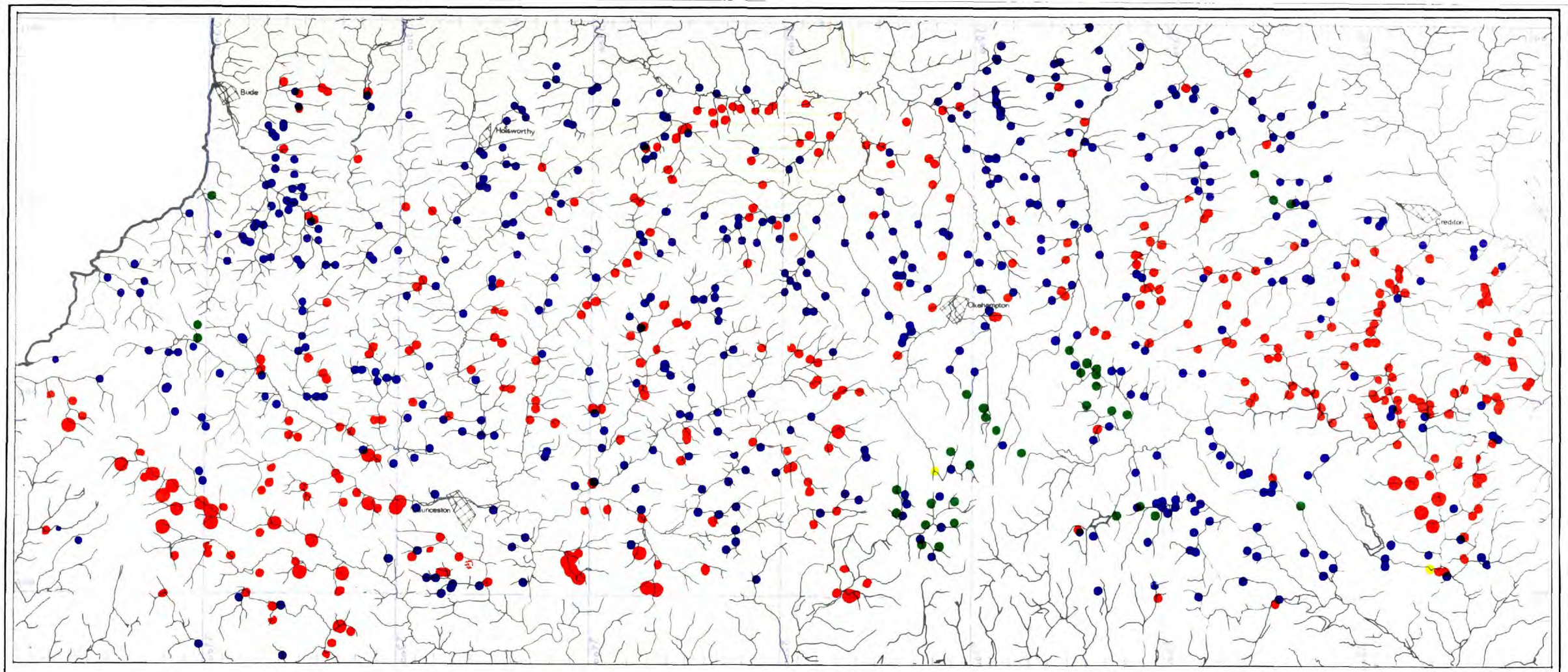
TIN

Metal content of stream sediments (p.p.m in minus 80-mesh fraction)

- 0-7
- 7-30
- 30-150
- 150-700
- >700

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FIGURE 11



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DEVONSHIRE

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Imperial College, London, S.W.7.

0 1 2 3 4
miles

N

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

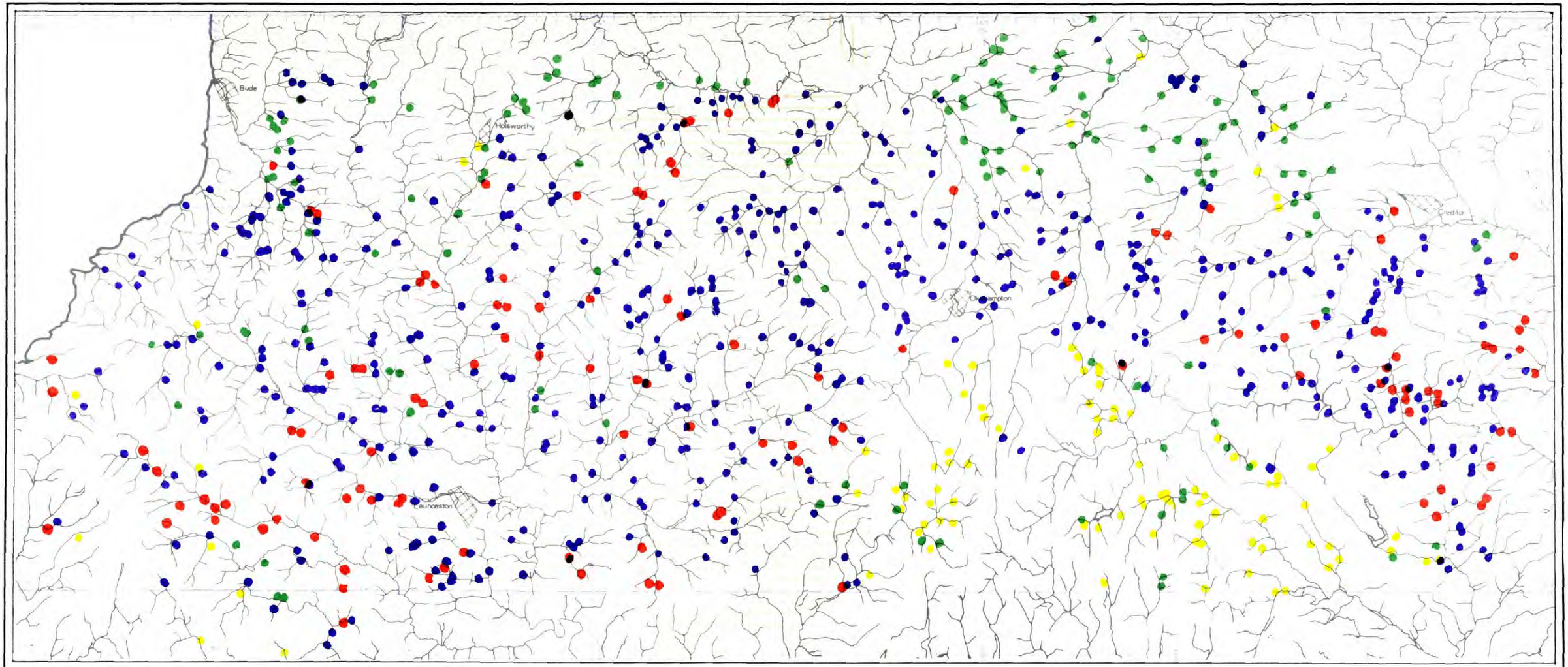
TITANIUM

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0 - 700
- 700 - 1500
- 1500 - 3000
- 3000 - 7000
- >7000

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FIGURE 12



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

0 1 2 3 4
miles

N

GEOLOGICAL KEY

TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

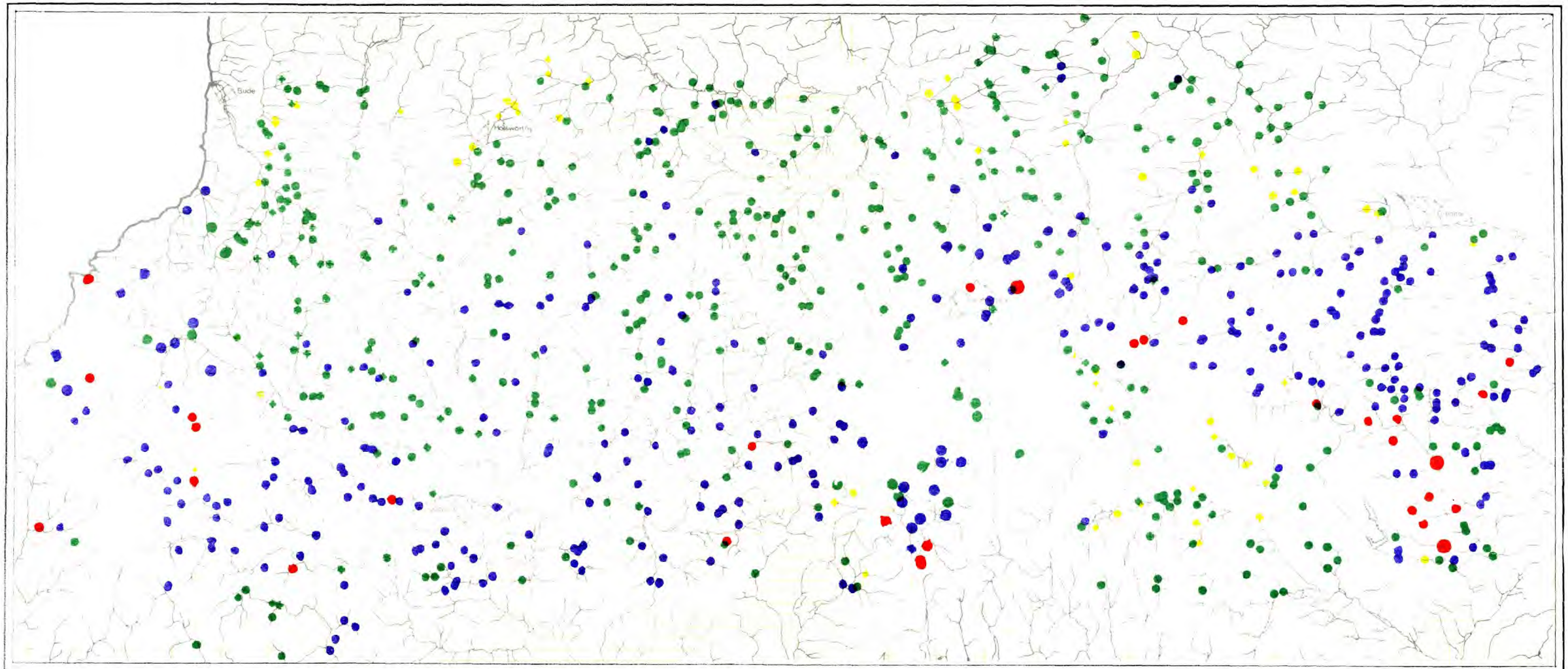
VANADIUM

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0-30
- 30-70
- 70-150
- >150

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FIGURE 15



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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0 1 2 3 4
miles

N

GEOLOGICAL KEY

TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

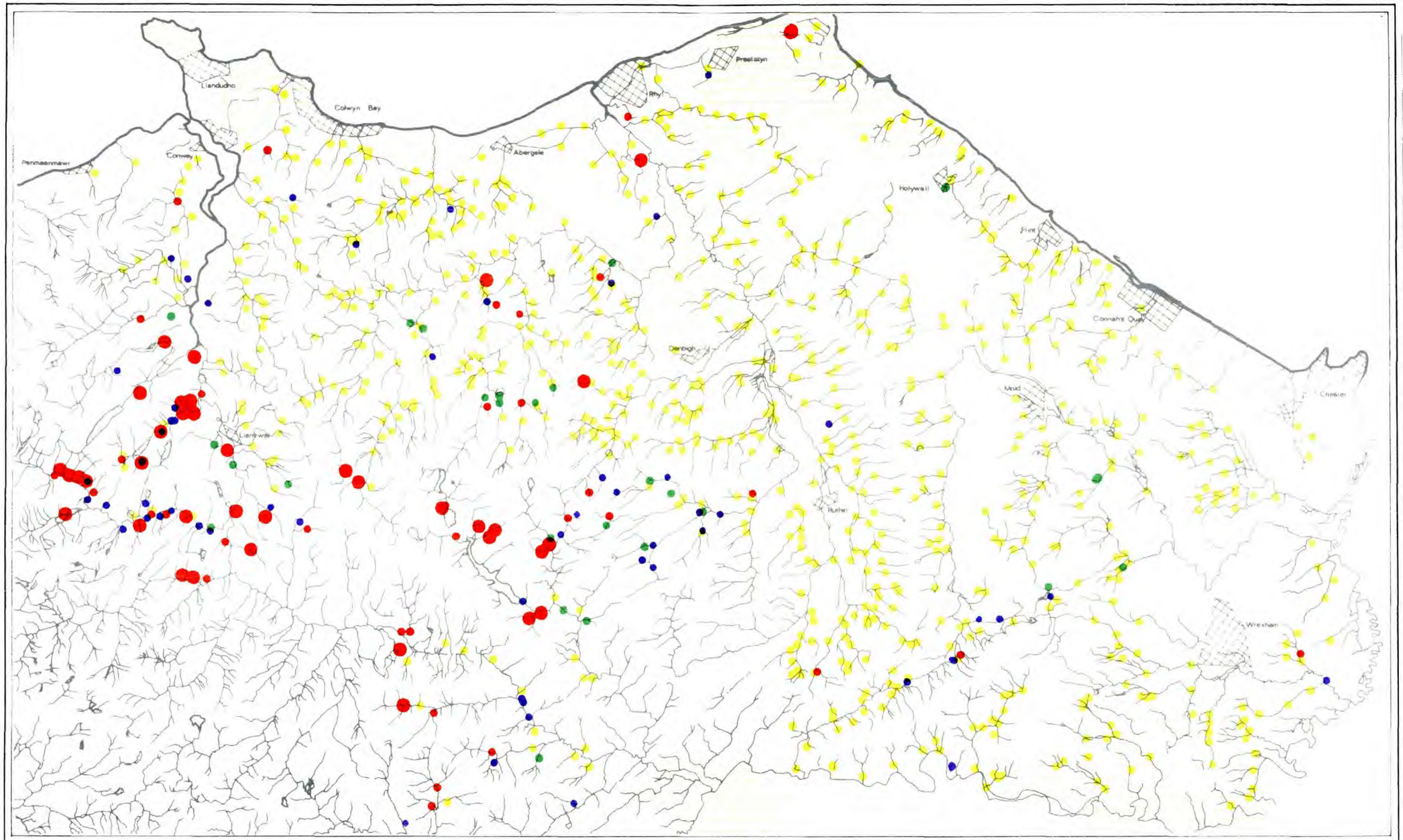
ZINC

Metal content of stream sediments
(p.p.m in minus 80-mesh fraction)

- 0 - 70
- 70 - 150
- 150 - 300
- 300 - 700
- >700

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FIGURE 14



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

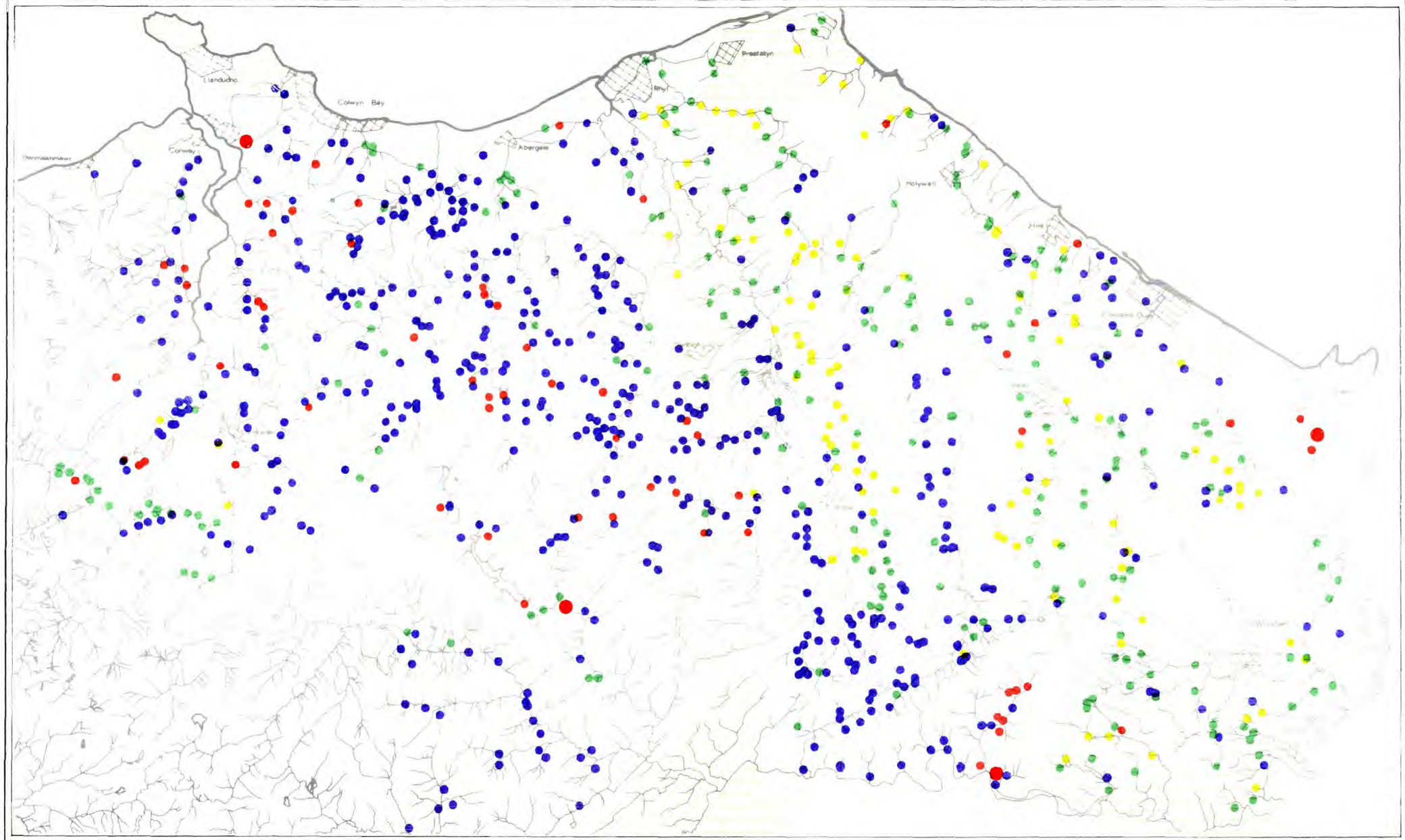
ARSENIC

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-3
- 3-7
- 7-15
- 15-30
- >30

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FIGURE 15



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DENBIGHSHIRE

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May 1967
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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

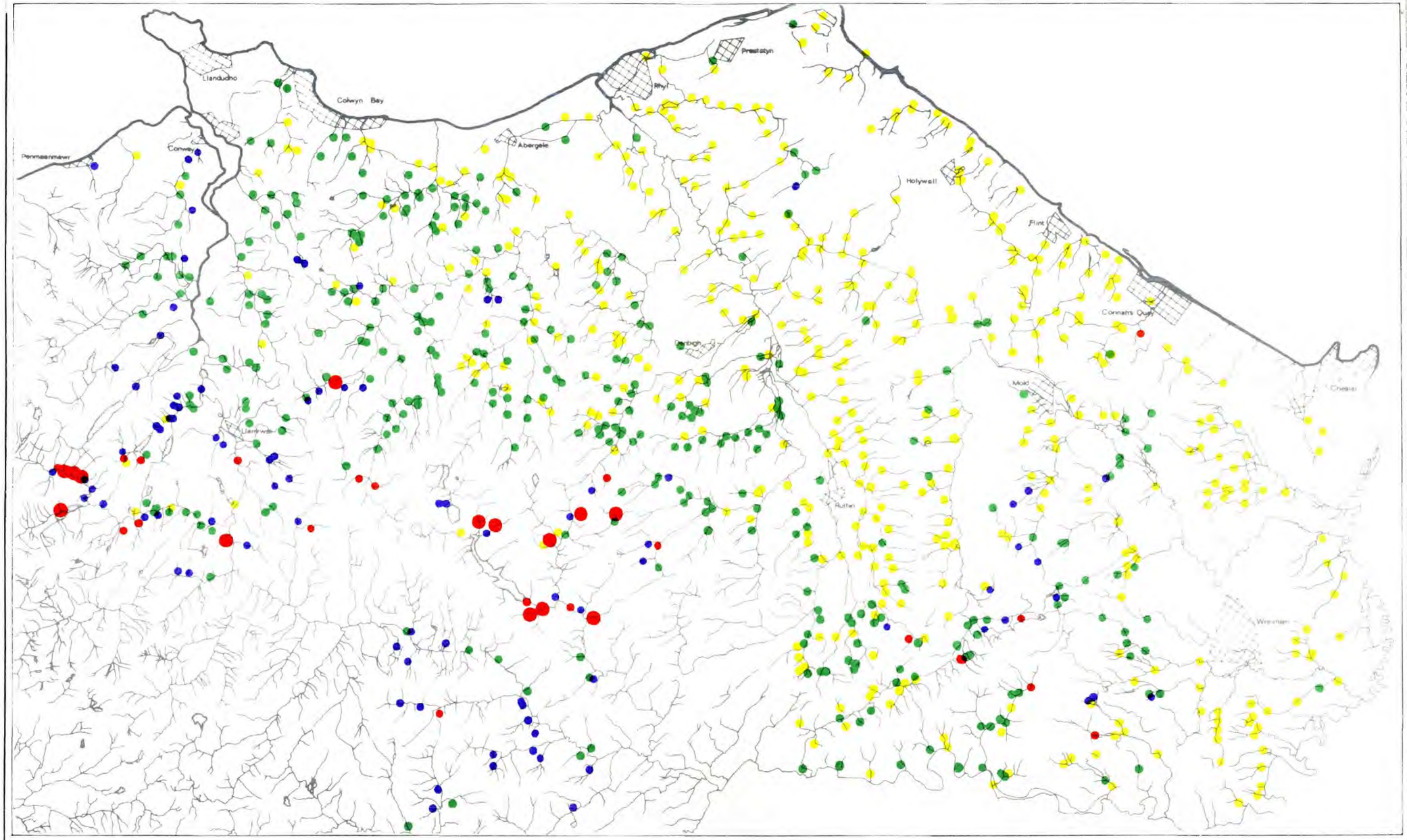
CHROMIUM

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-30
- 30-70
- 70-150
- 150-300
- >300

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FIGURE 16



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

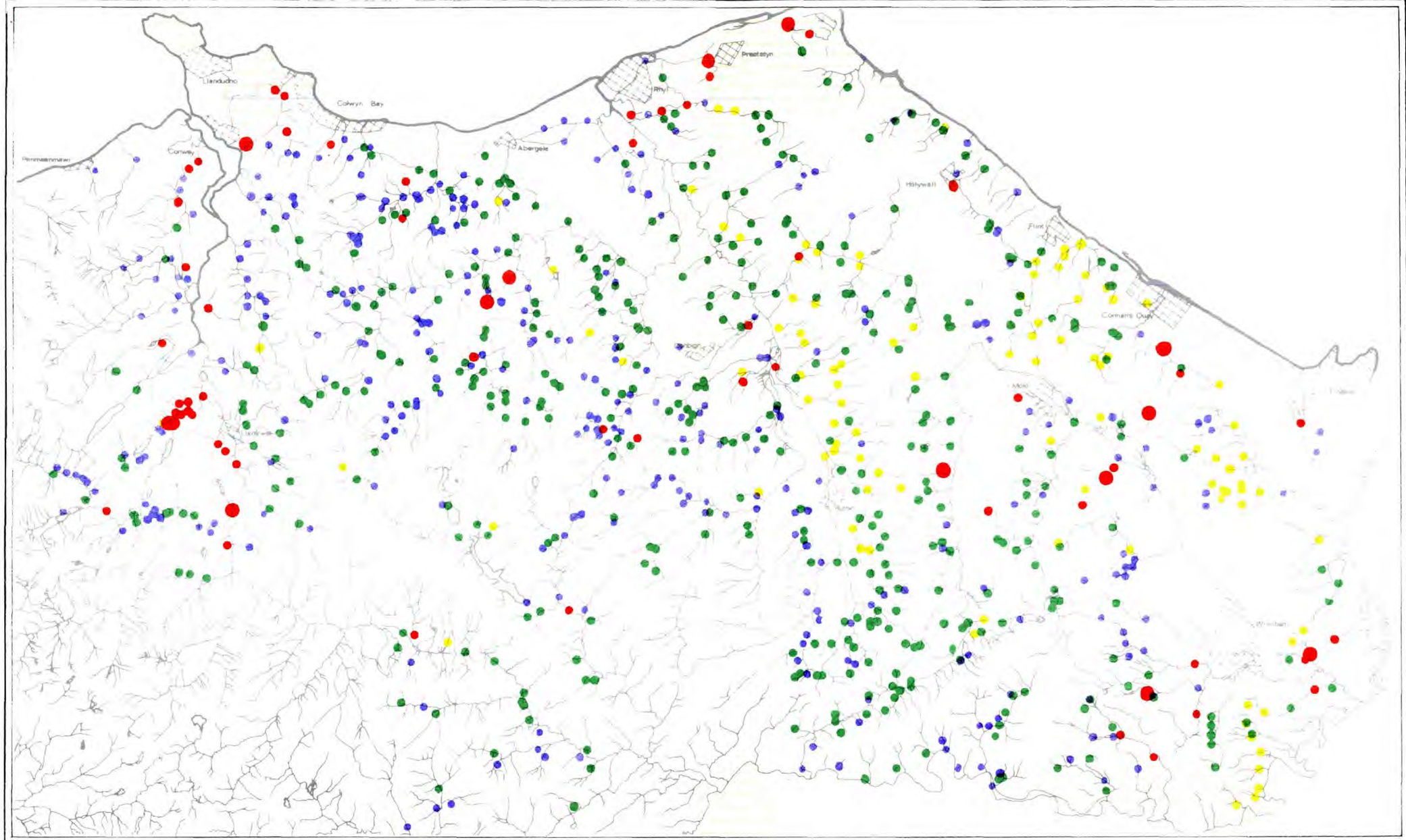
COBALT

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

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FIGURE 17



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

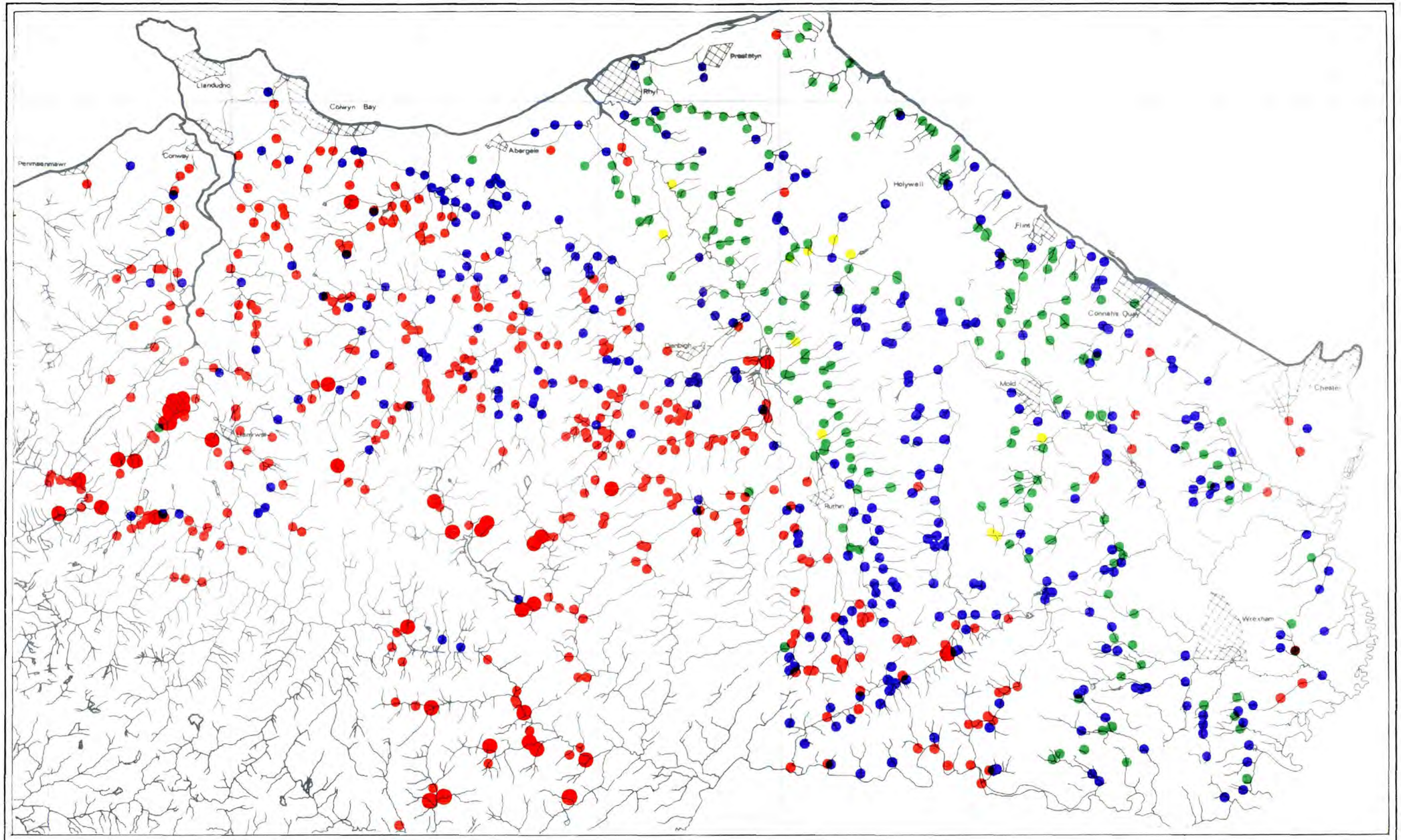
COPPER

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

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FIGURE 18



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

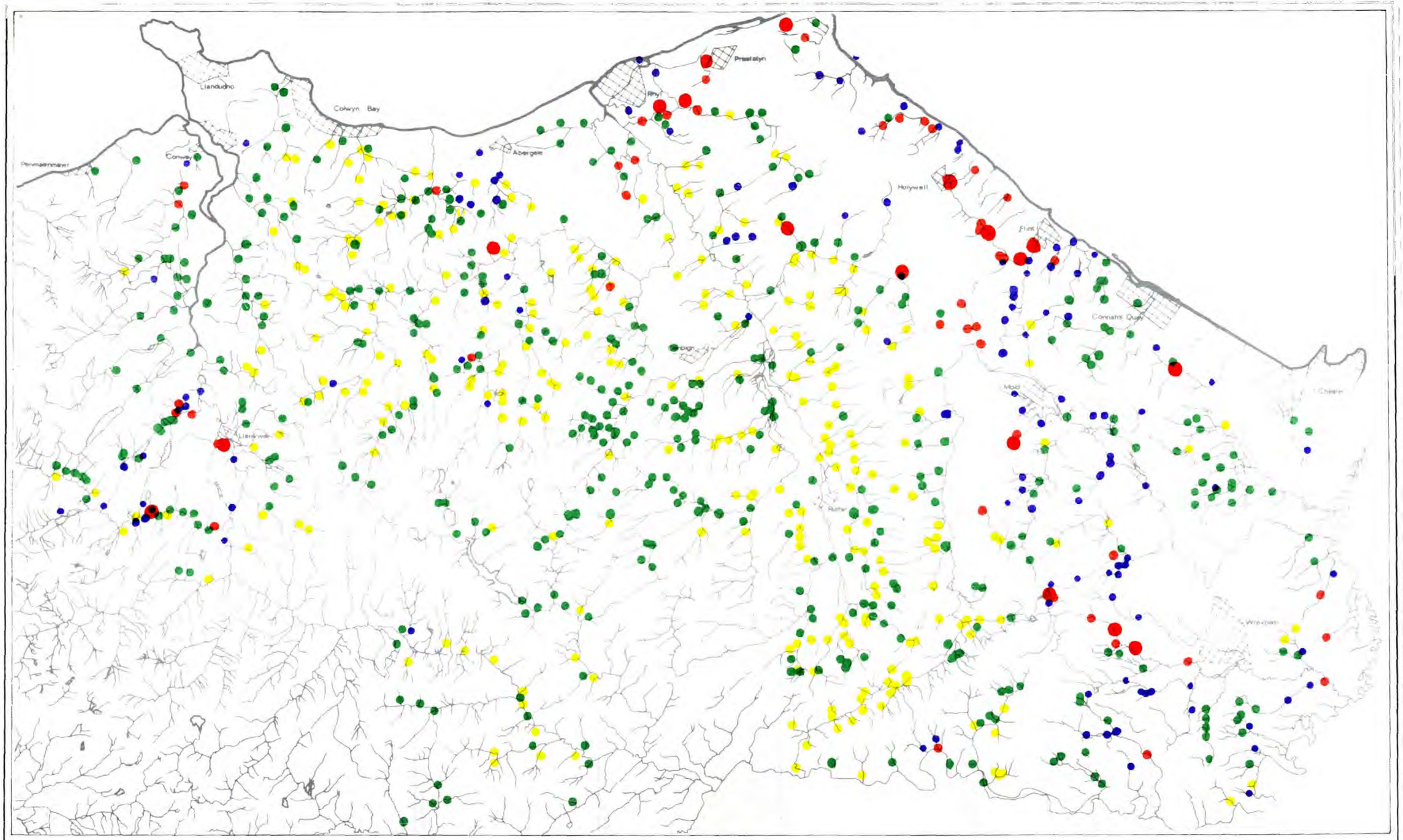
FERRIC OXIDE

Metal content of stream sediments
(% in minus 80-mesh fraction)

- 0·0-0·7
- 0·7-1·5
- 1·5-3·0
- 3·0-7·0
- >7·0

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FIGURE 19



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

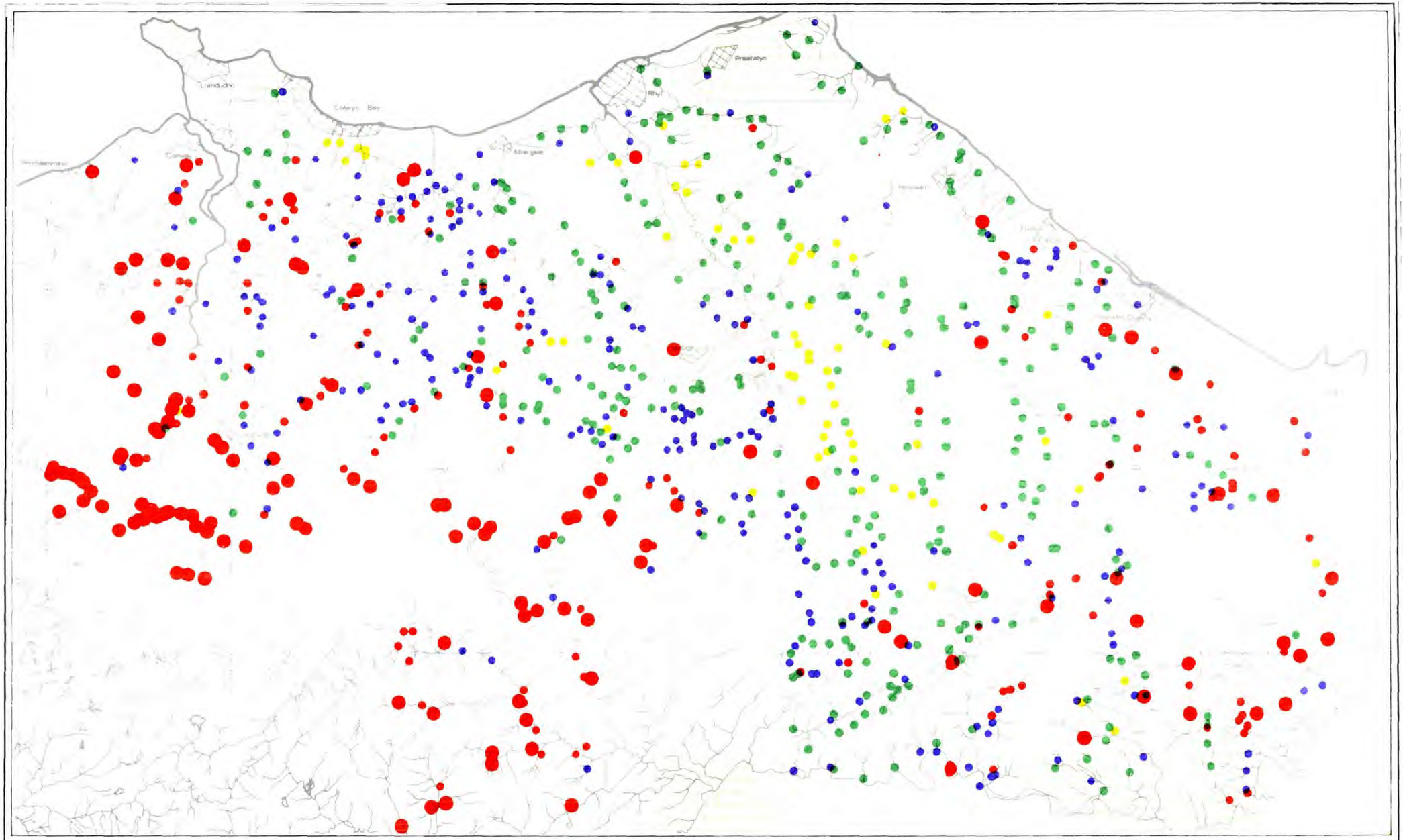
LEAD

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-30
- 30-150
- 150-700
- 700-3000
- >3000

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FINITE 20



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

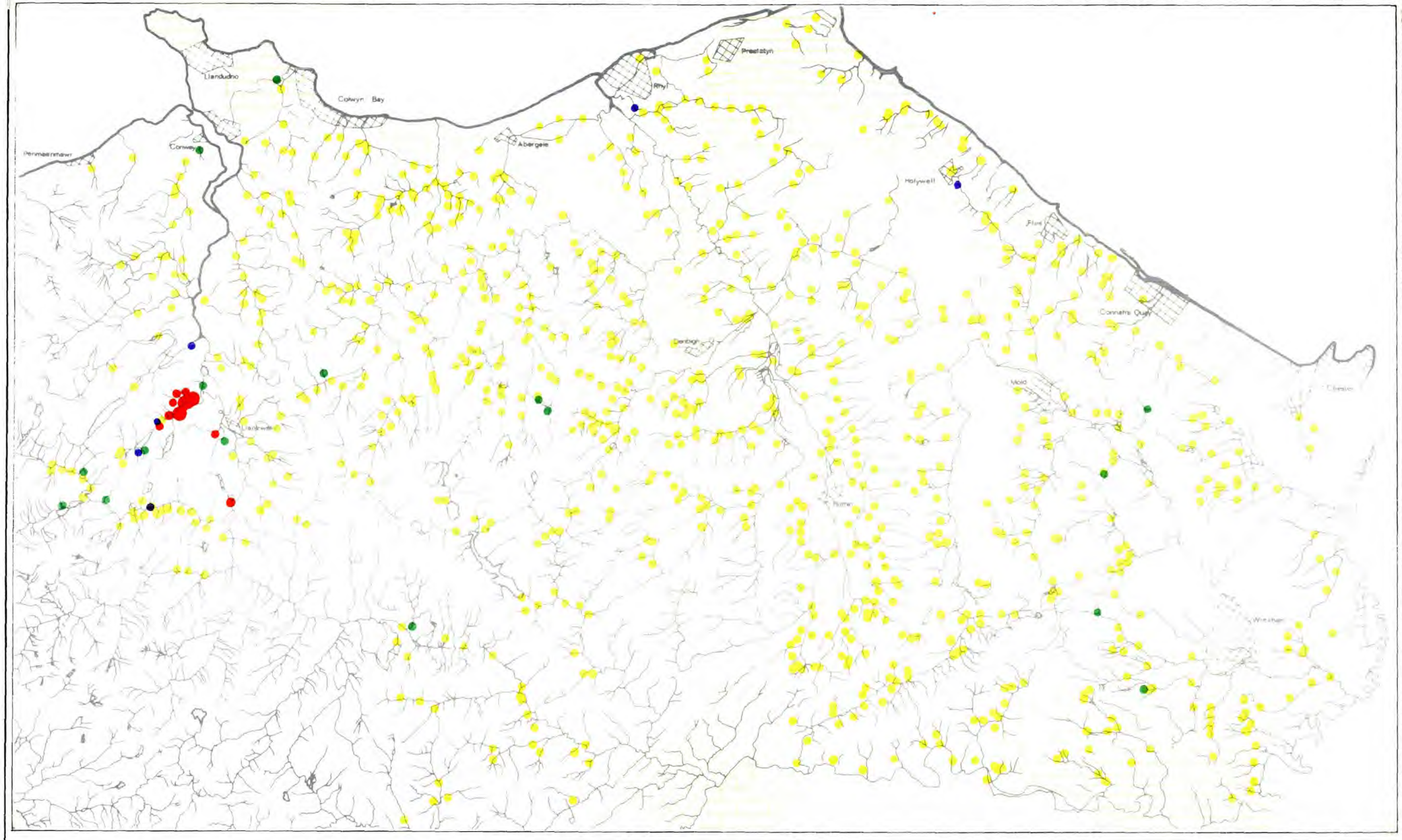
MANGANESE

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-150
- 150-300
- 300-700
- 700-1500
- >1500

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FIGURE 21



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

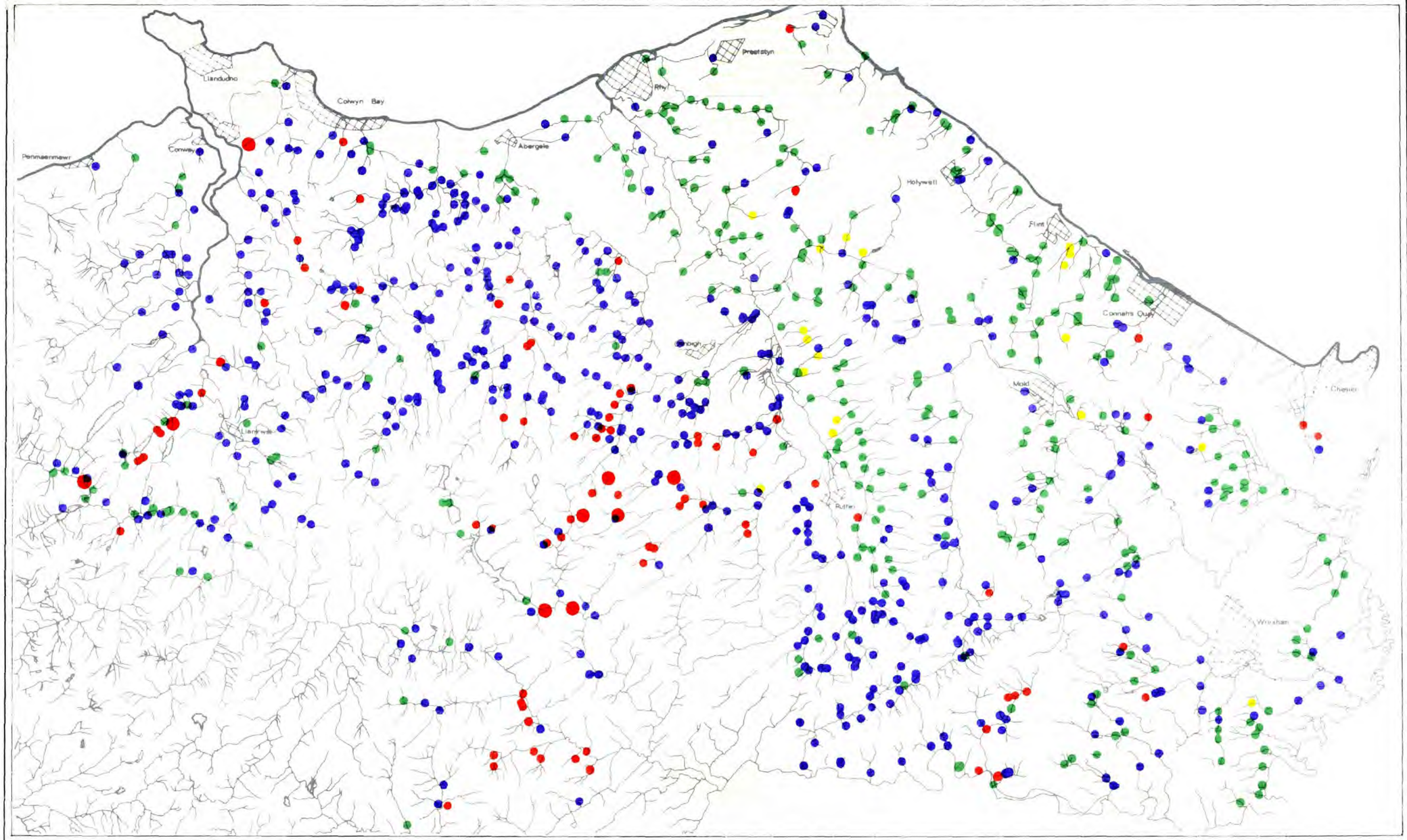
MOLYBDENUM

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-3
- 3-7
- 7-15
- 15-30
- >30

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ANNEX 22



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

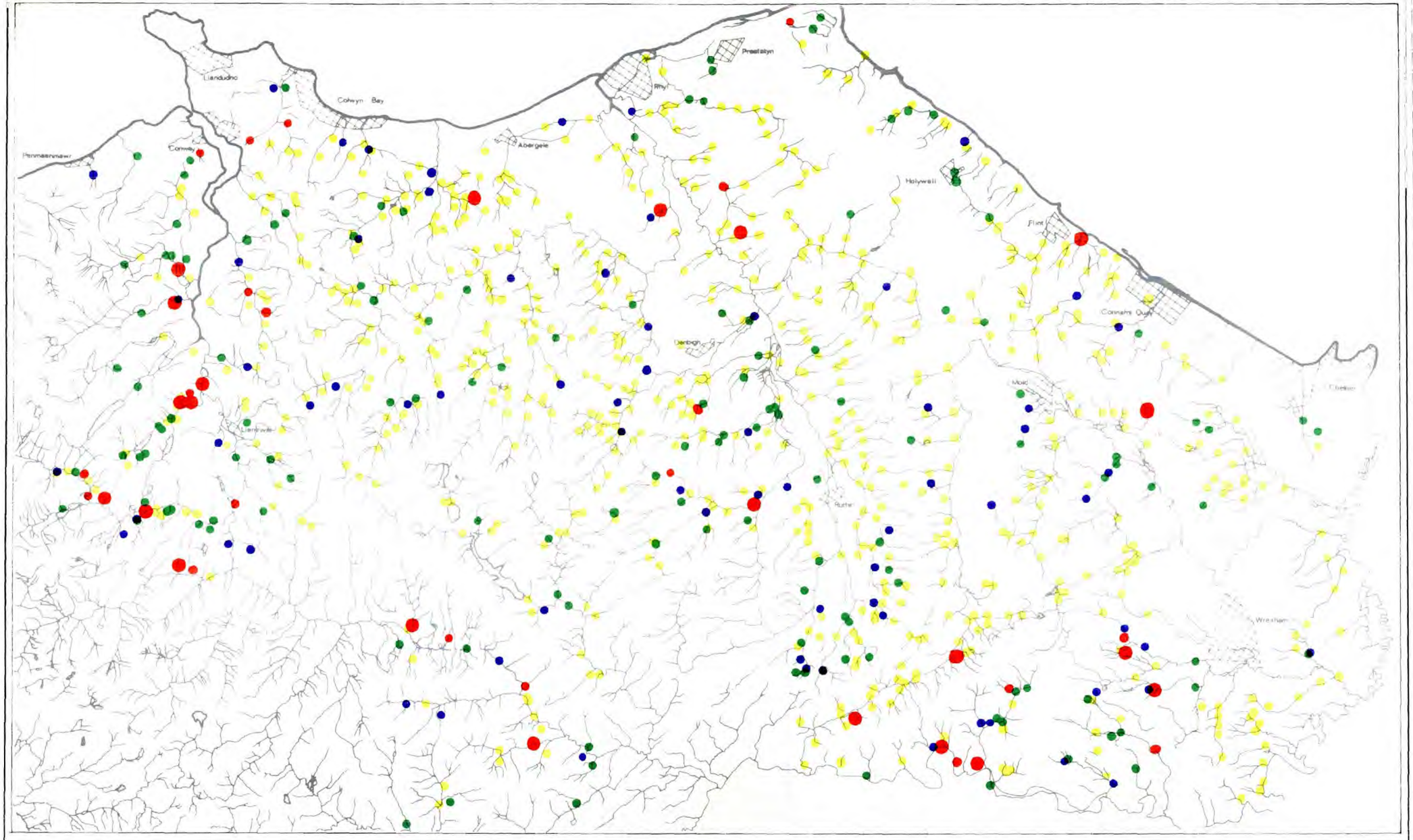
NICKEL

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0 - 15
- 15 - 30
- 30 - 70
- 70 - 150
- >150

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FIGURE 23



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

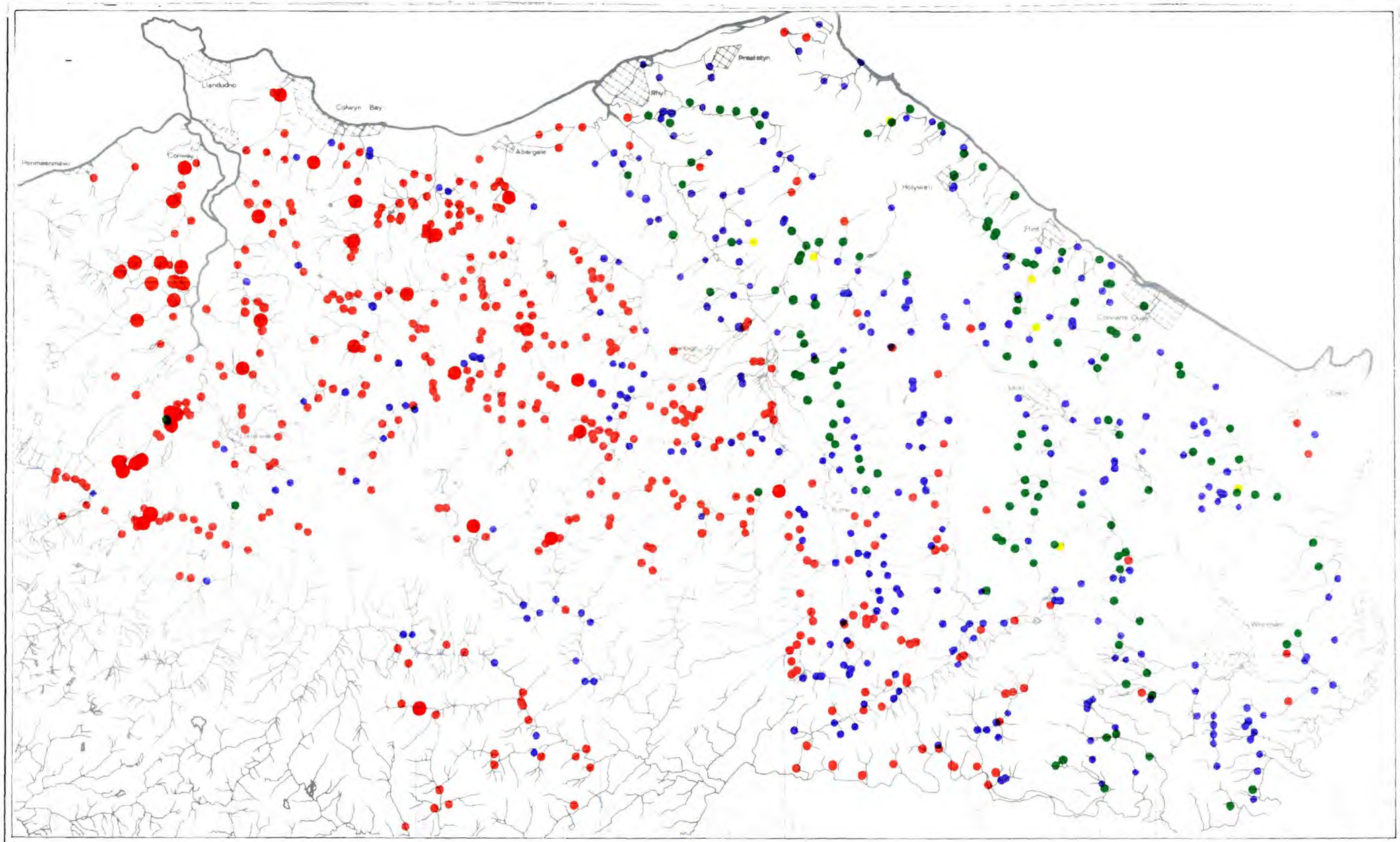
TIN

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-7
- 7-15
- 15-30
- 30-70
- >70

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FIGURE 24



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

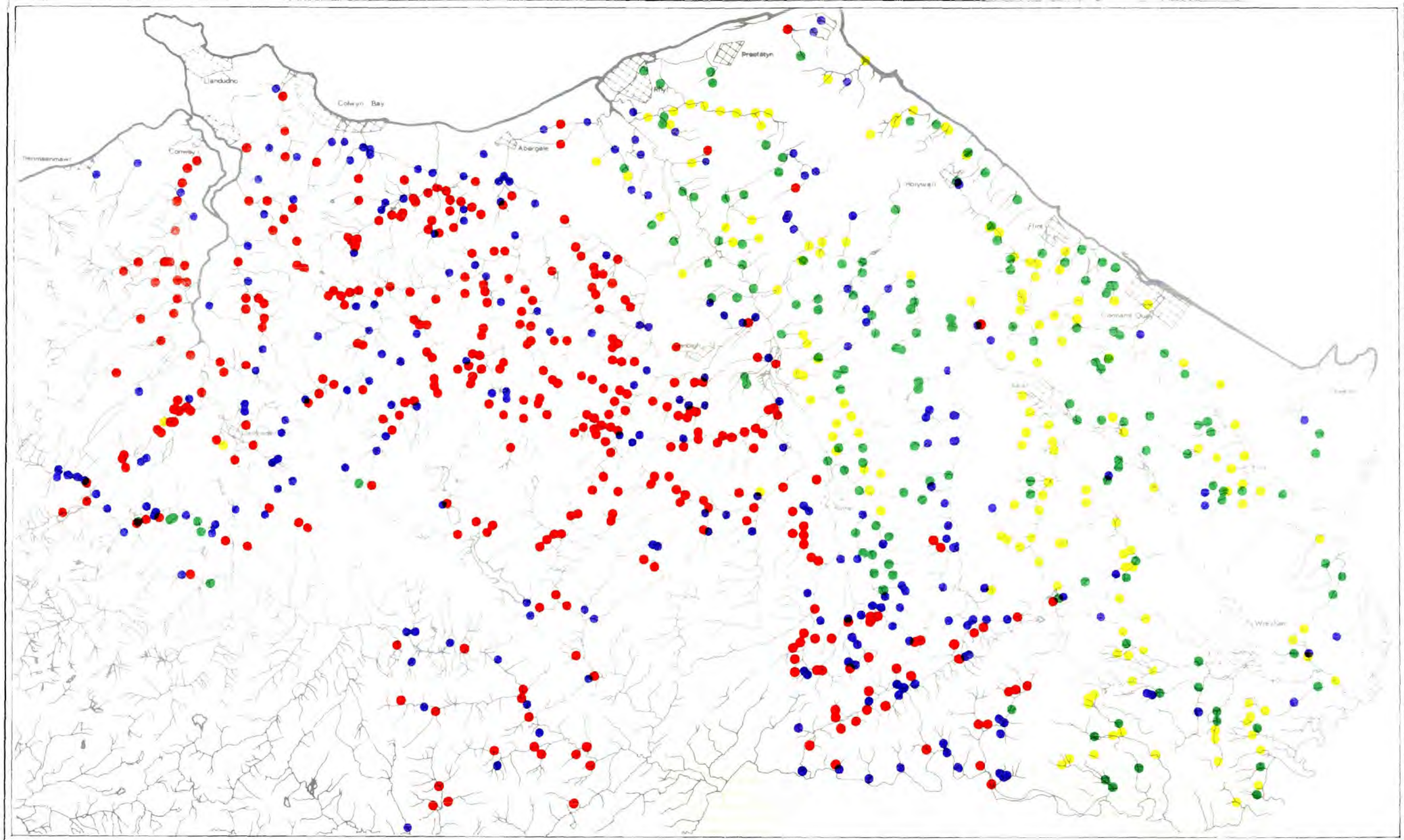
TITANIUM

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-700
- 700-1500
- 1500-3000
- 3000-7000
- >7000

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FIGURA 25



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

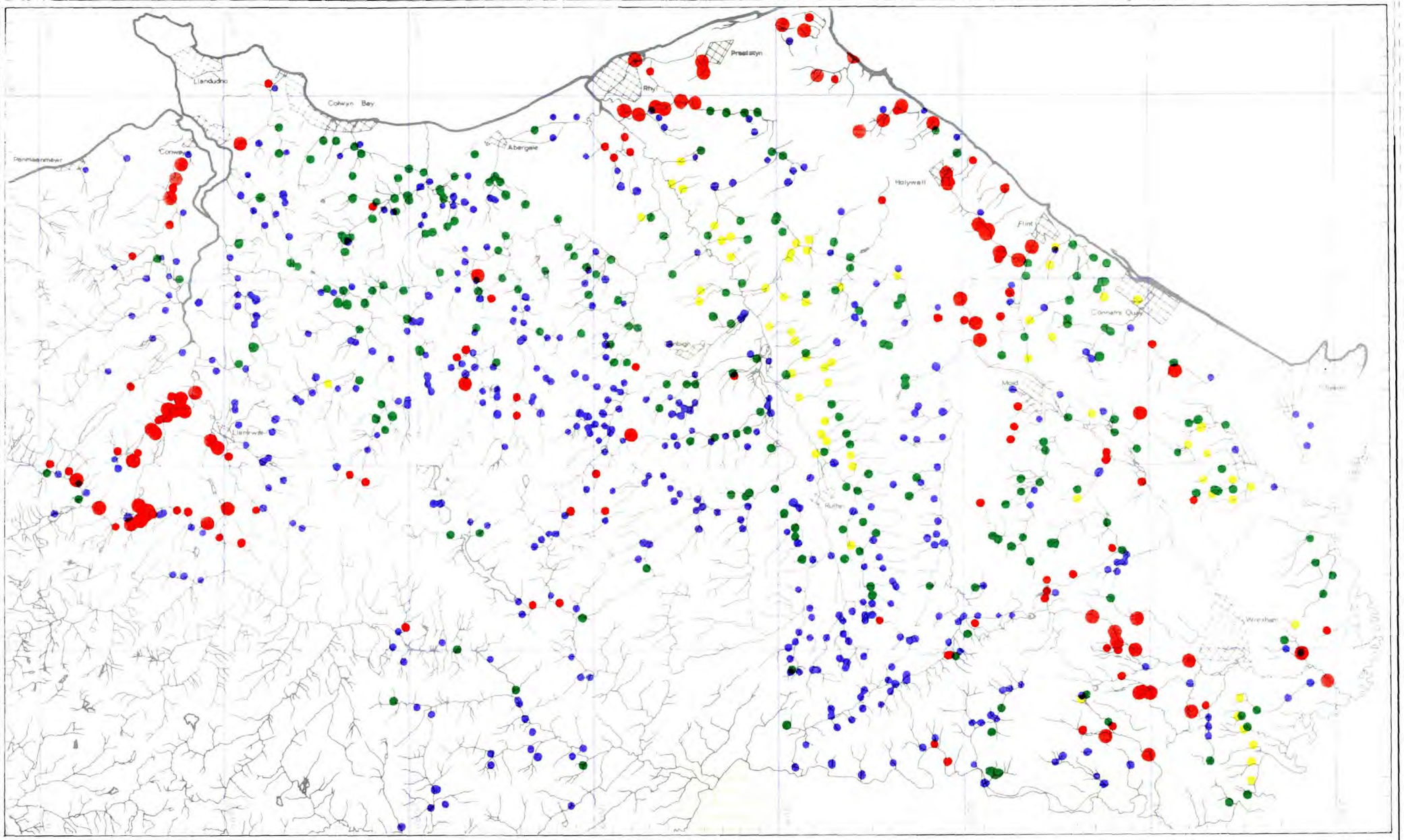
VANADIUM

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-30
- 30-70
- 70-150
- >150

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FIGURE 26



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

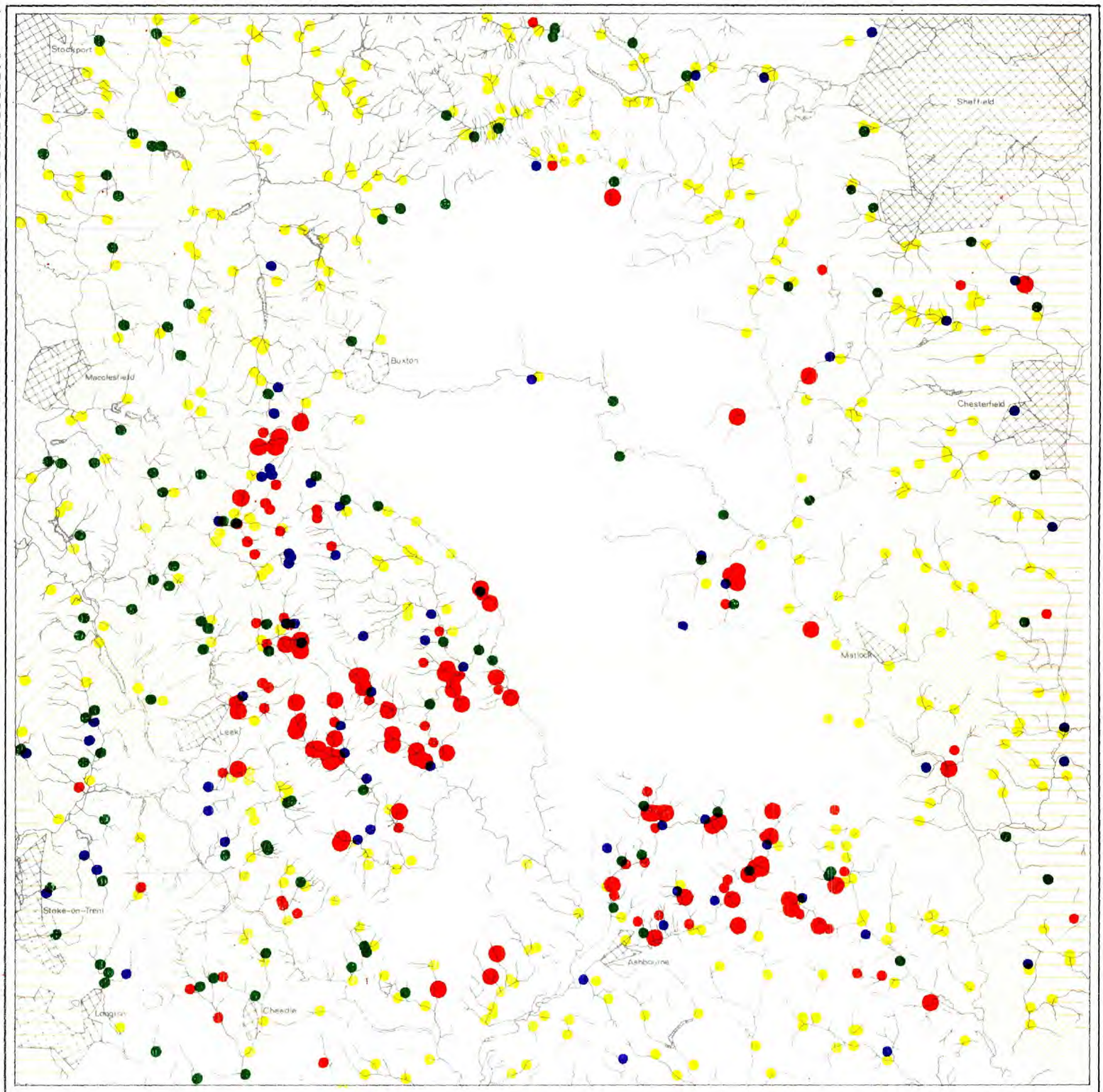
ZINC

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-70
- 70-150
- 150-300
- 300-700
- >700

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FEB 27 1987



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Project 65

May 1967

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Imperial College, London, S.W.7.

N

0 1 2 3 4

miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

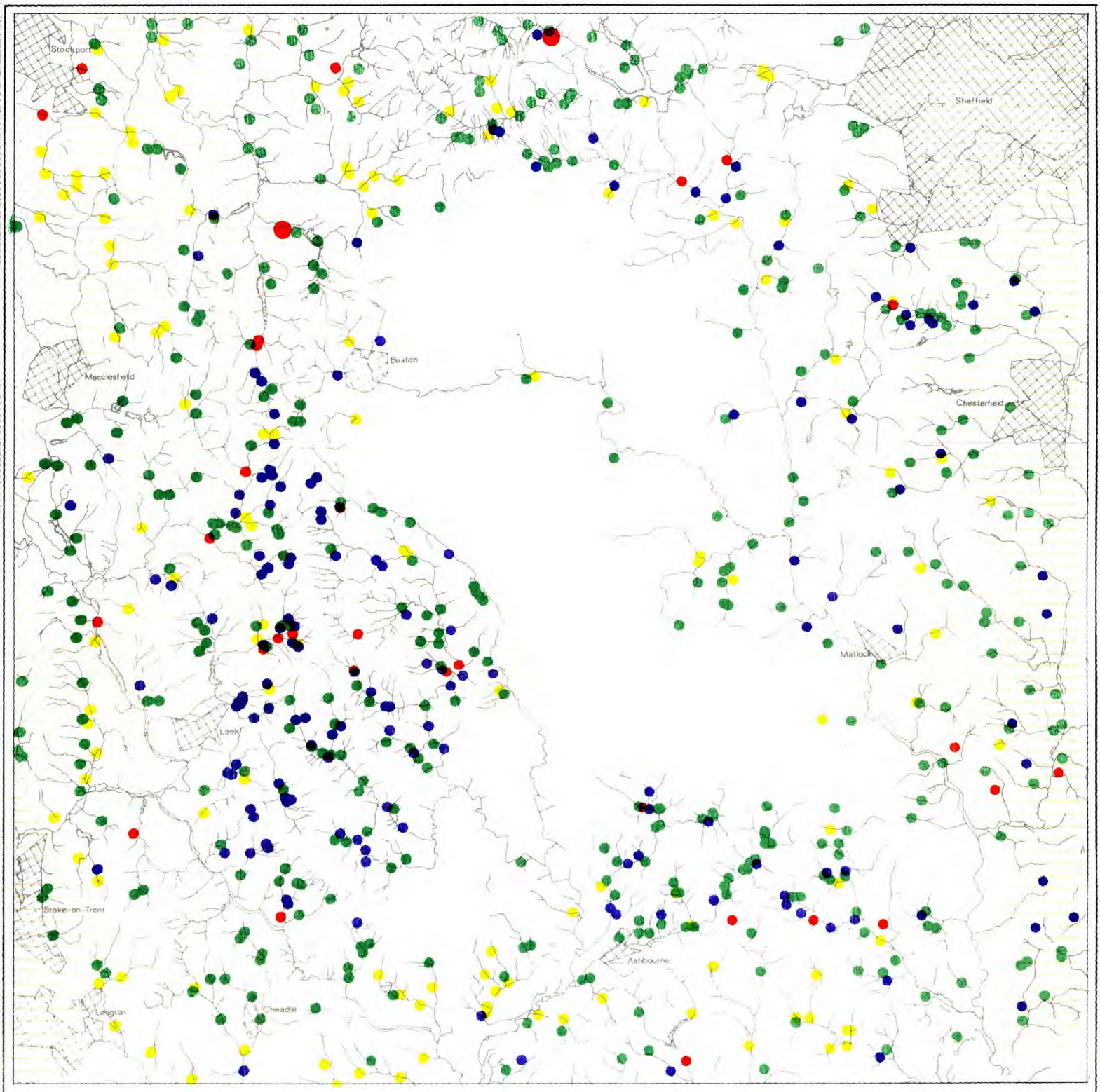
ARSENIC

Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0·3
- 3·7
- 7·15
- 15·30
- >30

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FIGURE 28



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Project 65

May 1967

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Imperial College, London, S.W.7.

N

0 1 2 3 4

miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

CHROMIUM

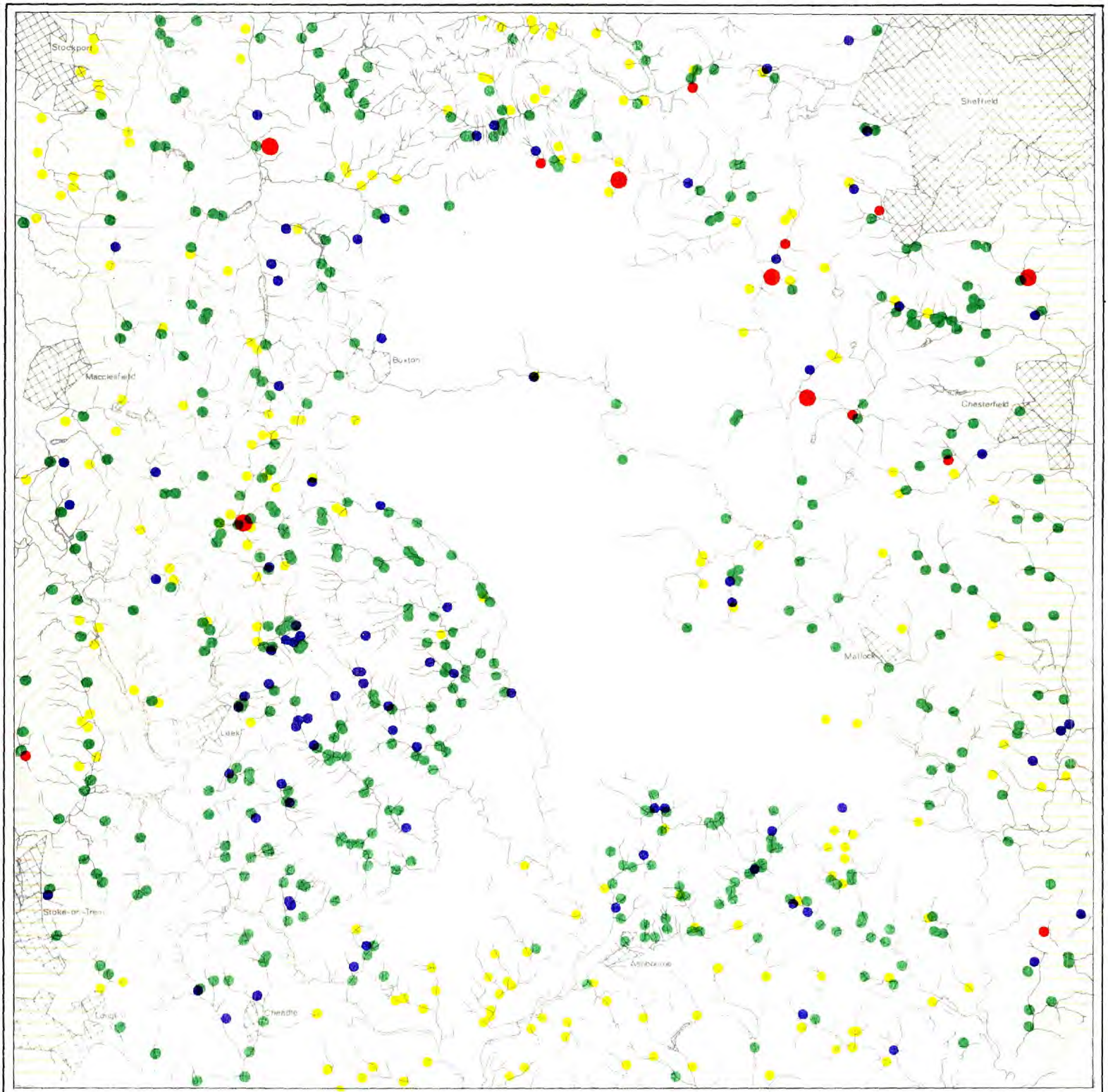
Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0-30
- 30-70
- 70-150
- 150-300
- >300

Regional Geochemical Survey for N.E.R.C.

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FIGURE 29



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

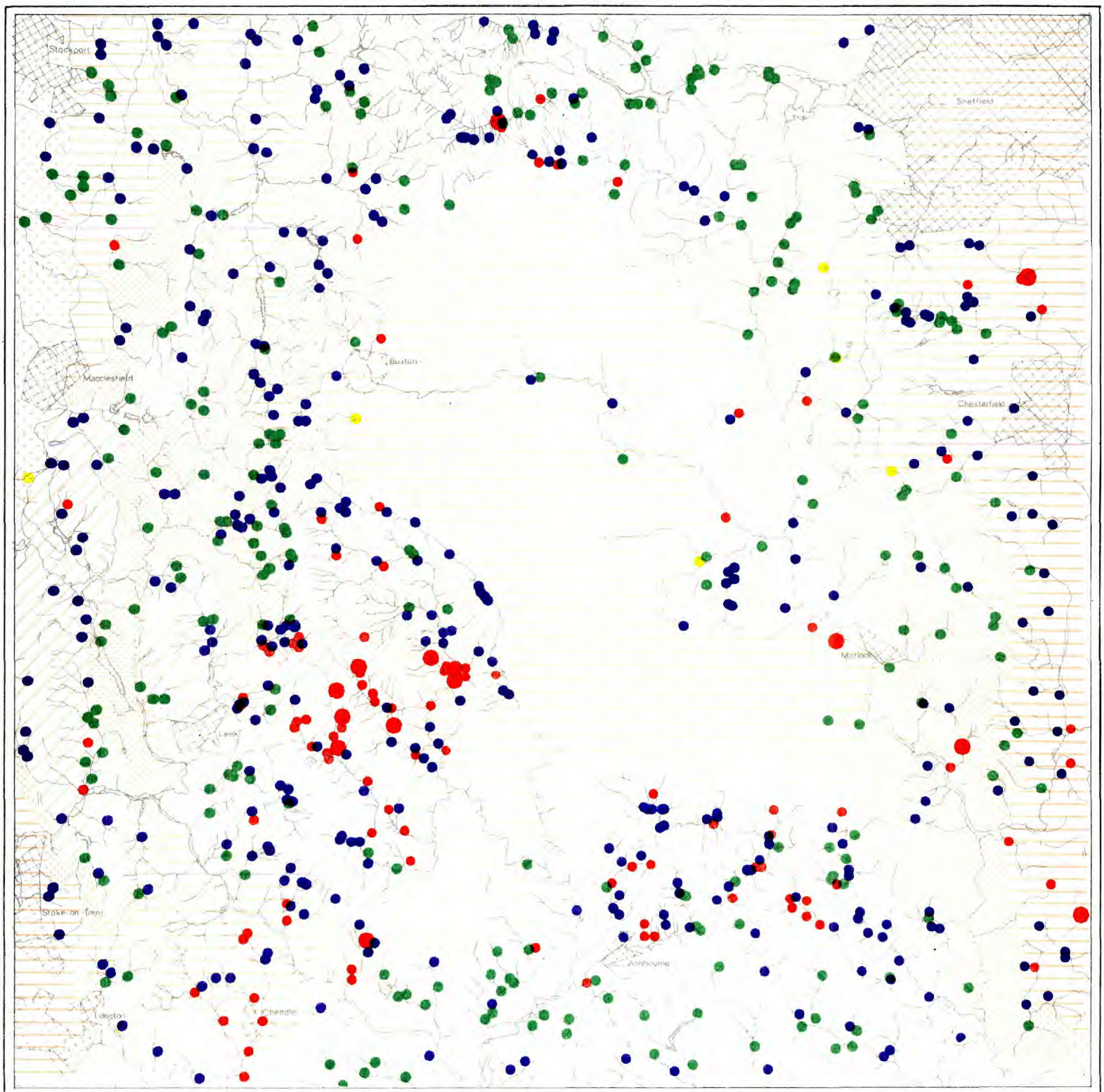
COBALT

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

Regional Geochemical Survey for N.E.R.C.
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FIGURE 50



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Project 65

May 1967

Applied Geochemistry Research Group

Imperial College, London, S.W.7.

N

0 1 2 3 4

miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

COPPER

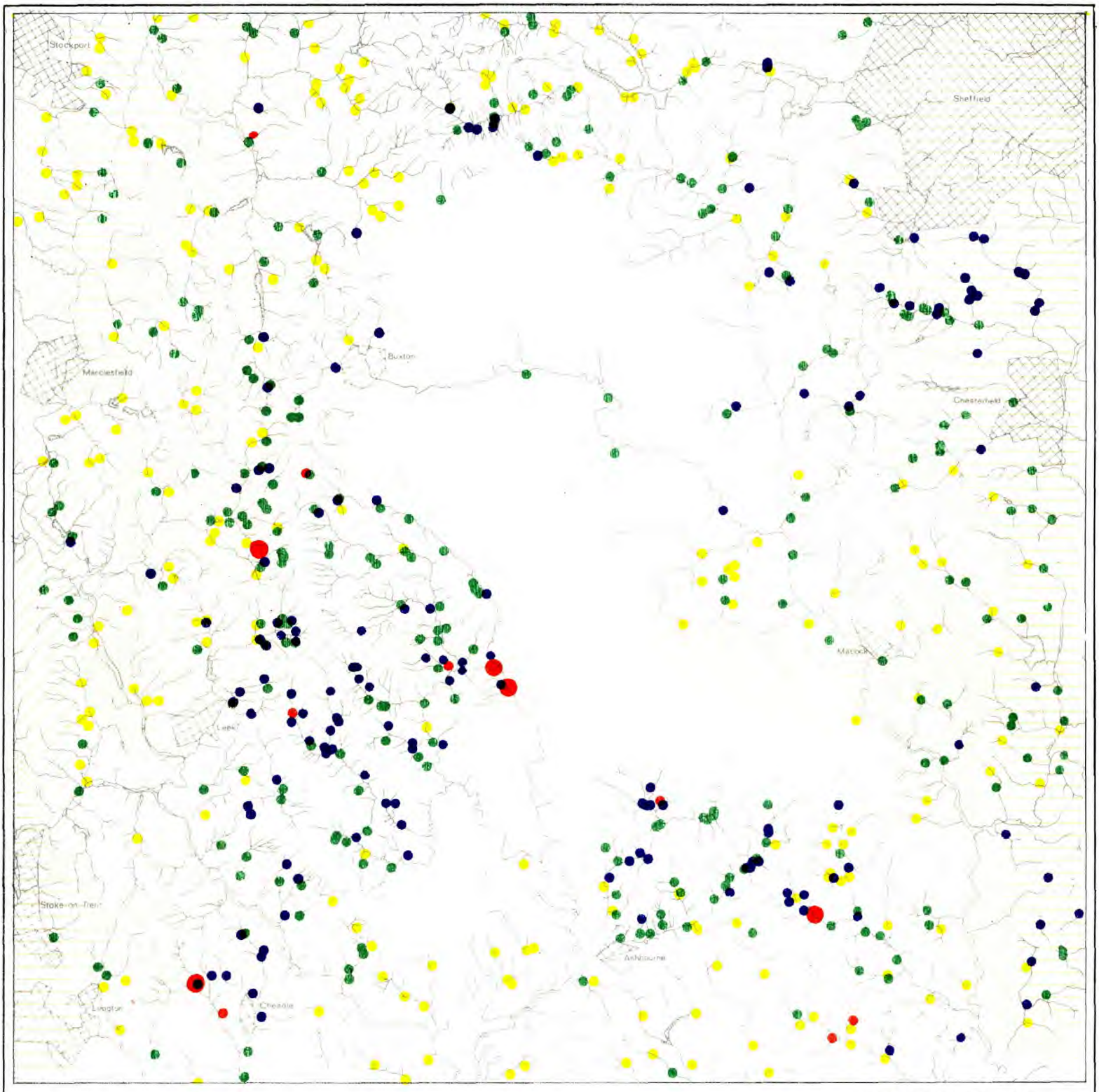
Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

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FIGURE S1



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

FERRIC OXIDE

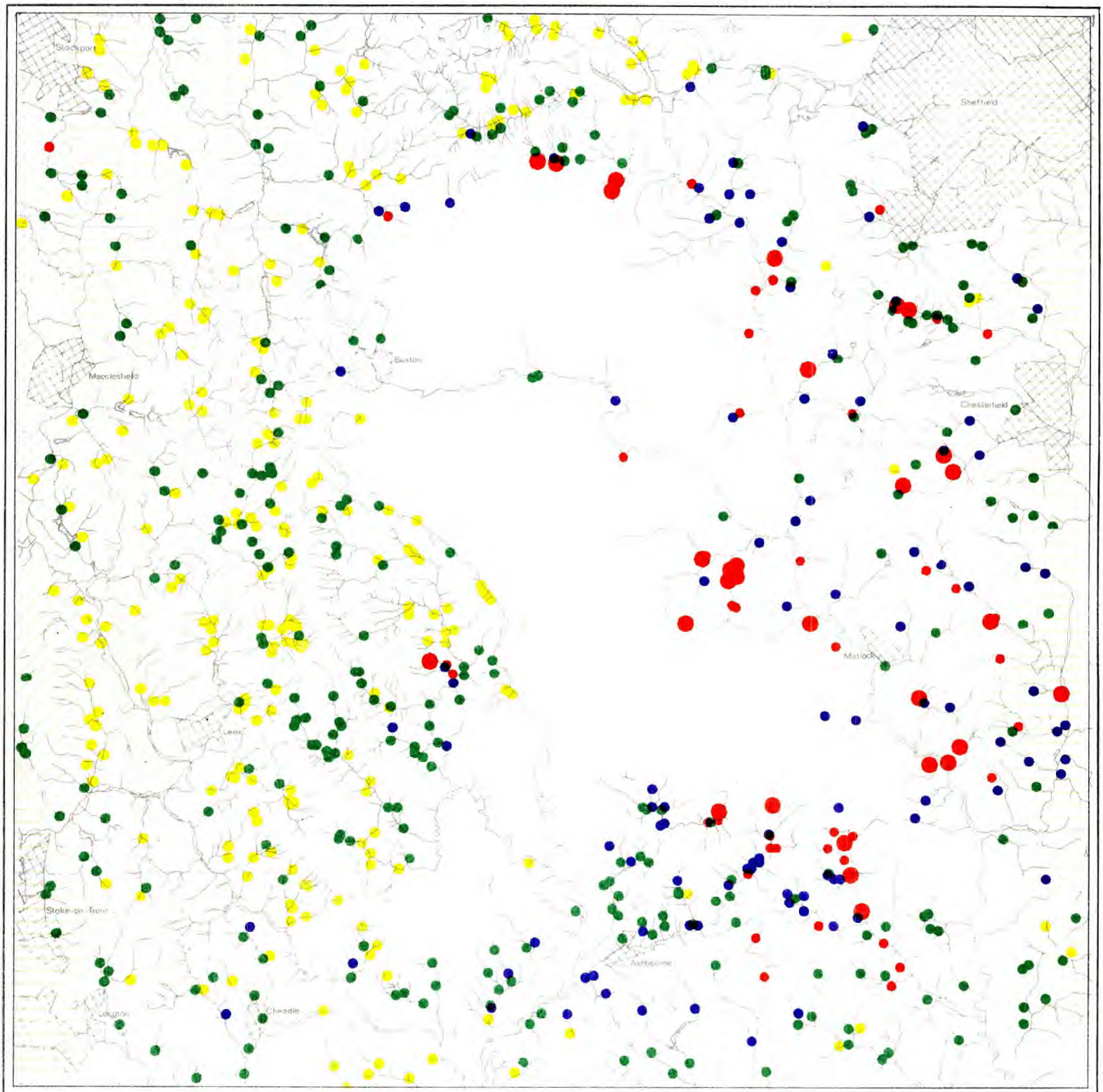
Metal content of stream sediments
(% in minus 80-mesh fraction)

- 0·0-0·7
- 0·7-1·5
- 1·5-3·0
- 3·0-7·0
- >7·0

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FIGURE 32



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

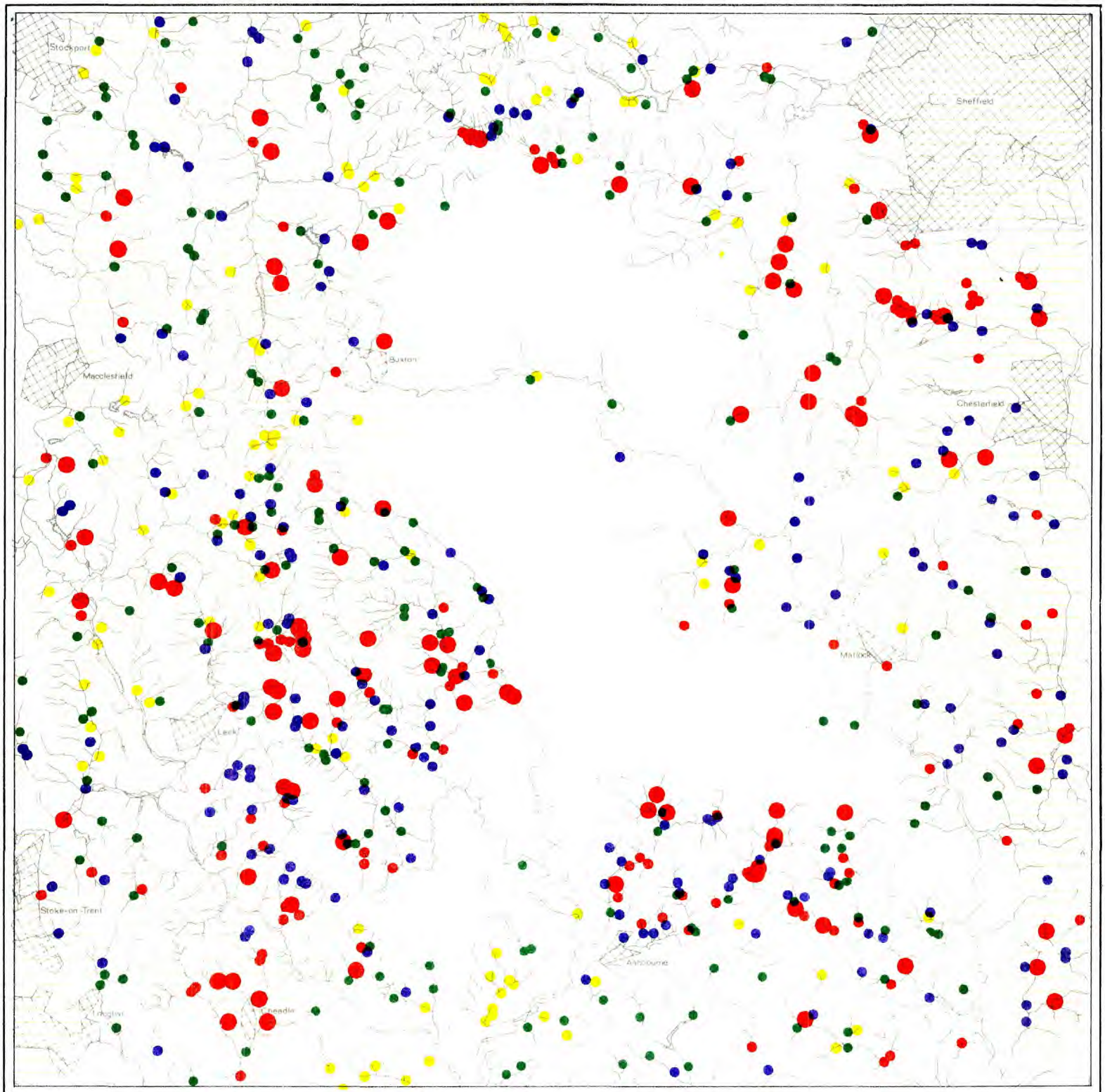
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

LEAD

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-30
- 30-150
- 150-700
- 700-3000
- >3000

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REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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N

0 1 2 3 4

miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

MANGANESE

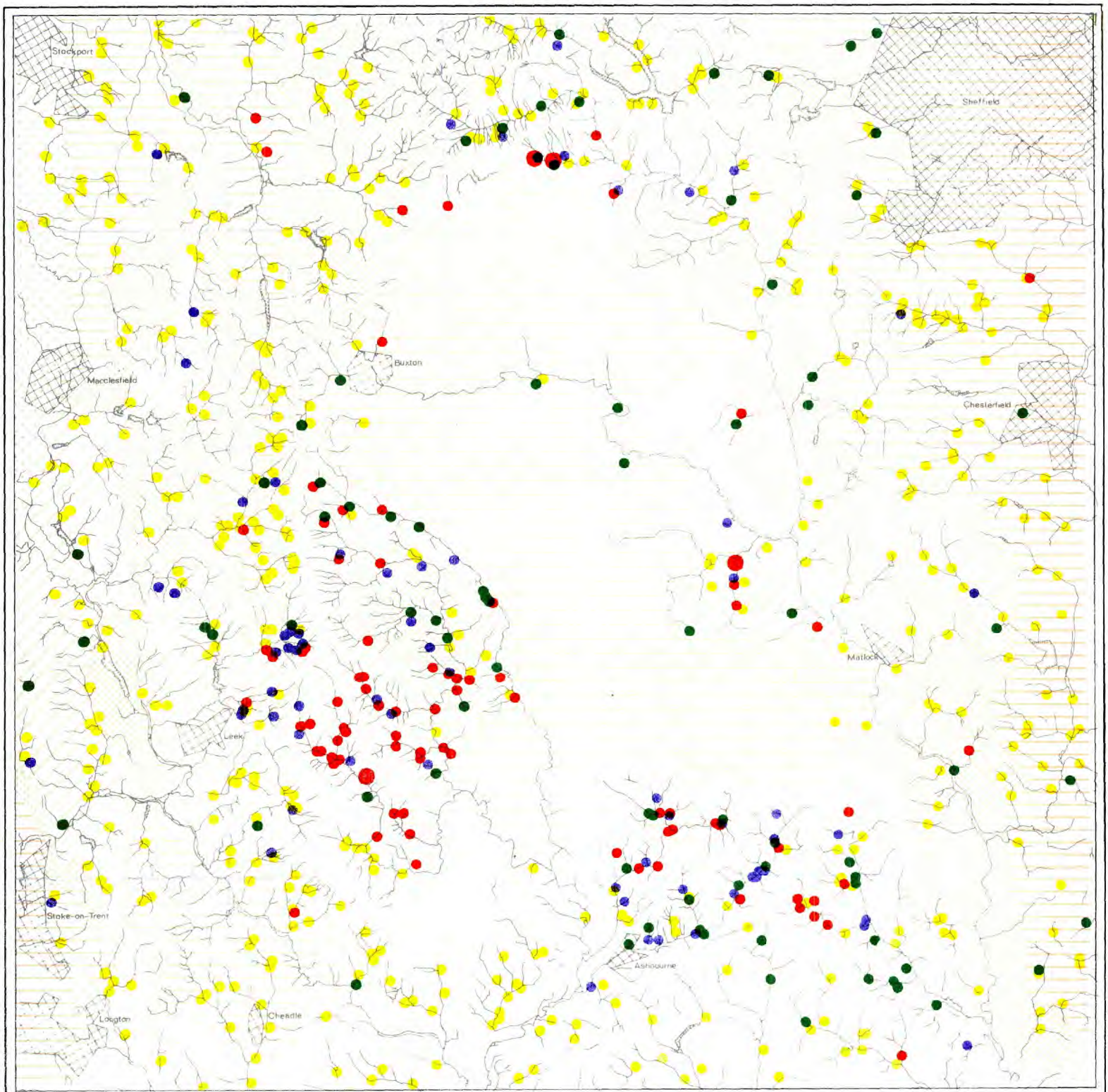
Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0 - 150
- 150 - 300
- 300 - 700
- 700 - 1500
- >1500

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FIGURE 34



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

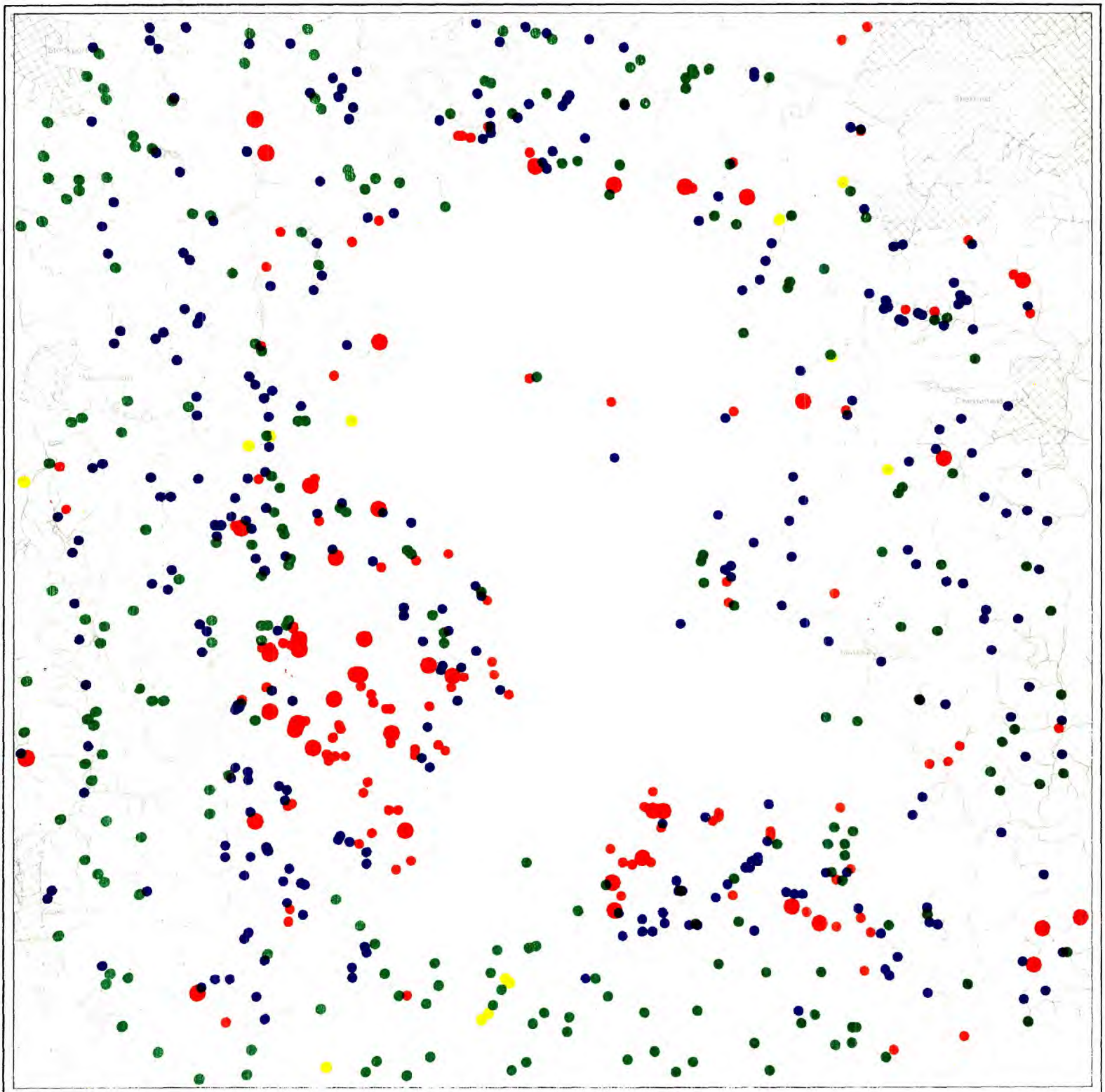
MOLYBDENUM

Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0·3
- 3·7
- 7·15
- 15·30
- >30

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FIGURE 35



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

NICKEL

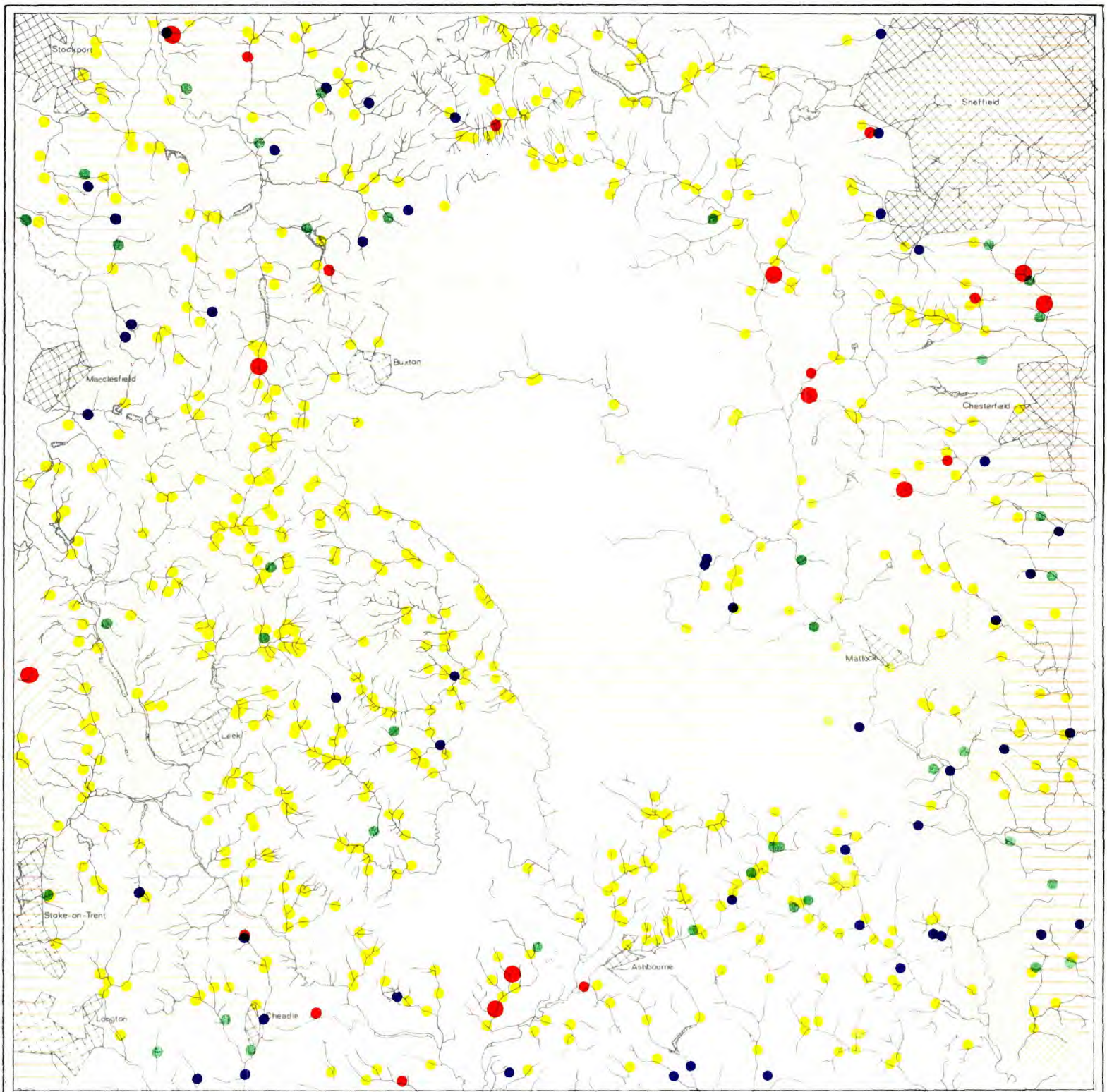
Metal content of stream sediments
(p.p.m. in minus 80-mesh fraction)

- 0-15
- 15-30
- 30-70
- 70-150
- >150

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FIGURE 36



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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N

0 1 2 3 4

miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

TIN

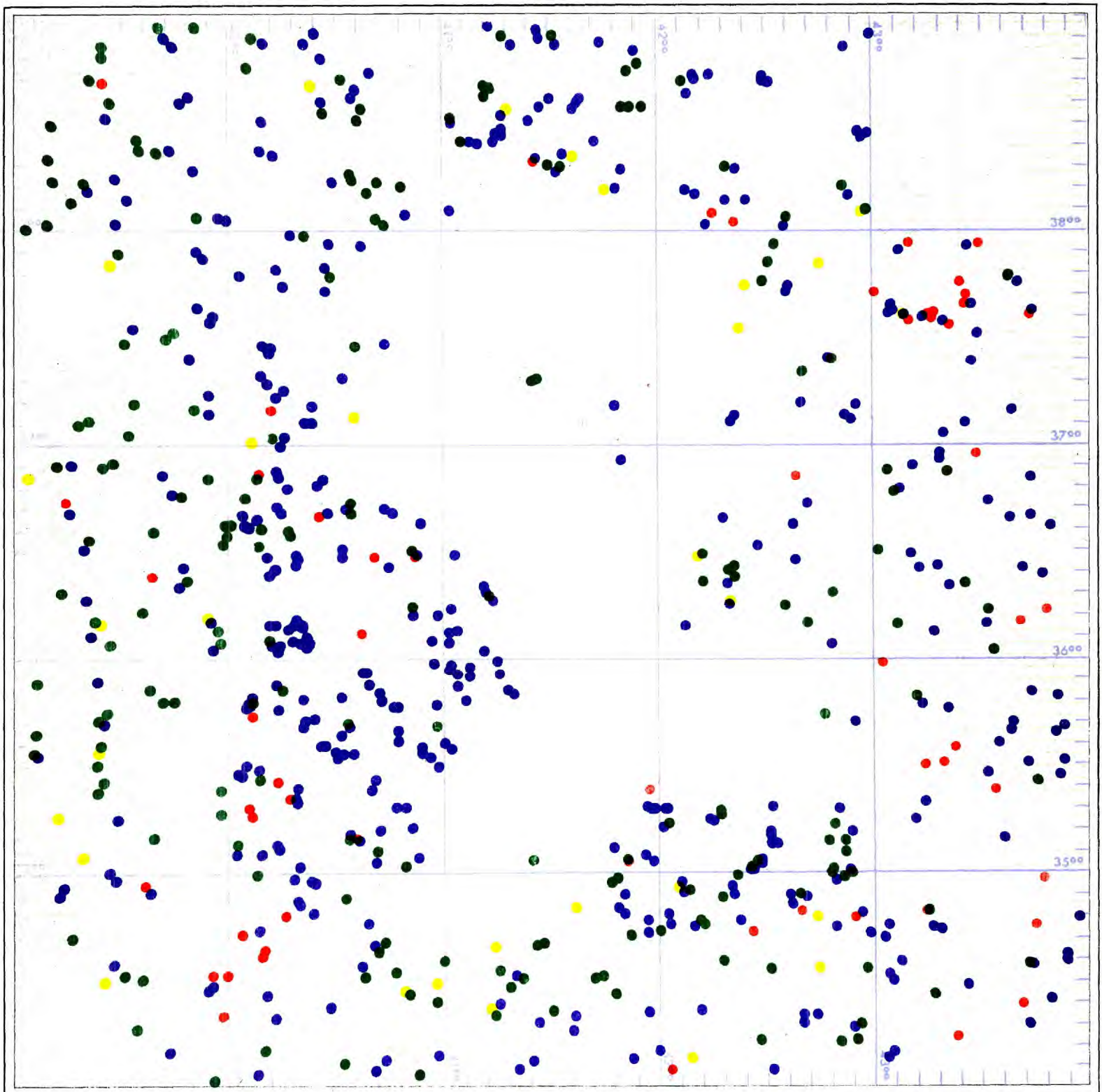
Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0-7
- 7-15
- 15-30
- 30-70
- >70

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FIGURE 57



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

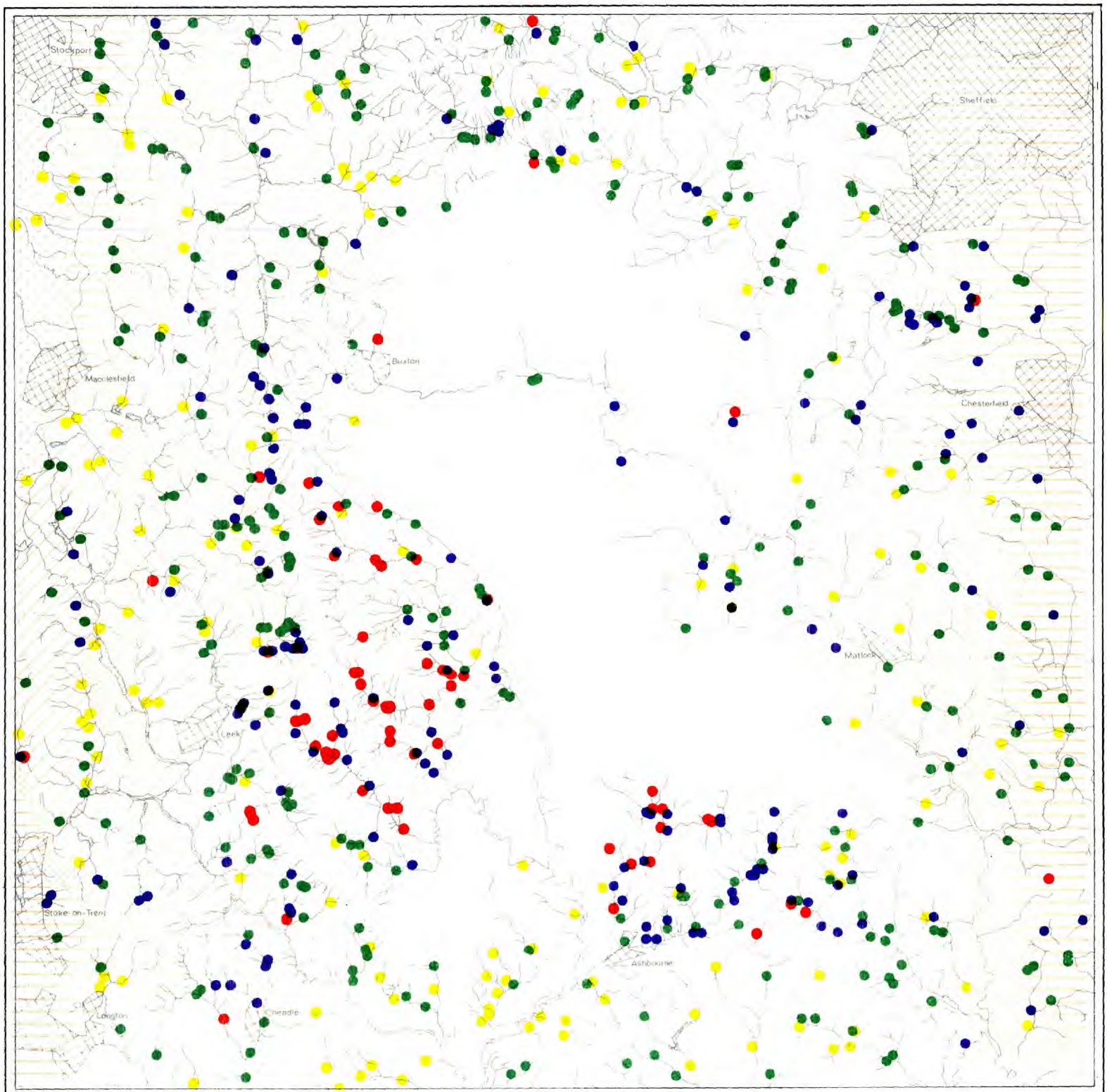
TITANIUM

Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0-700
- 700-1500
- 1500-3000
- >3000

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FIGURE 38



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

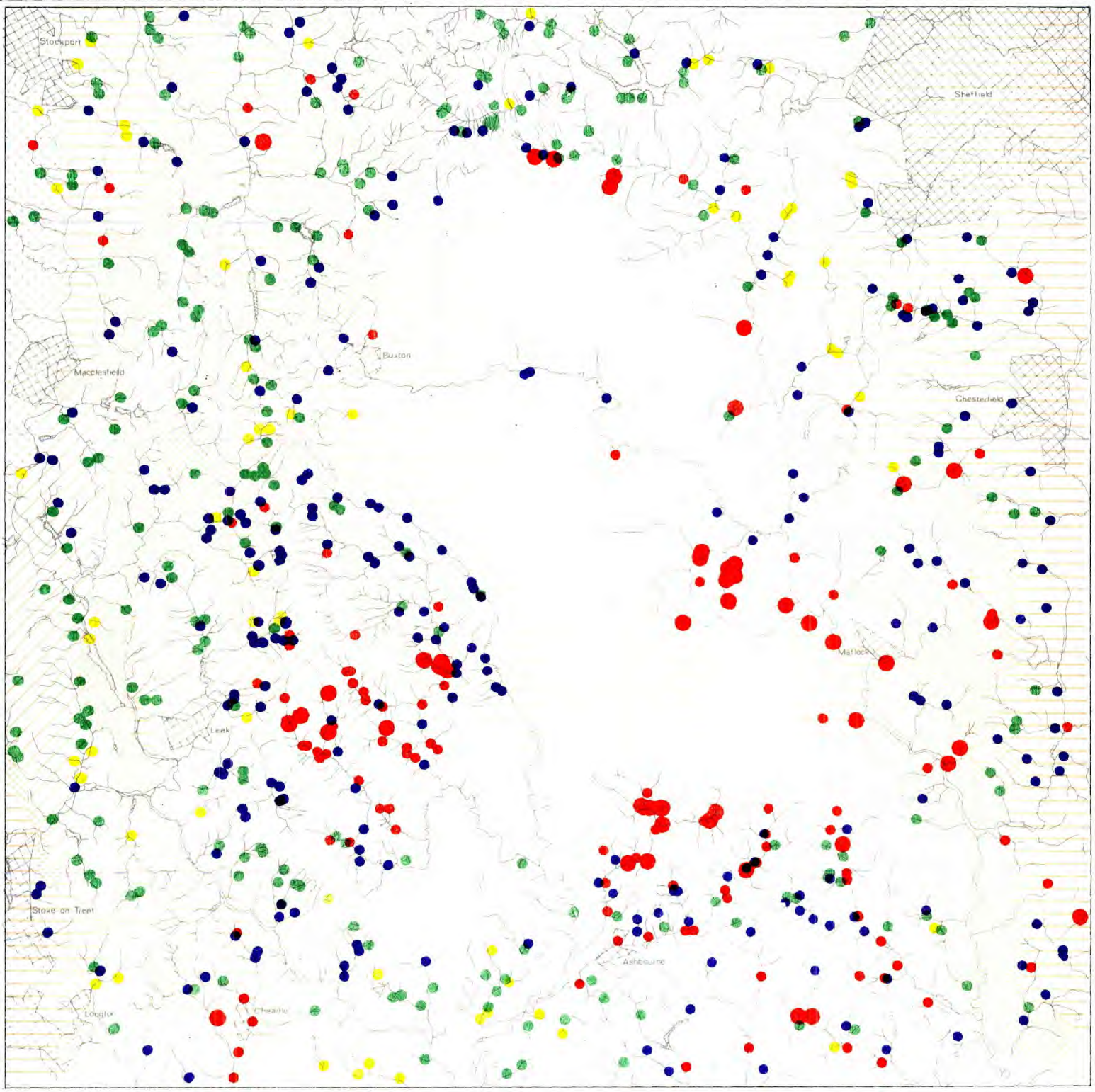
VANADIUM

Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0-30
- 30-70
- 70-150
- >150

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FIGURE 39



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

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N

0 1 2 3 4

miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

ZINC

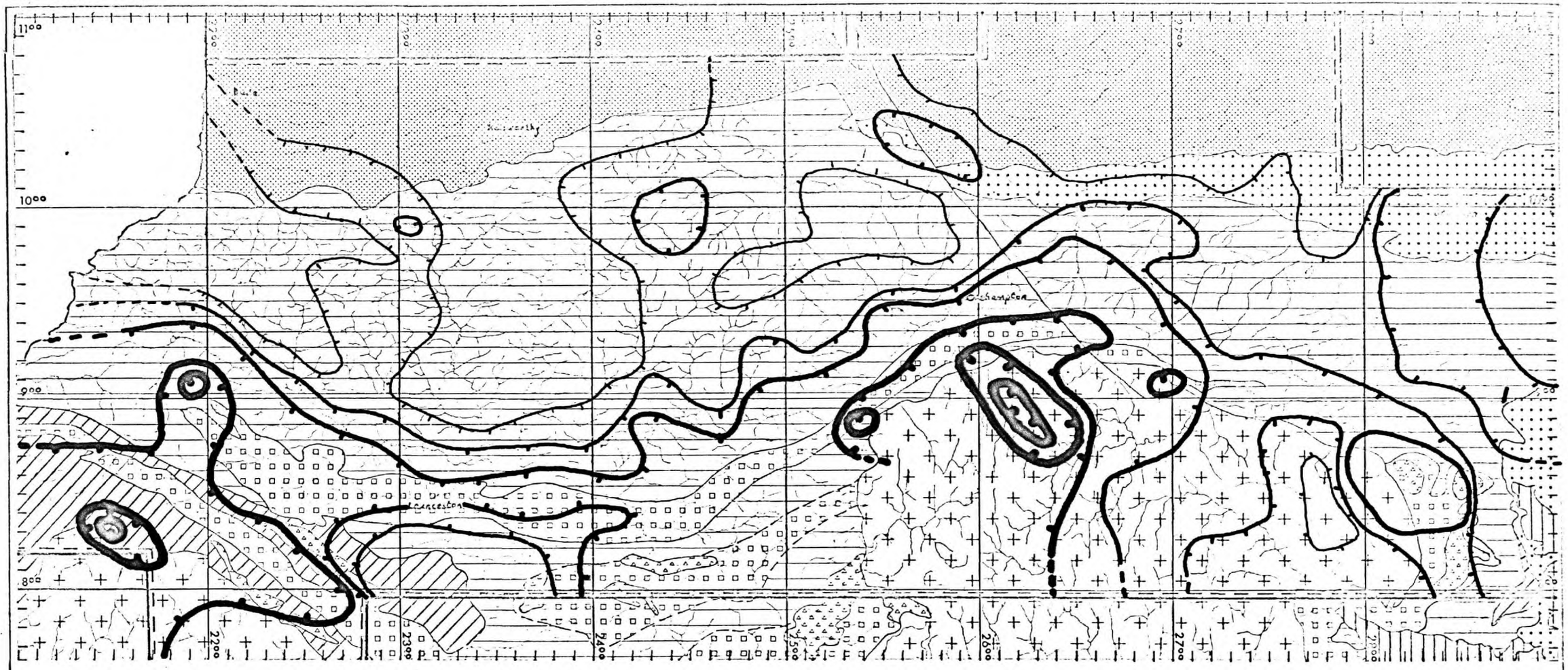
Metal content of stream sediments (p.p.m. in minus 80-mesh fraction)

- 0-70
- 70-150
- 150-300
- 300-700
- >700

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FIGURE 40



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

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GEOLOGICAL KEY

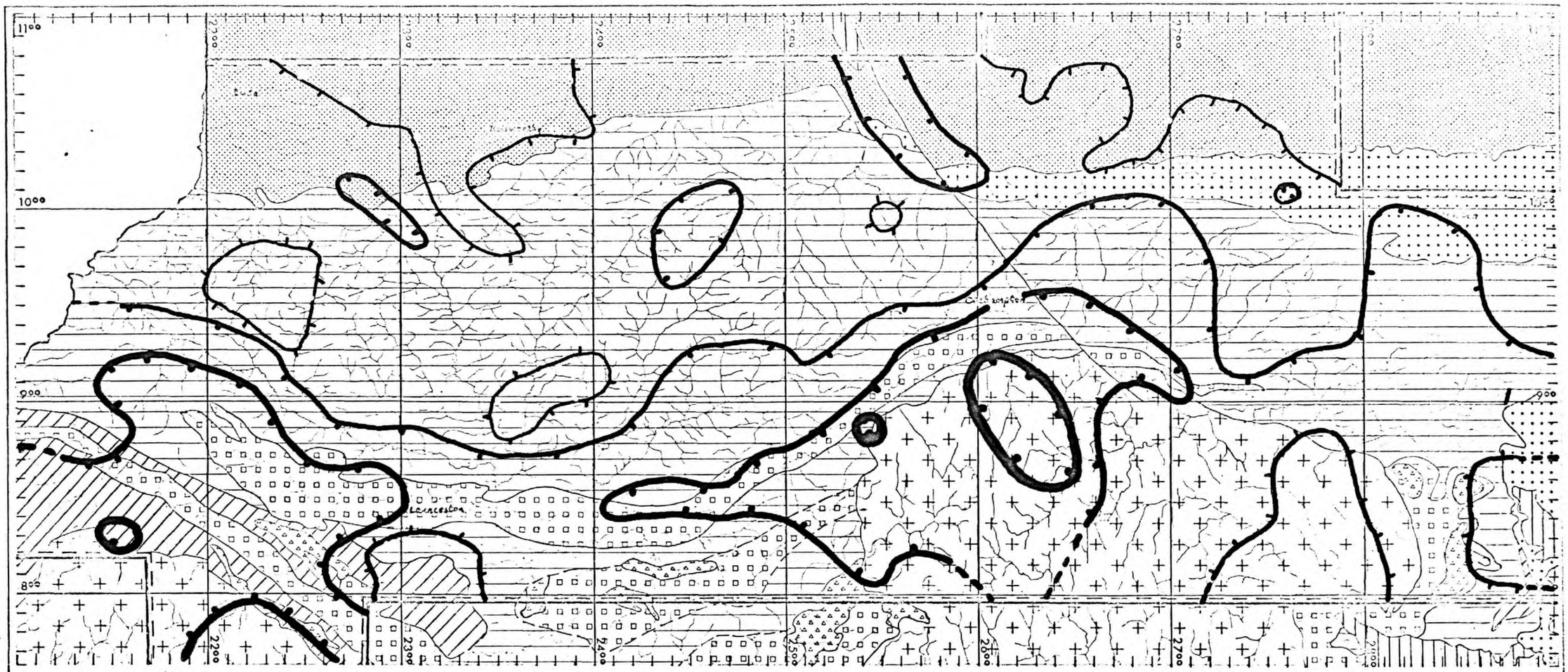
TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

ARSENIC – MOVING AVERAGE
(concentration in ppm)

>300	30–69
150–299	15–29
70–149	7–14

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FIGURE 41



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

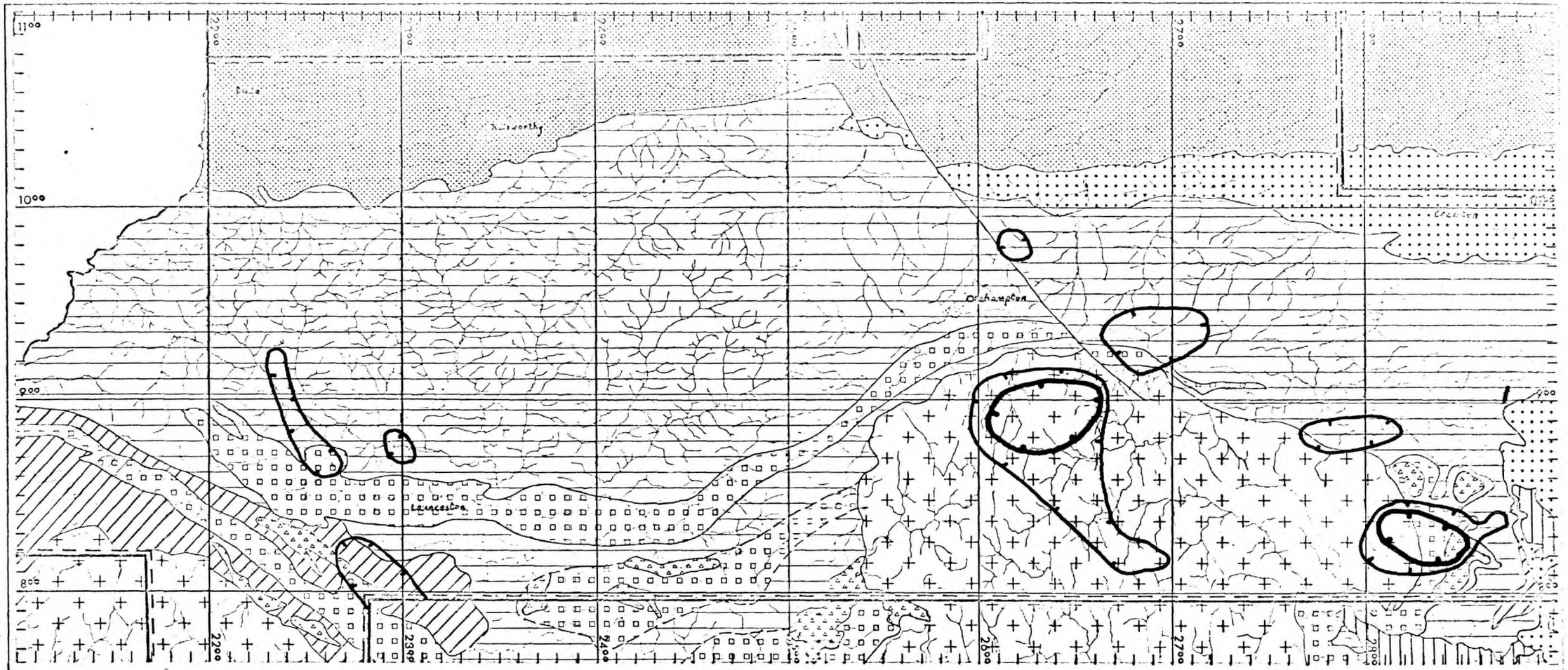
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

ARSENIC — Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9
- -1·0 to -0·1

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FIGURE 42



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

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N

GEOLOGICAL KEY

TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

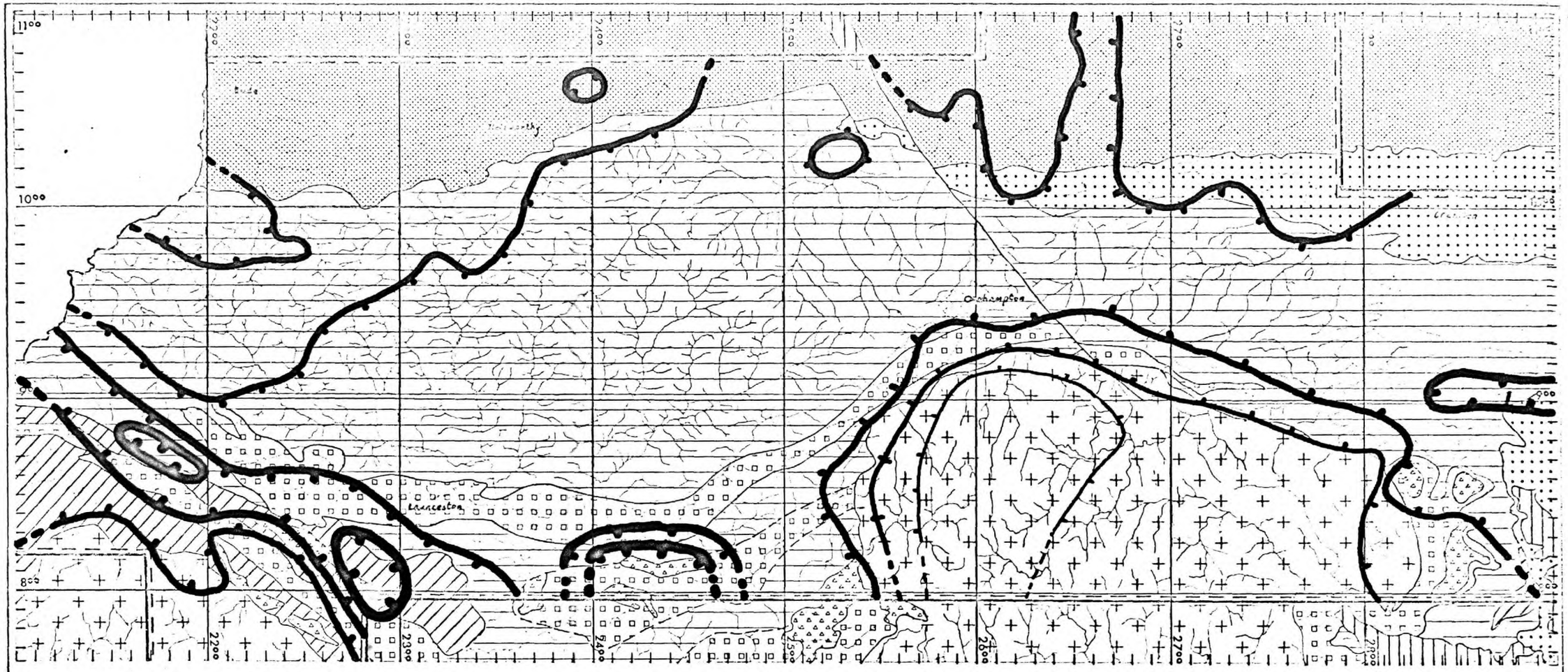
ARSENIC – VARIANCE RATIO
(variance units)

>2·0

1·0 – 1·9

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FIGURE 43



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

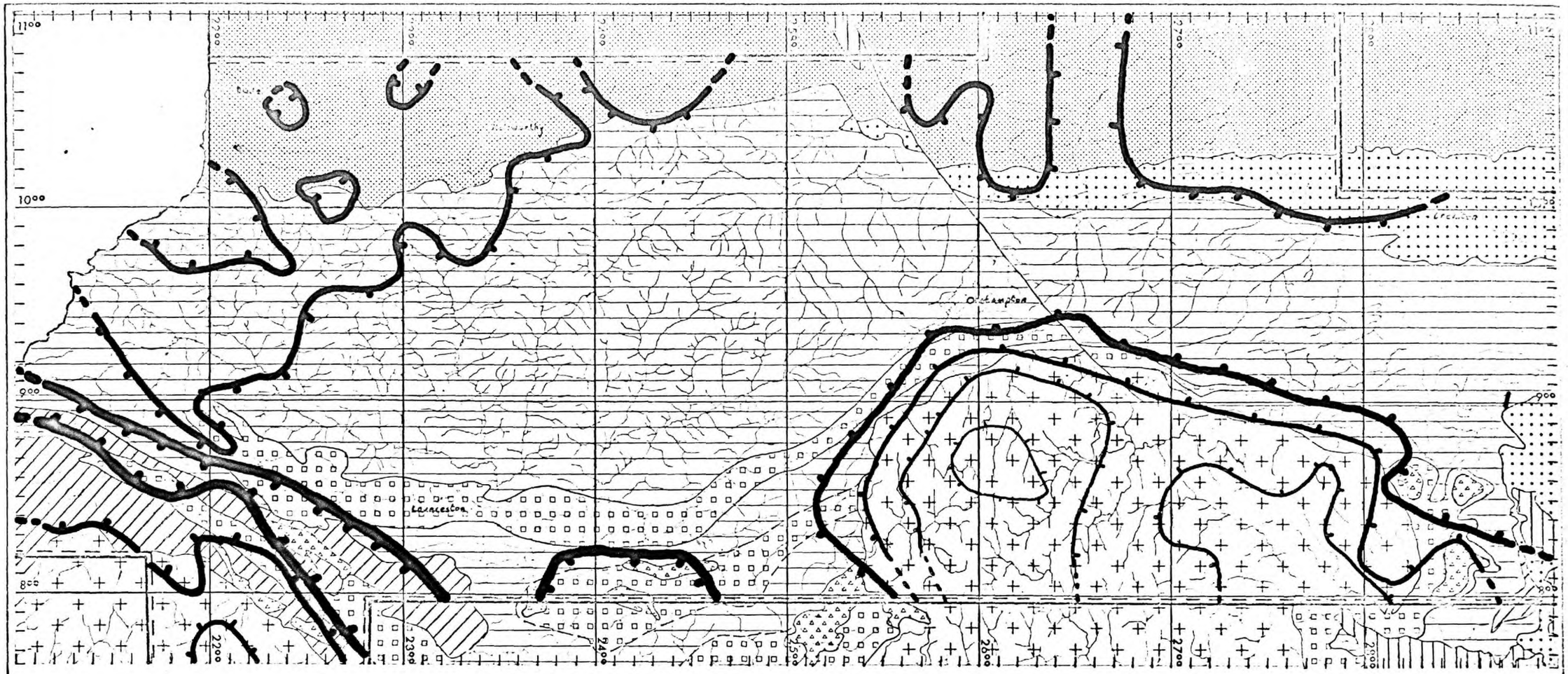
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

CHROMIUM–MOVING AVERAGE
(concentration in ppm)

- >150
- 110–149
- 70–109
- 30–69
- 15–29

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FIGURE 44



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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GEOLOGICAL KEY

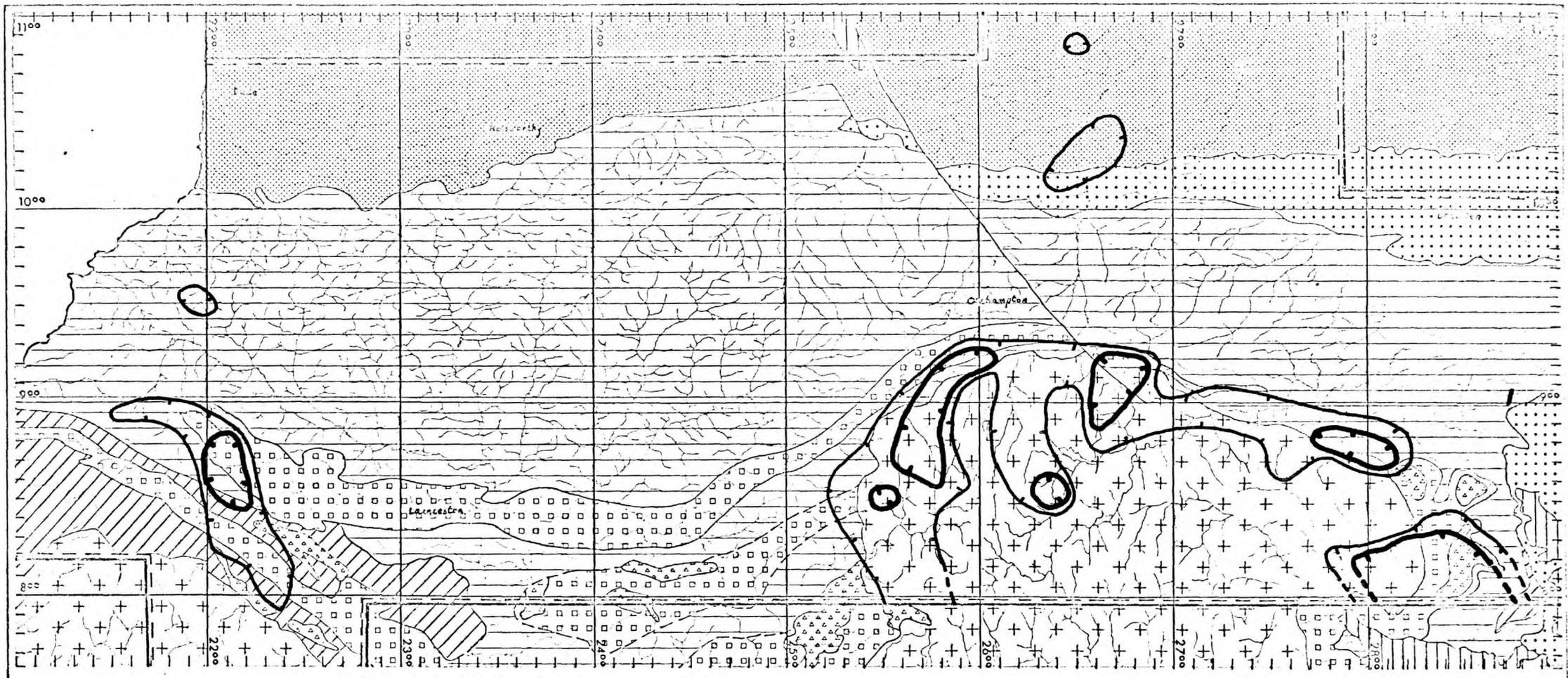
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

CHROMIUM – Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9
- -1·0 to -0·1
- -2·0 to -1·1
- -3·0 to -2·1

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FIGURE 45



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

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N

GEOLOGICAL KEY

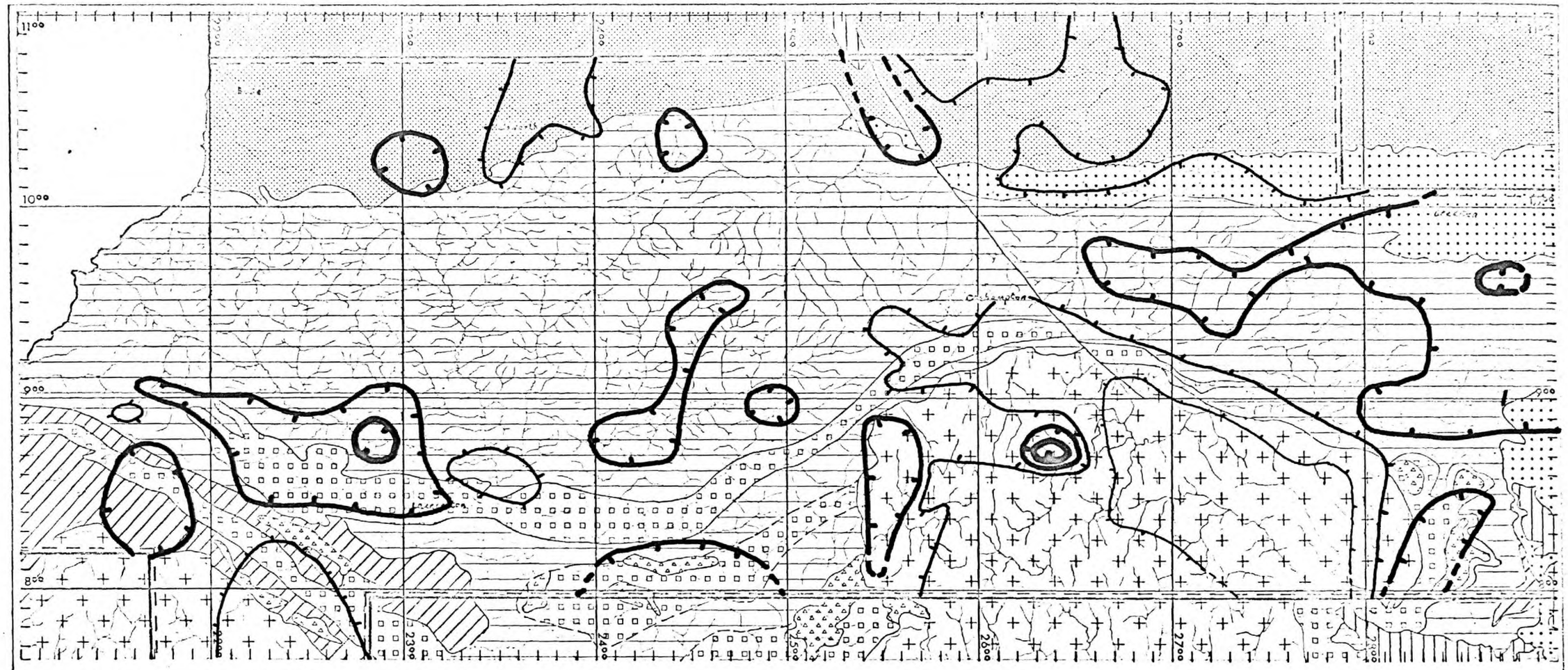
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

CHROMIUM – VARIANCE RATIO
(variance units)

- >2·0
- 1·0–1·9

Regional Geochemical Survey for N.E.R.C.
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FIGURE 46



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

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GEOLOGICAL KEY

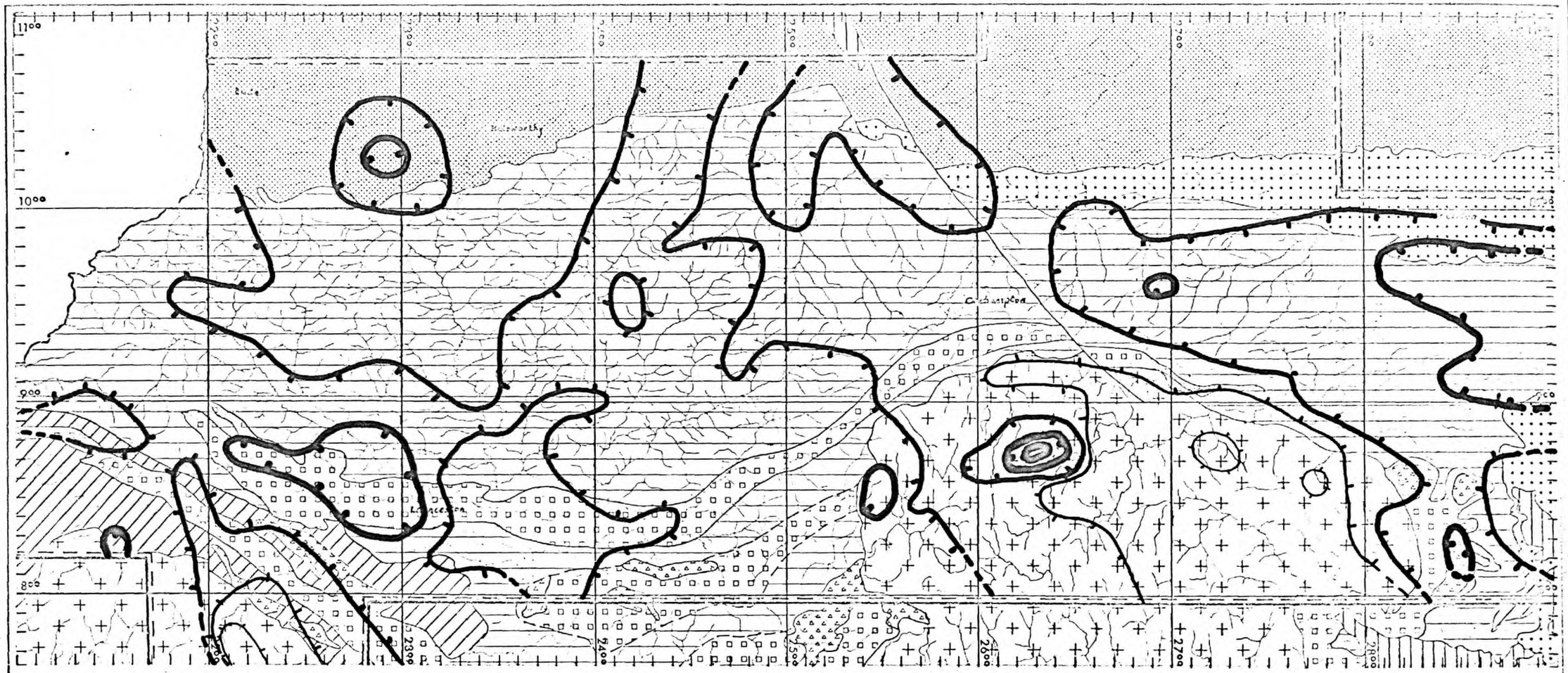
TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

COBALT — MOVING AVERAGE
(concentration in ppm)

>70	15–29
30–69	7–14

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FIGURE 47



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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GEOLOGICAL KEY

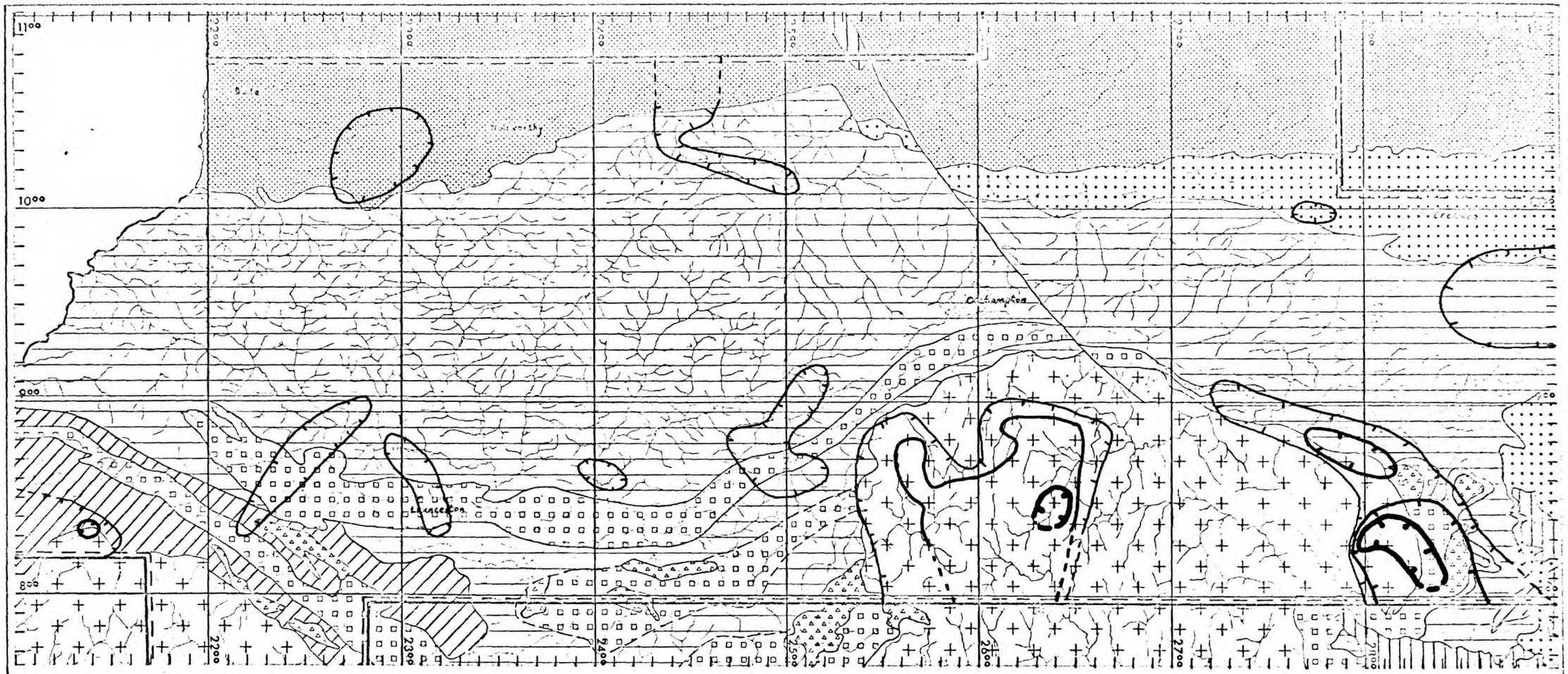
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

COBALT –Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- -1·0 to -0·1
- 0·0 to +0·9
- -2·0 to -1·1

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FIGURE 48



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

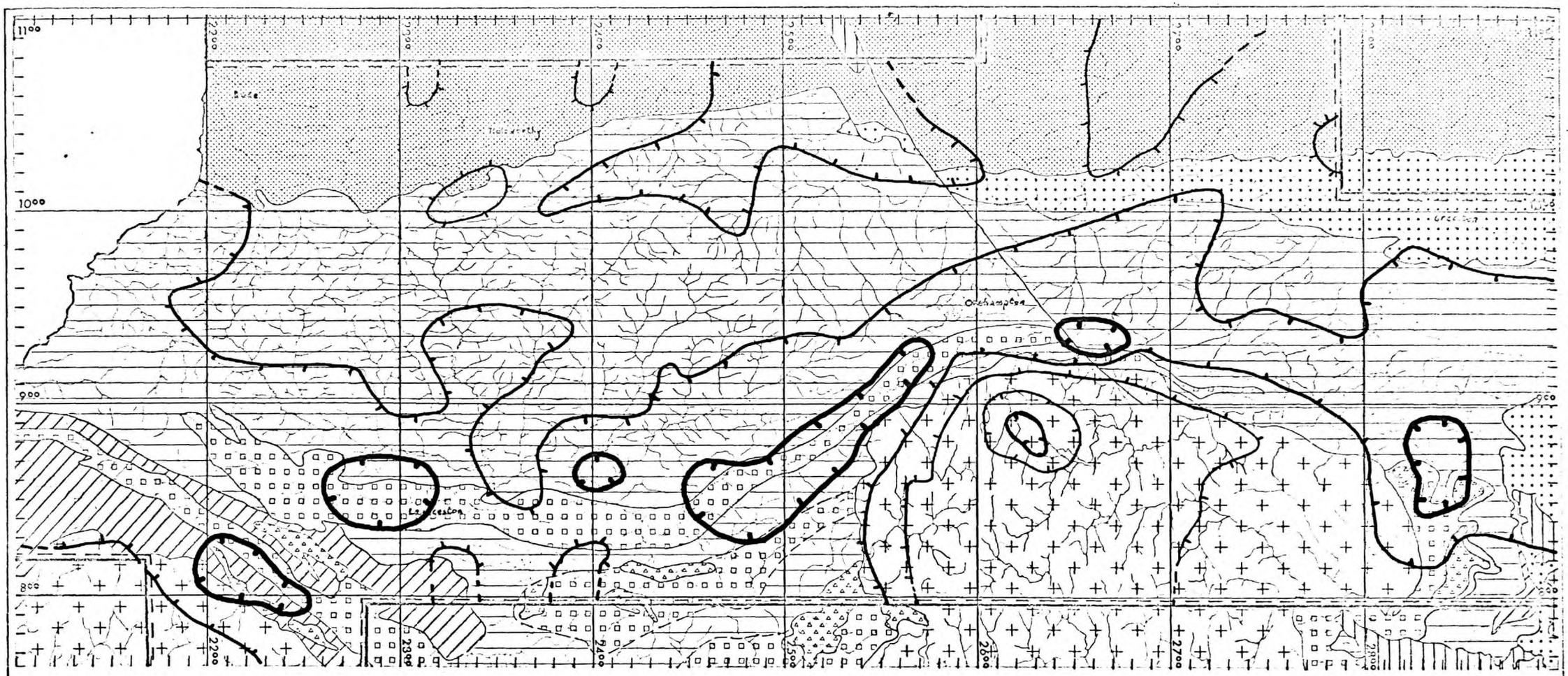
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

COBALT – VARIANCE RATIO
(variance units)

- >4·0
- 2·0 – 3·9
- 1·0 – 1·9

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FIGURE 49



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

GEOLOGICAL KEY

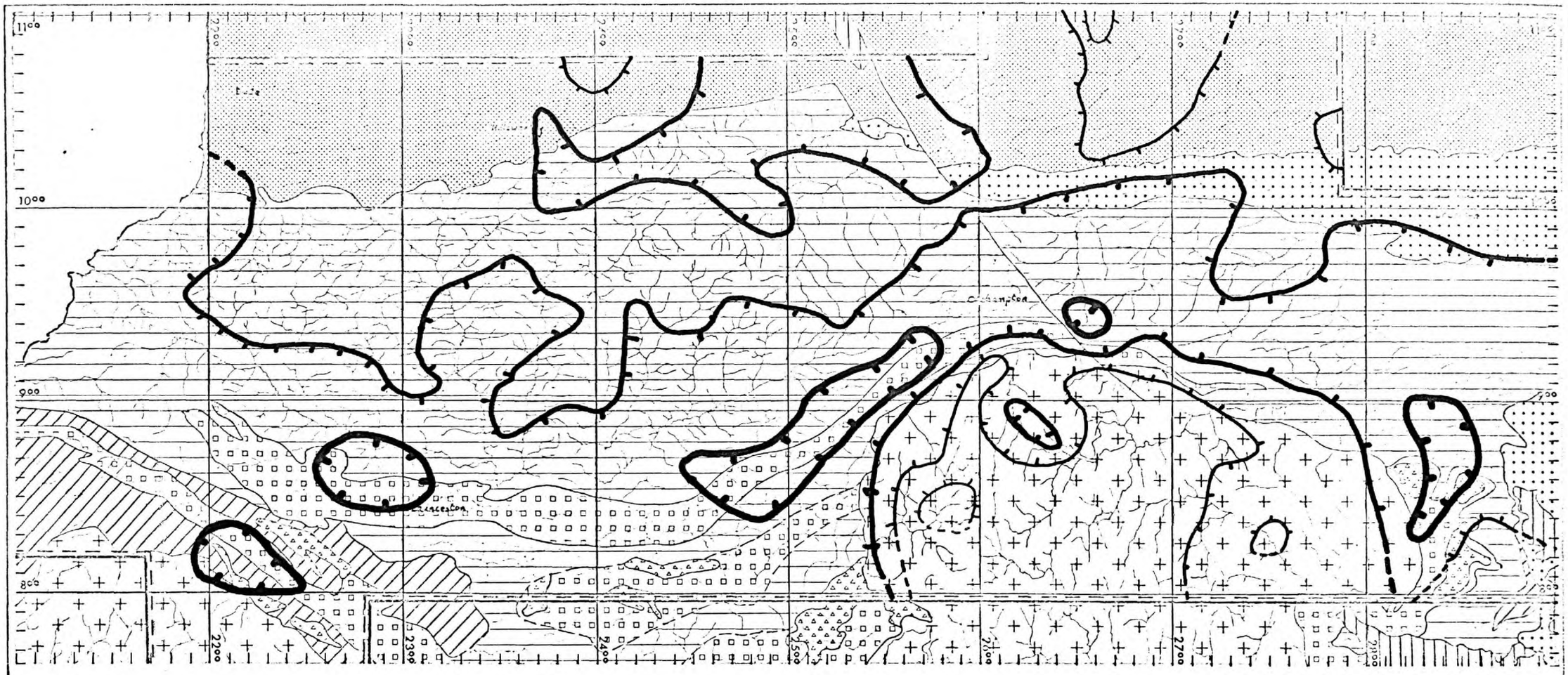
TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

COPPER —MOVING AVERAGE
(concentration in ppm)

>50
30 – 49
15 – 29

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 50



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

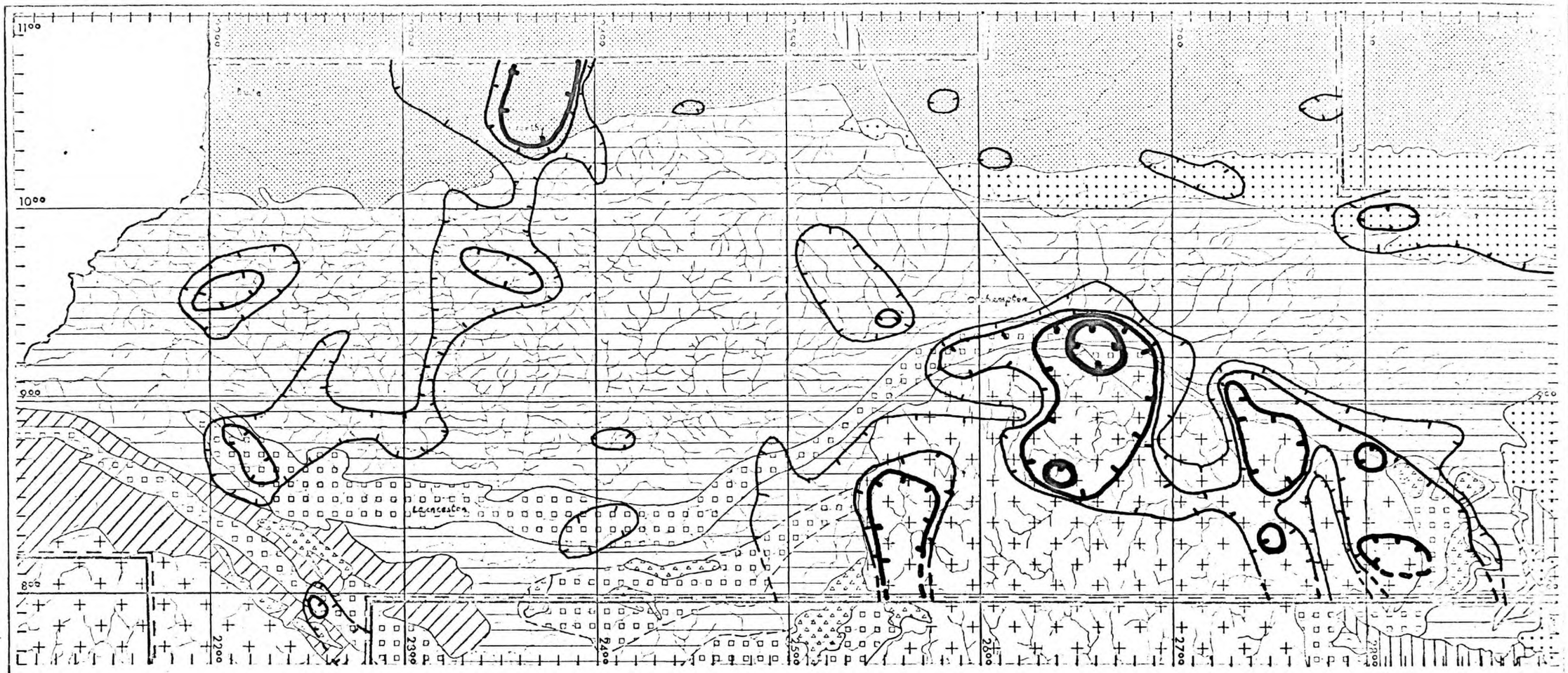
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

COPPER – Z-VALUES
(standard deviation units)

- > +1·0
- +0·0 to +0·9
- −1·0 to −0·1
- −2·0 to −1·1

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FIGURE 51



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

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GEOLOGICAL KEY

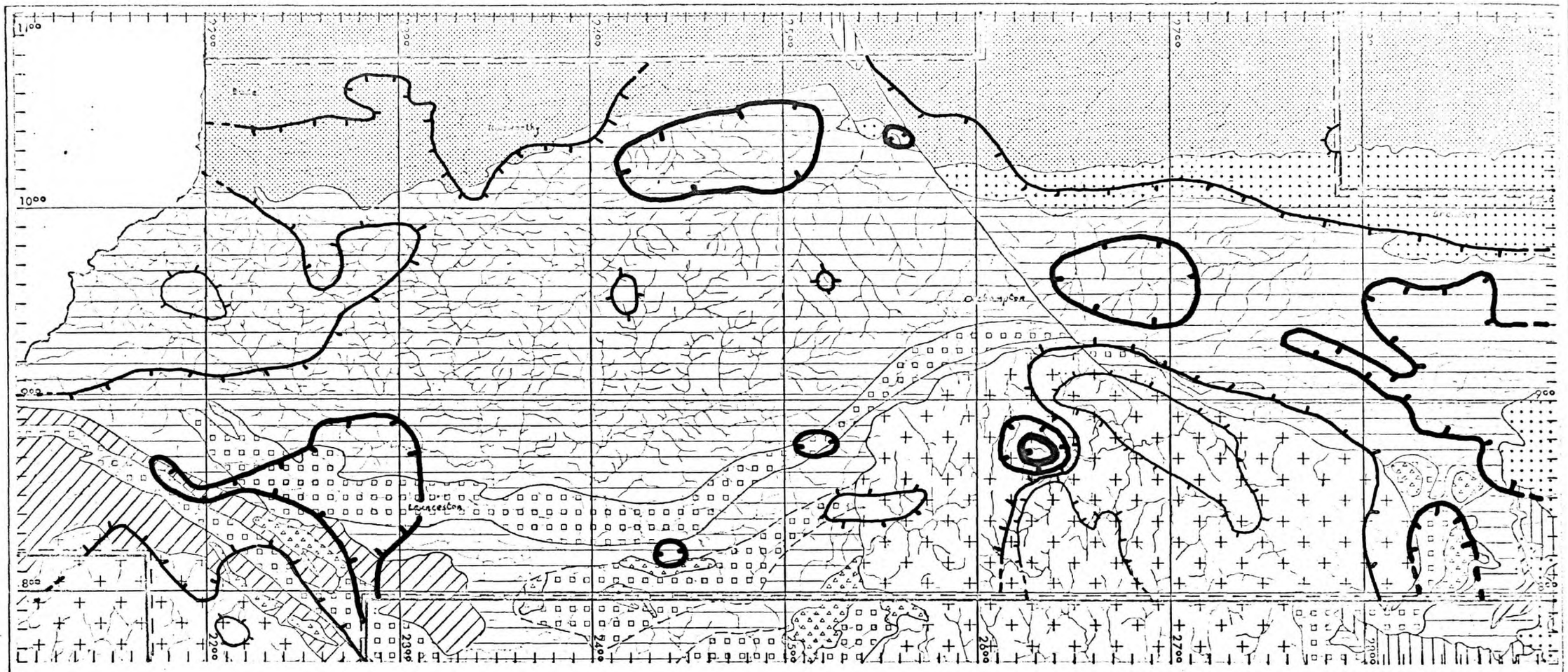
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
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- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

COPPER – VARIANCE RATIO
(variance units)

- >4·0
- 2·0–3·9
- 1·0–1·9
- 0·5–0·9

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 52



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

Project 65
May 1967
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Imperial College, London, S.W.7.

0 1 2 3 4
miles

N

GEOLOGICAL KEY

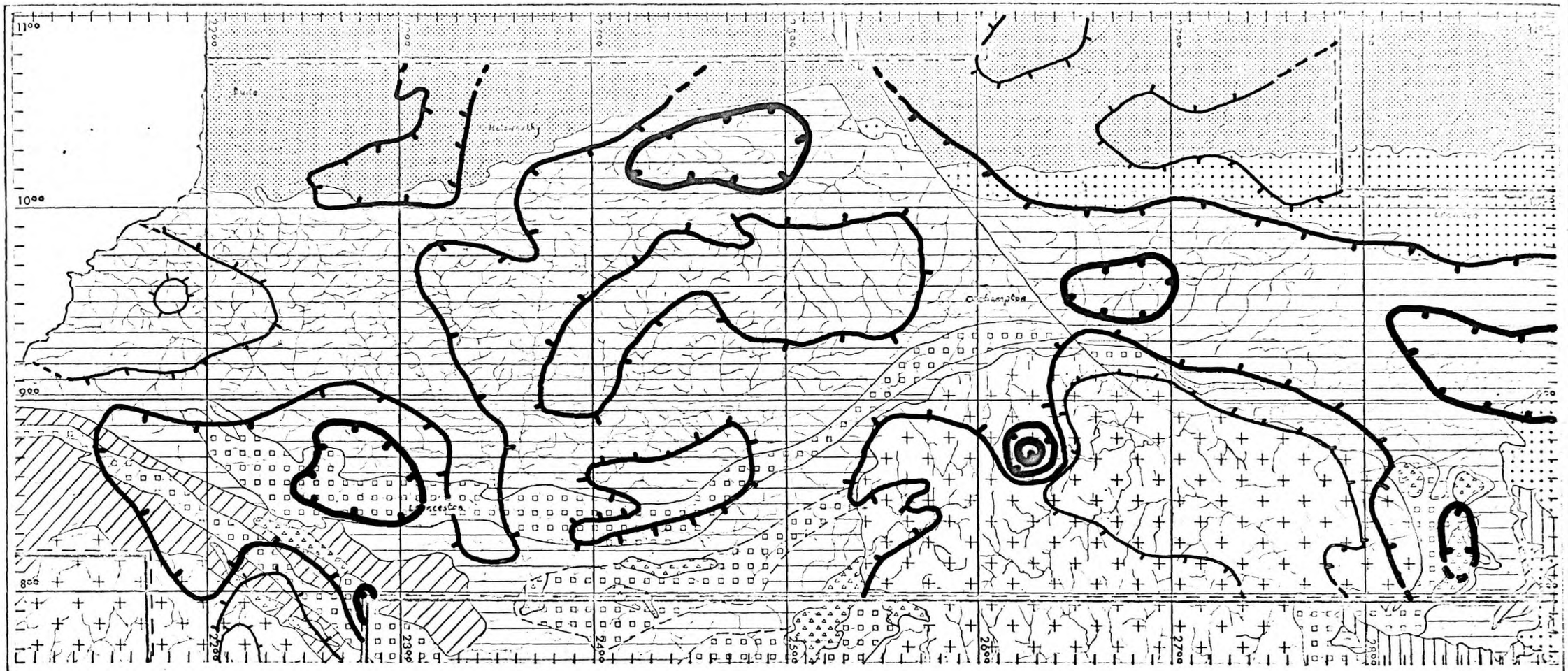
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

IRON – MOVING AVERAGE
(concentration in percentages)

- >15·0
- 7·0–14·9
- 3·0–6·9
- 1·5–2·9

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(Institute of Geological Sciences)

FIGURE 53



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

Project 65
May 1967
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Imperial College, London, S.W.7.

N

GEOLOGICAL KEY

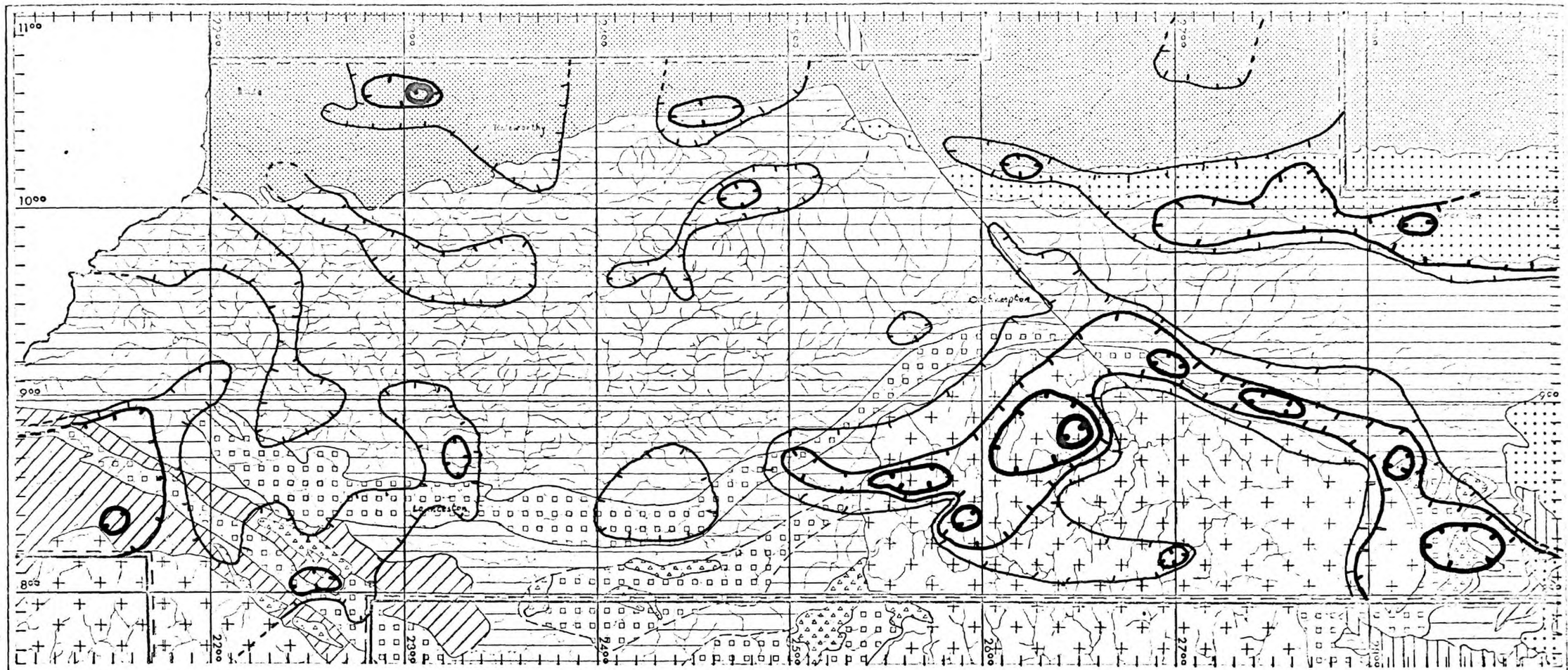
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- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

IRON – Z-VALUES
(standard deviation units)

- > +2·0
- +1·0 to +1·9
- −1·0 to −0·1
- 0·0 to +0·9
- −2·0 to −1·1

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FIGURE 54



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

Project 65
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Imperial College, London, S.W.7.

N

GEOLOGICAL KEY

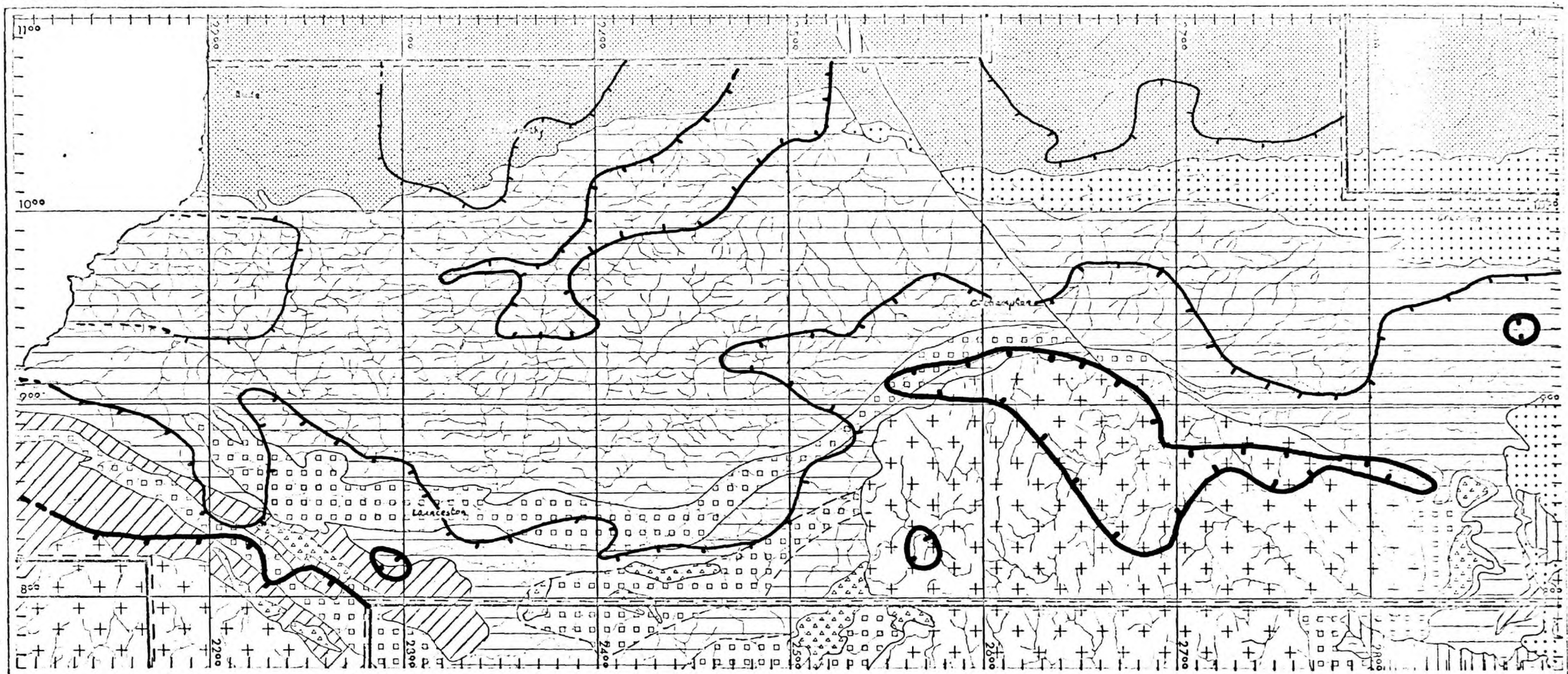
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- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

IRON–VARIANCE RATIO
(variance units)

- >4·0
- 2·0–3·9
- 1·0–1·9
- 0·5–0·9

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FIGURE 55



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

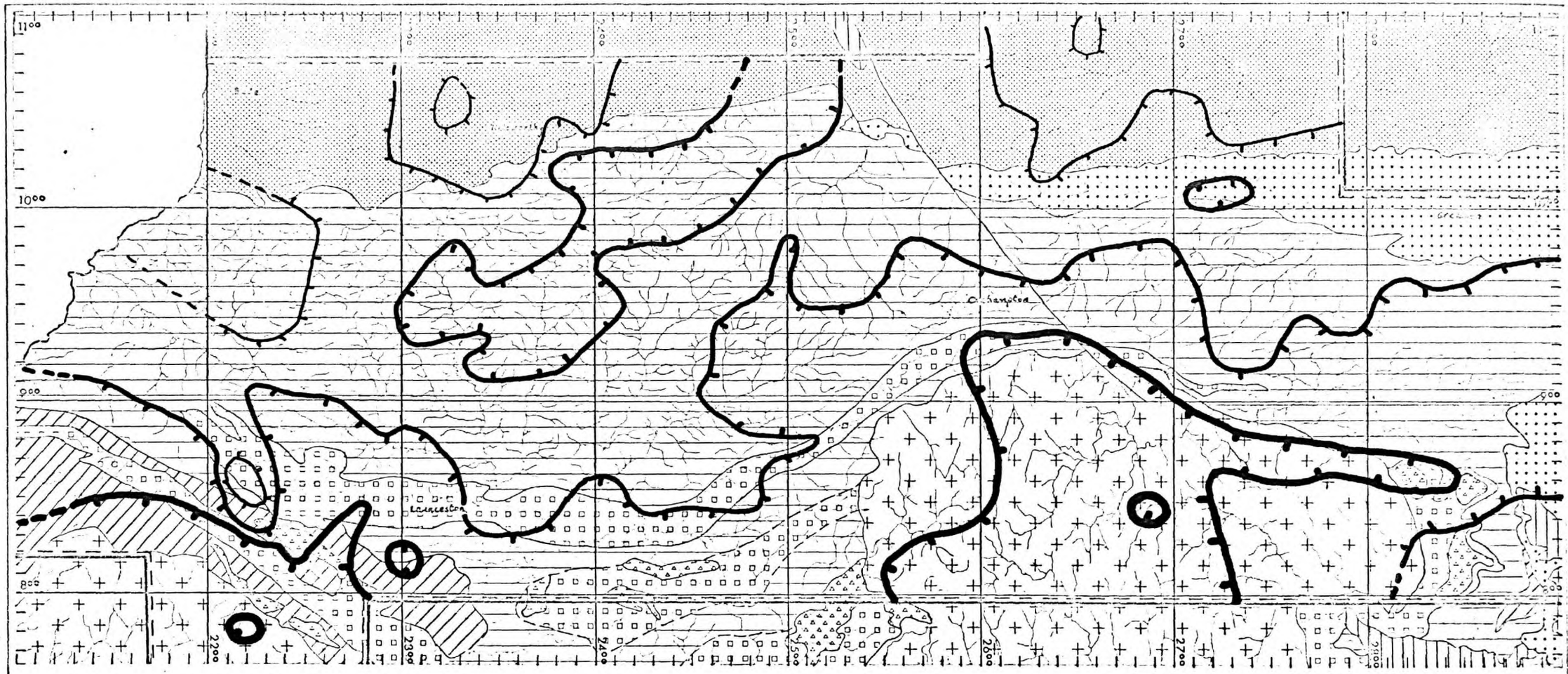
TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

GALLIUM – MOVING AVERAGE
(concentration in ppm)

- >30
- 23 – 29
- 15 – 22

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FIGURE 56



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

Project 65
May 1967
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N

GEOLOGICAL KEY

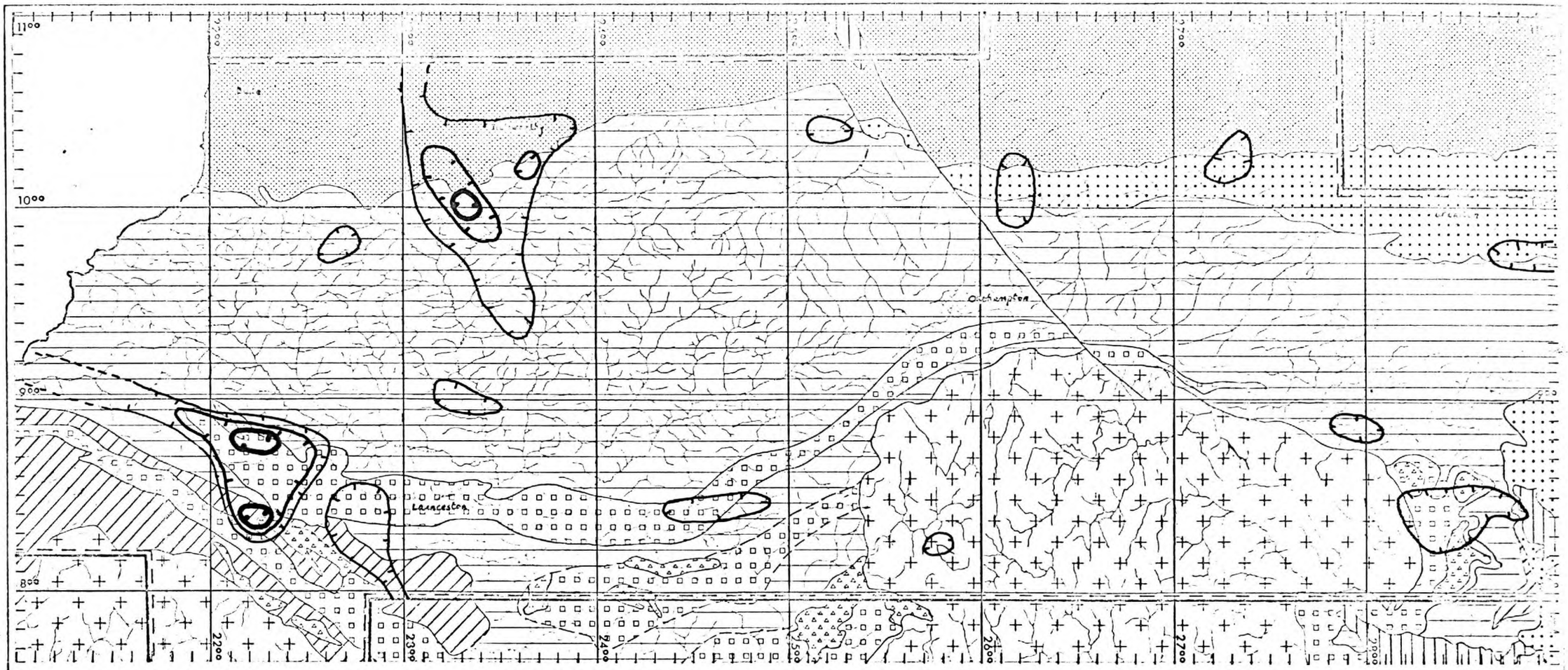
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- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

GALLIUM – Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- −1·0 to −0·1
- 0·0 to +0·9
- −2·0 to −1·1

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FIGURE 57



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

Project 65
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N

GEOLOGICAL KEY

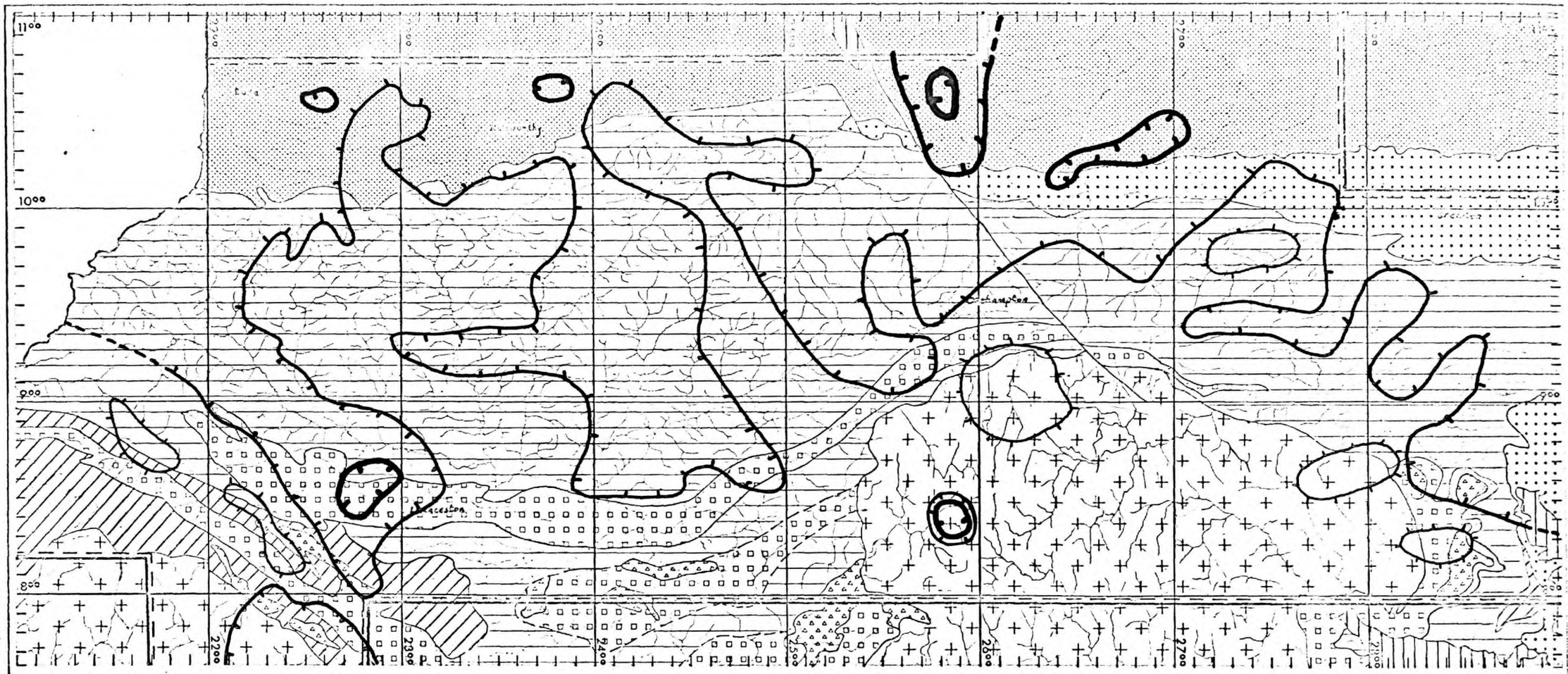
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- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

GALLIUM – VARIANCE RATIO
(variance units)

- > 4·0
- 2·0 – 3·9
- 1·0 – 1·9

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FIGURE 58



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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May 1967
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GEOLOGICAL KEY

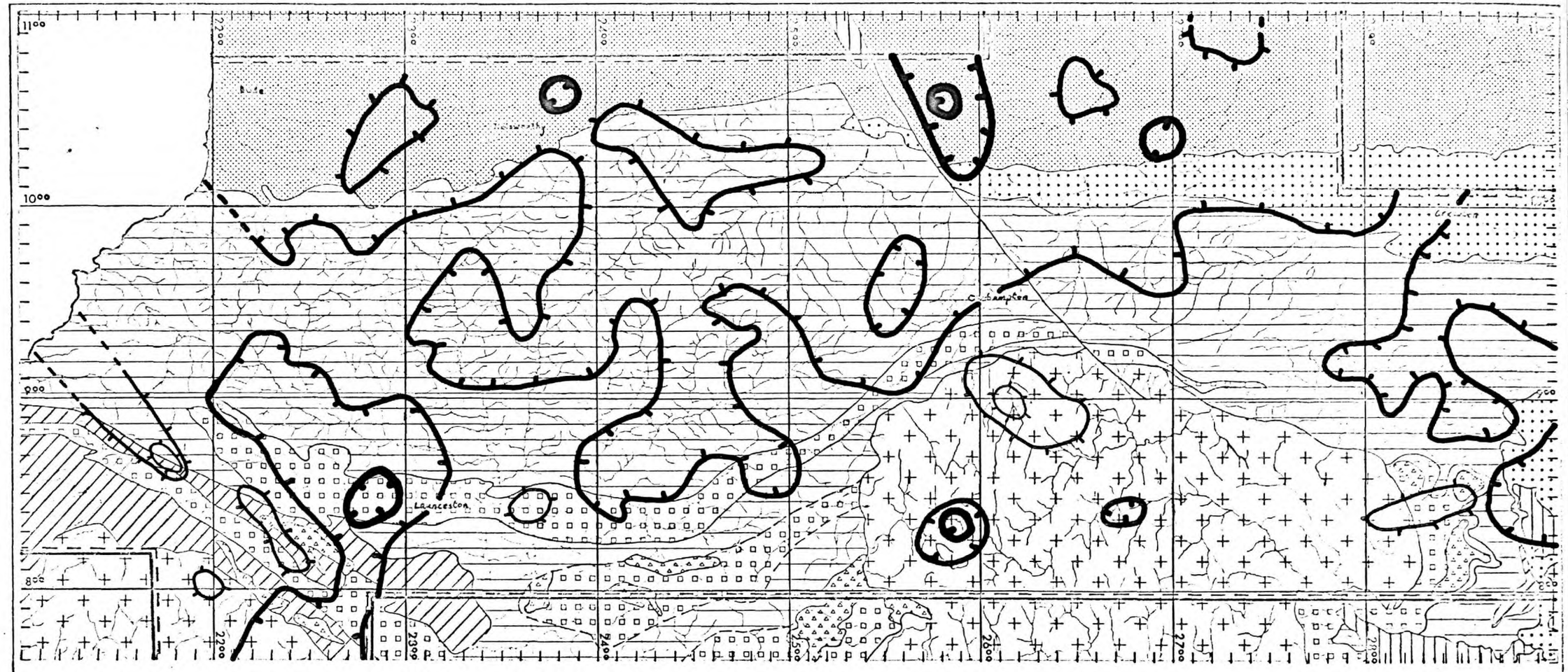
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- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

GERMANIUM — MOVING AVERAGE
(concentration in ppm)

- >500
- 400-499
- 350-399
- 300-349

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FIGURE 59



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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GEOLOGICAL KEY

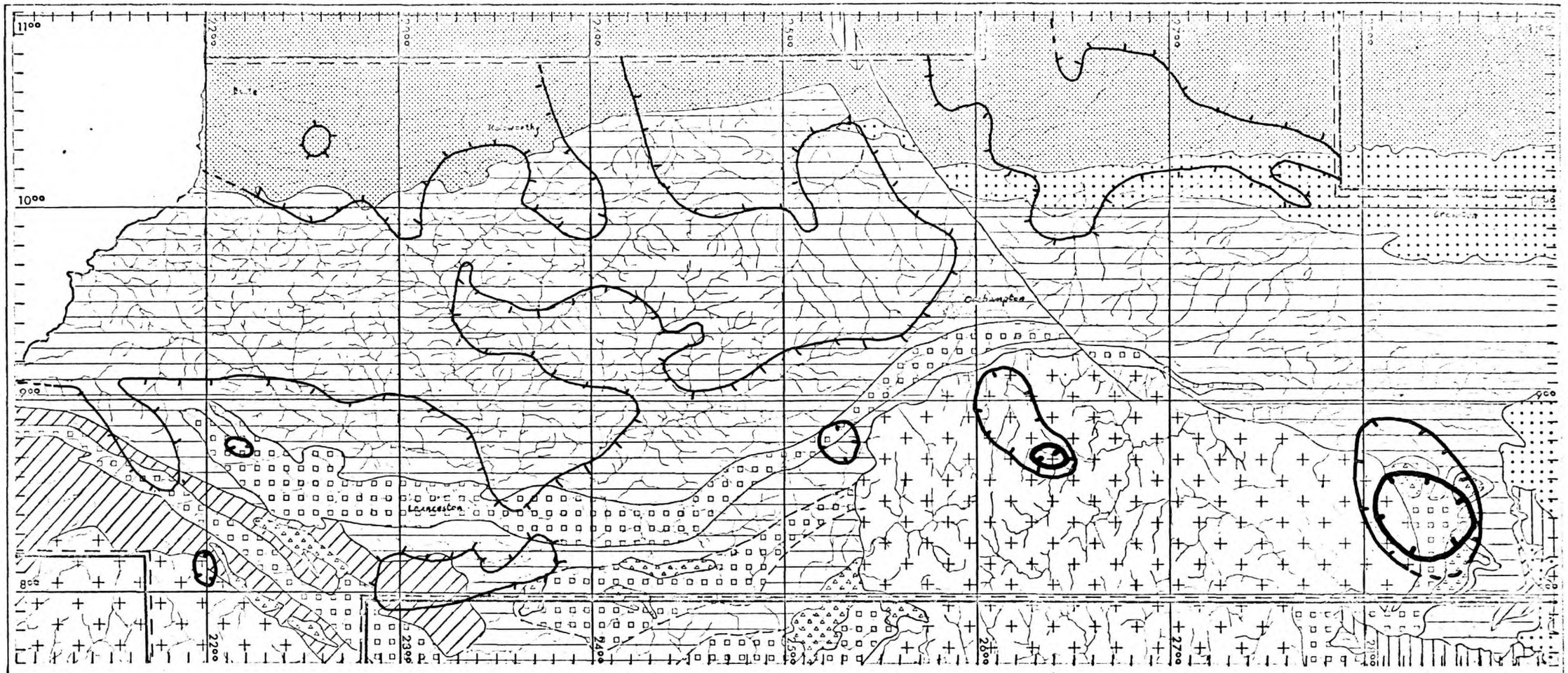
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- PERMIAN — Breccia, sandstone and marl
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- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

GERMANIUM — Z-VALUES
(standard deviation units)

- > +2·0
- +1·0 to +1·9
- -1·0 to -0·1
- 0·0 to +0·9
- -2·0 to -1·1

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FIGURE 60



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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GEOLOGICAL KEY

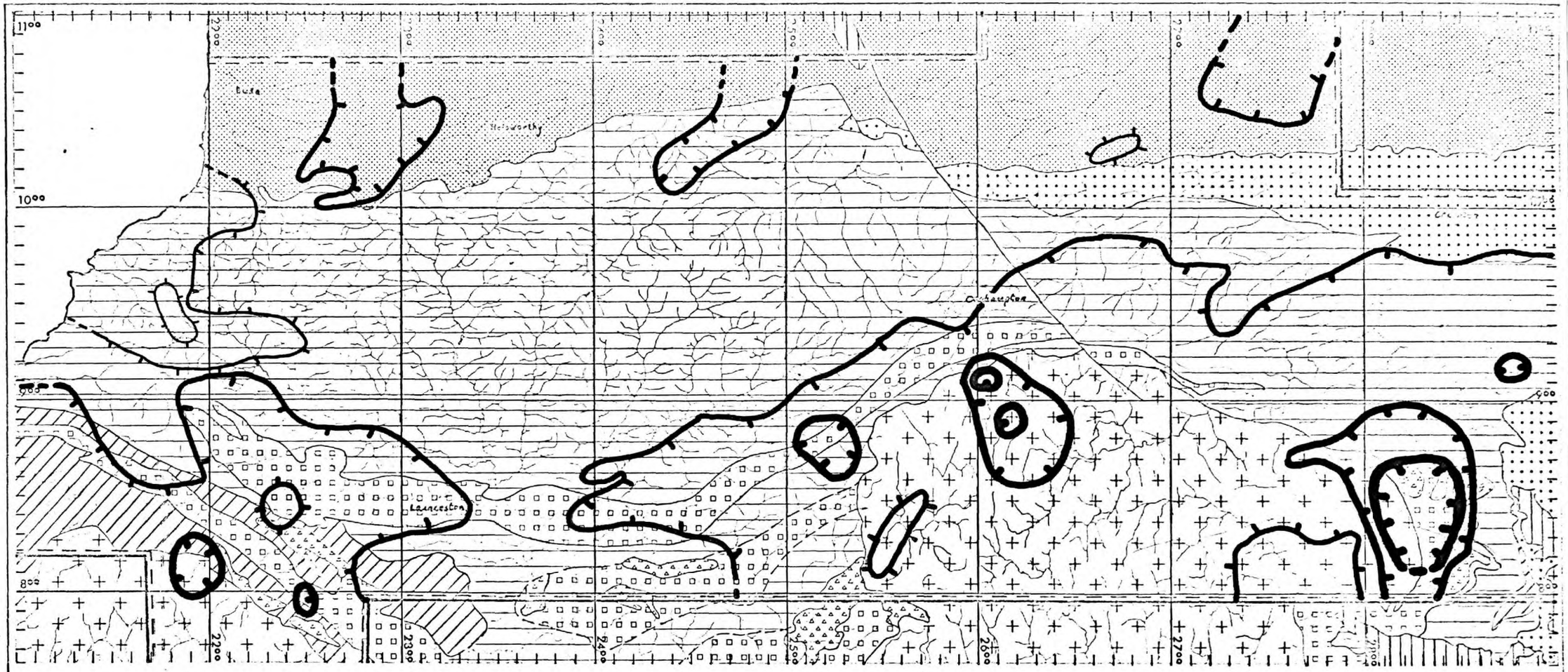
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- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

LEAD — MOVING AVERAGE
(concentration in ppm)

- >150
- 70–149
- 30–69

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FIGURE 61



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

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Imperial College, London, S.W.7.

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GEOLOGICAL KEY

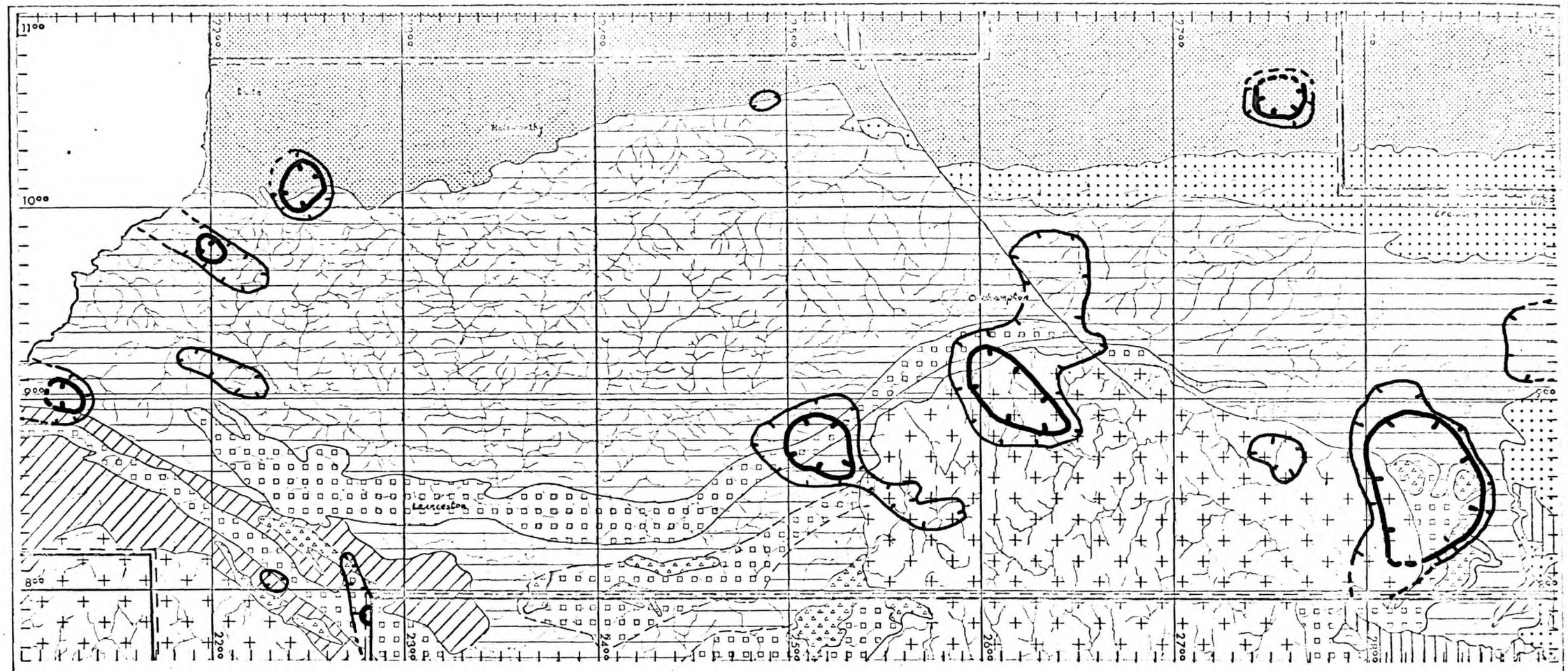
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- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

LEAD — Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- -1·0 to -0·1
- 0·0 to +0·9
- -2·0 to -1·1

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FIGURE 62



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

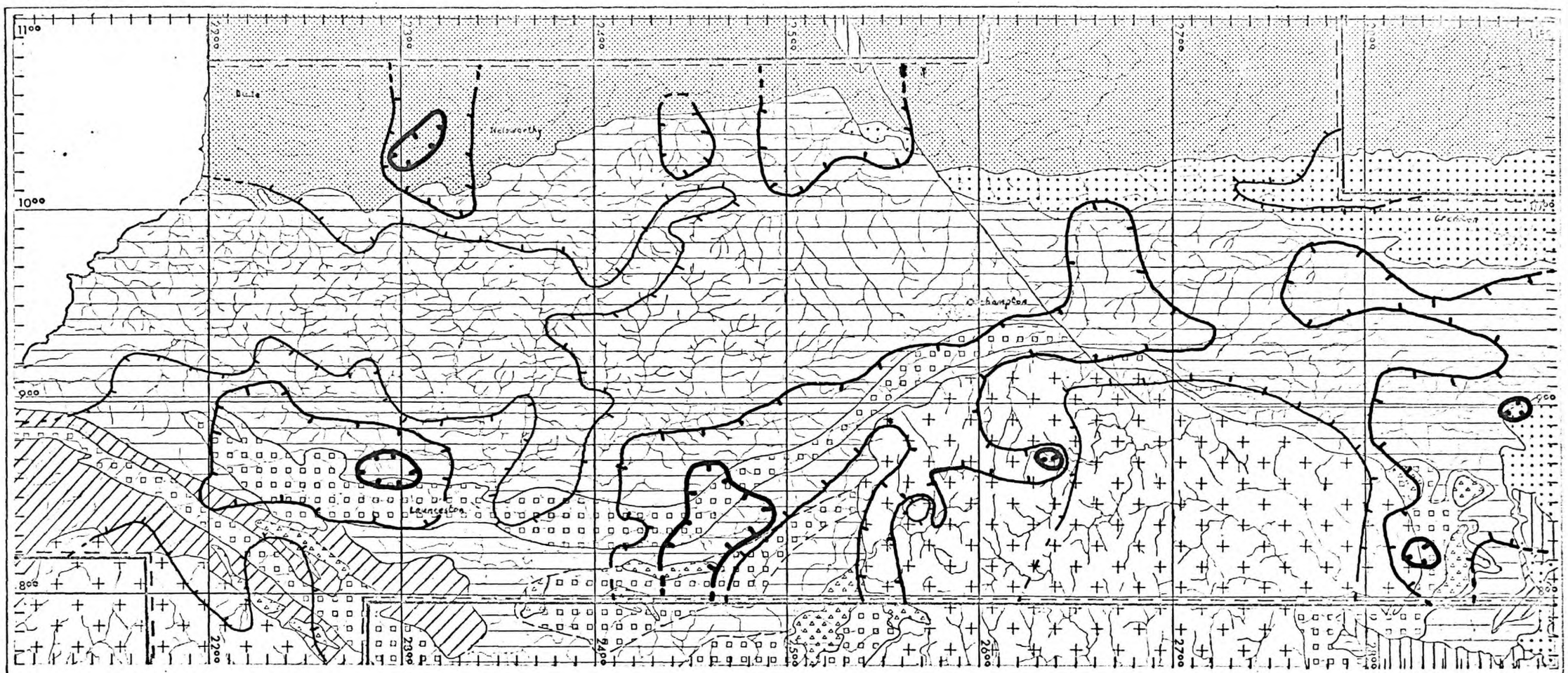
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- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

LEAD — VARIANCE RATIO
(variance units)

- >2·0
- 1·0–1·9

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FIGURE 63



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

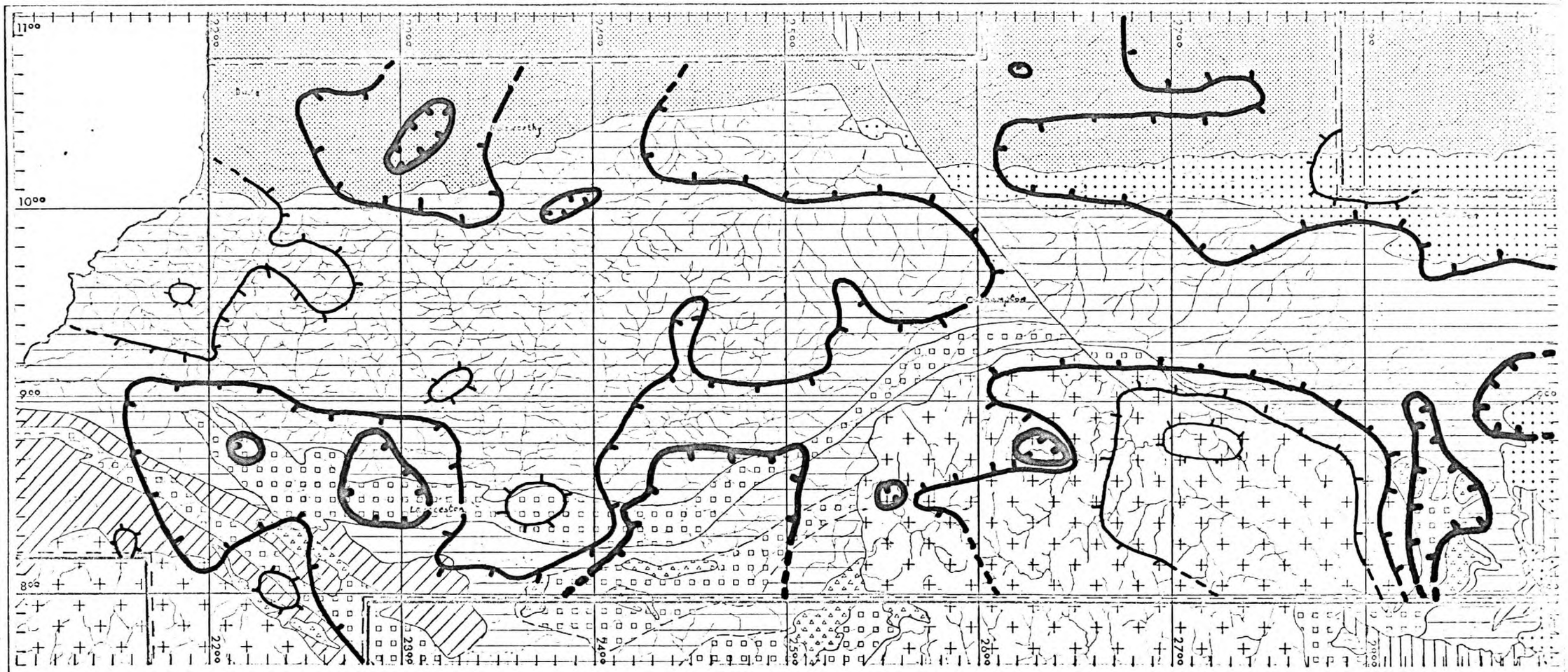
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WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

MANGANESE — MOVING AVERAGE
(concentration in ppm)

- > 3000
- 1500 – 2999
- 700 – 1499

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(Institute of Geological Sciences)

FIGURE 64



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

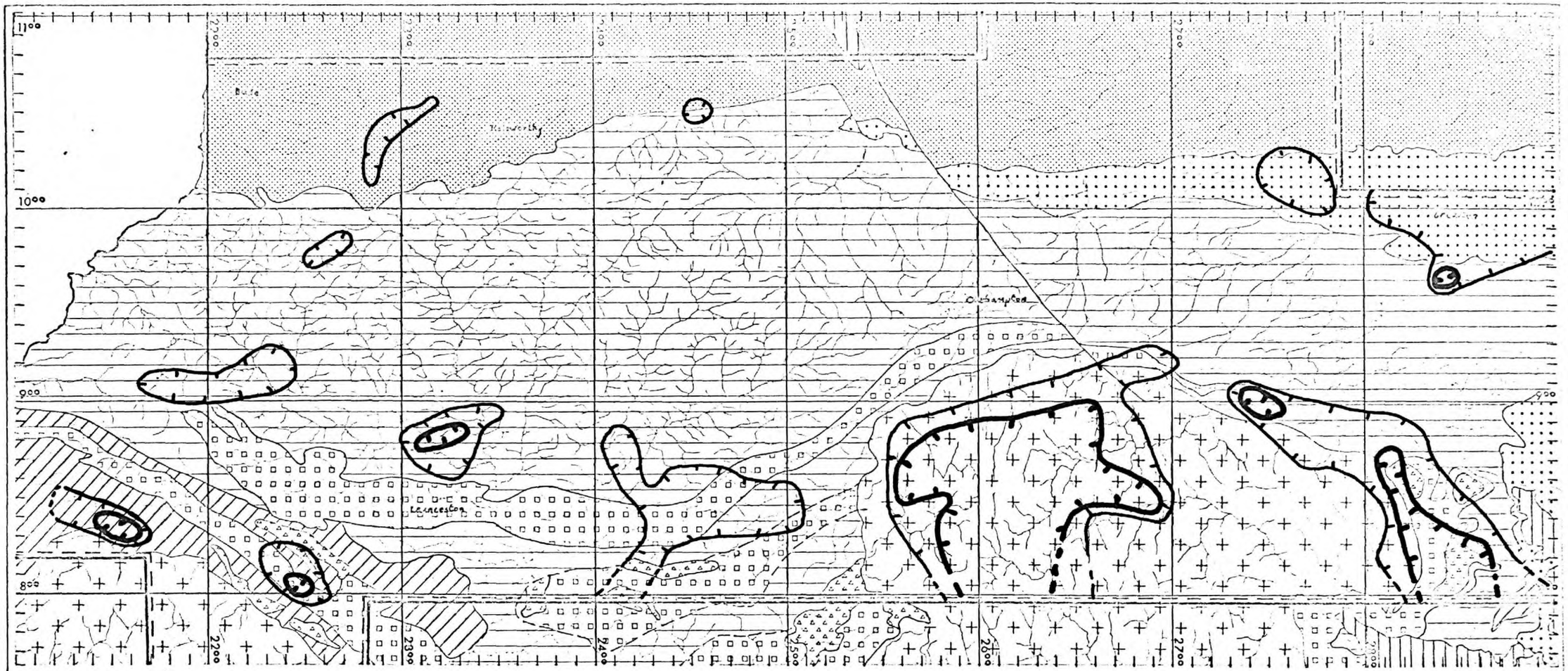
MANGANESE — Z-VALUES
(standard deviation units)

- >+1·0
- -1·0 to -0·1
- 0·0 to +0·9
- -2·0 to -1·1

Regional Geochemical Survey, for N.E.R.C.
(Institute of Geological Sciences)

Project 65
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Imperial College, London, S.W.7.

FIGURE 65



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

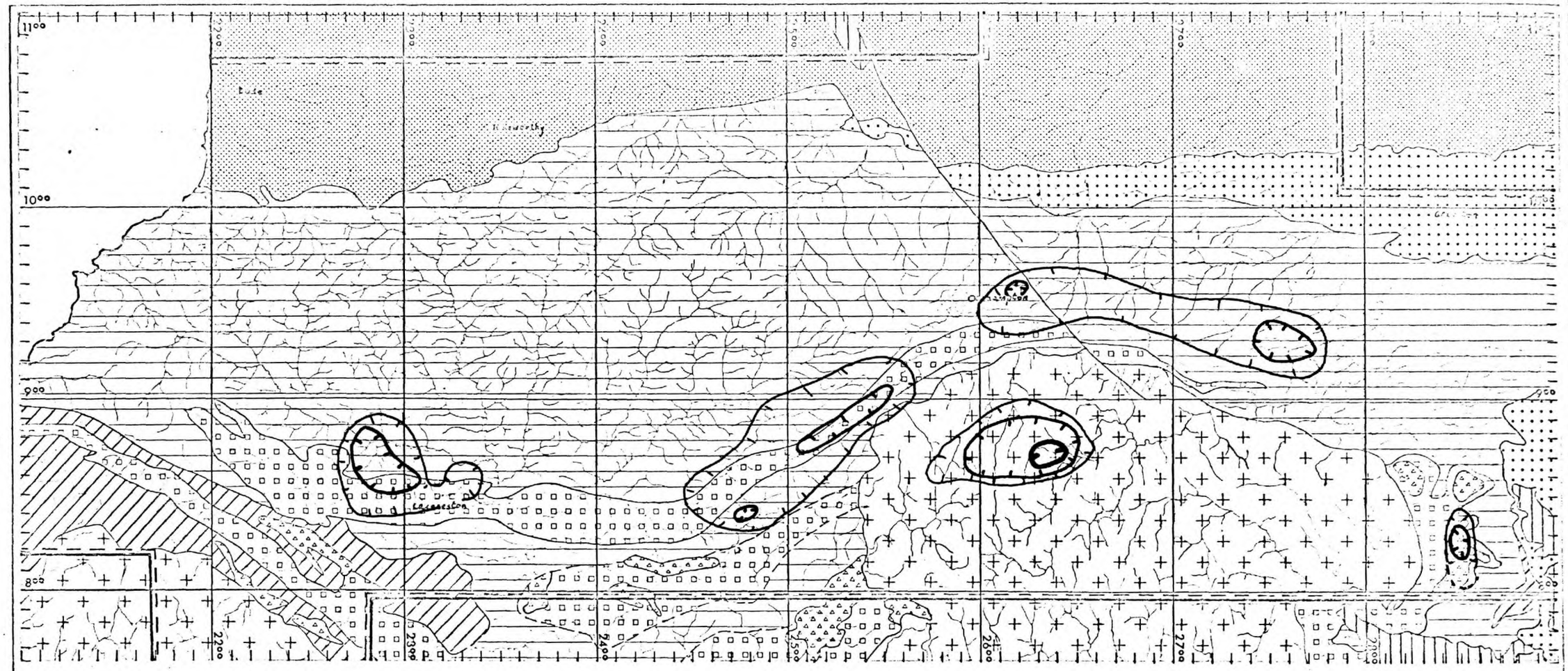
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

MANGANESE — VARIANCE RATIO
(variance units)

- >2·0
- 1·0–1·9

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 66



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

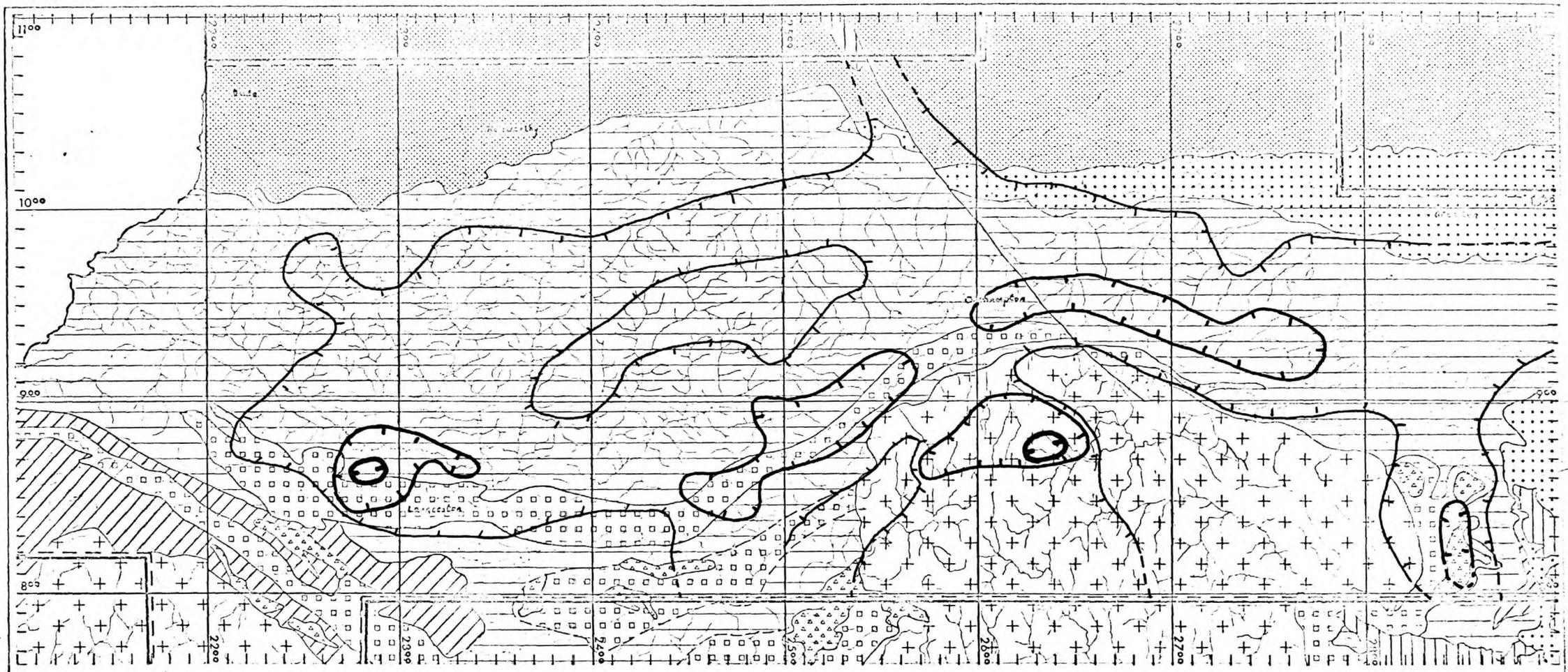
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

MOLYBDENUM — MOVING AVERAGE
(concentration in ppm)

- >5
- 3–5
- 2·5–2·9

Regional Geochemical Survey for N.E.R.C.
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FIGURE 67



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

Project 65
May 1967
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Imperial College, London, S.W.7.

N

GEOLOGICAL KEY

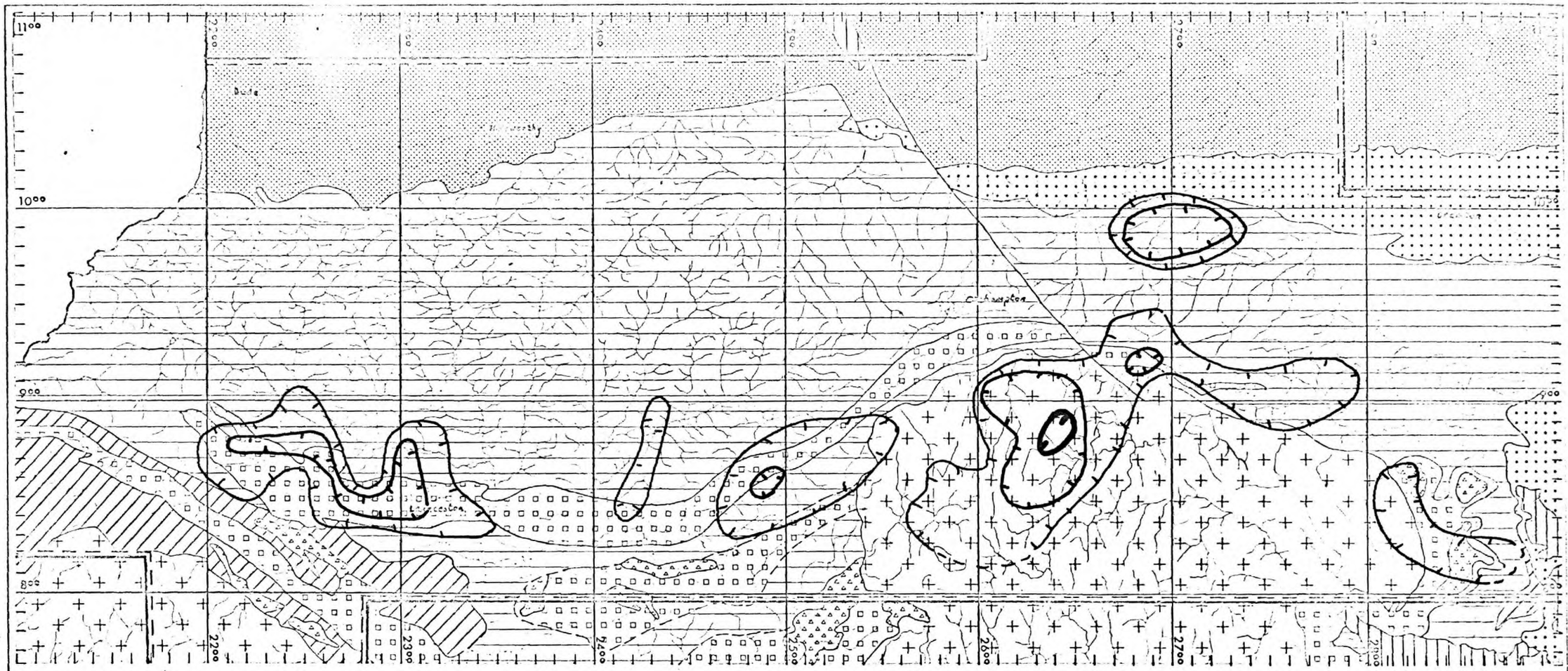
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

MOLYBDENUM — Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9

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FIGURE 68



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

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Imperial College, London, S.W.7.

0 1 2 3 4 miles

N

GEOLOGICAL KEY

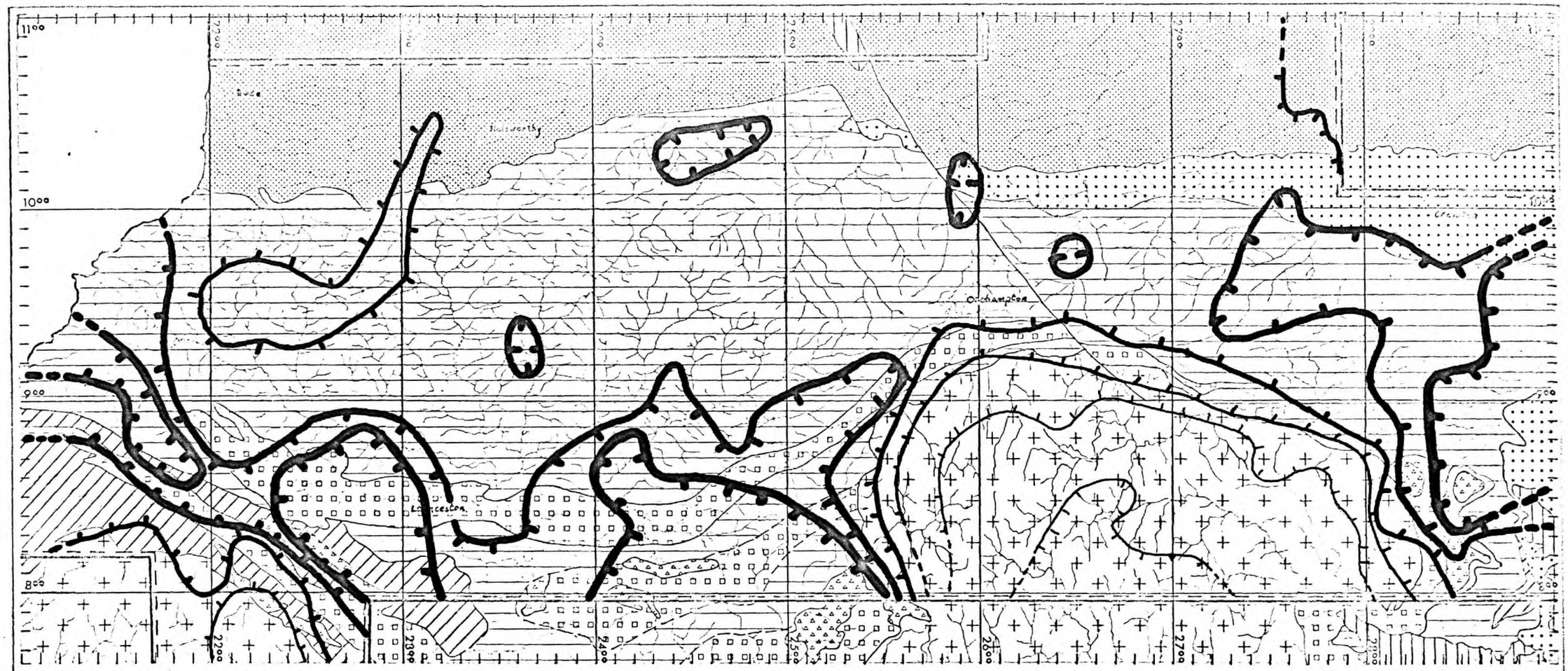
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

MOLYBDENUM — VARIANCE RATIO
(variance units)

- > 4·0
- 2·0 – 3·9
- 1·0 – 1·9

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(Institute of Geological Sciences)

FIGURE 69



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

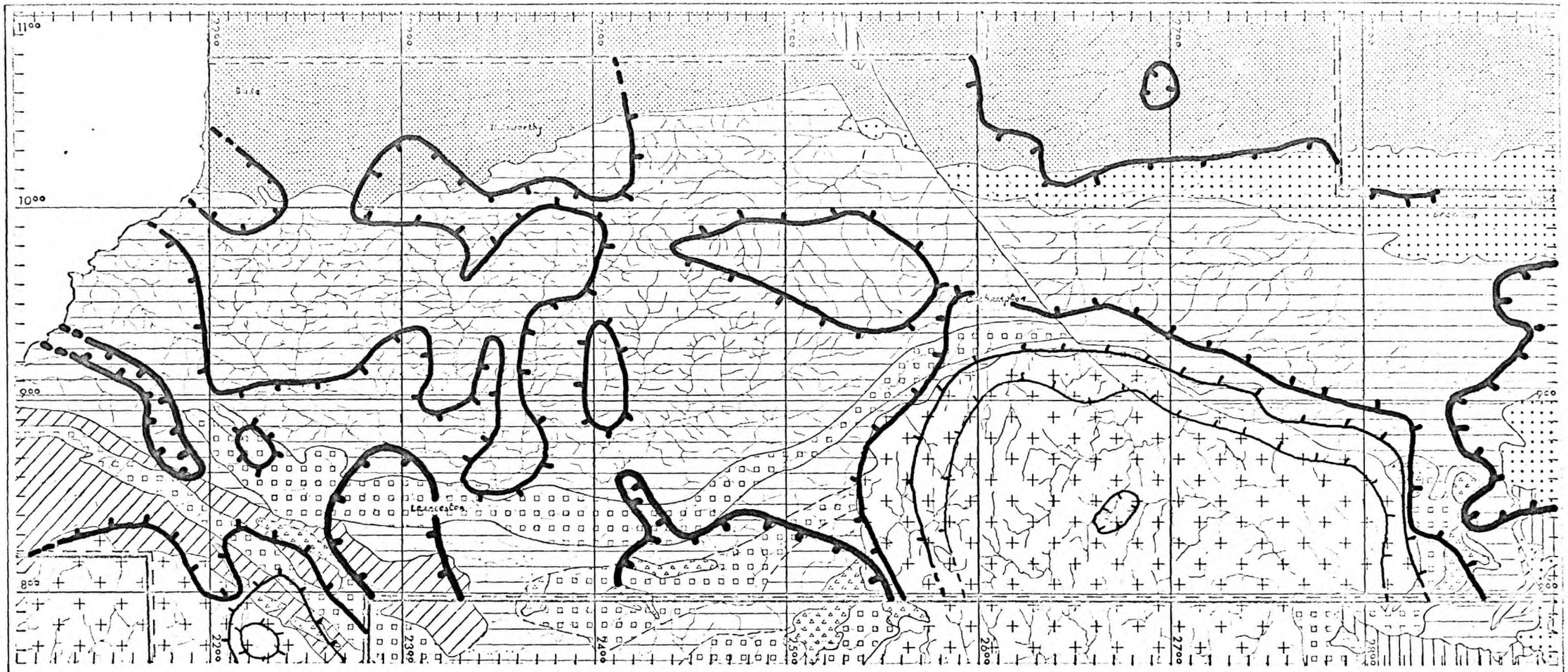
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- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

NICKEL — MOVING AVERAGE
(concentration in ppm)

- >70
- 50-69
- 30-49
- 15-29
- 7-14

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FIGURE 70



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

Project 65
May 1967
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Imperial College, London, S.W.7.

GEOLOGICAL KEY

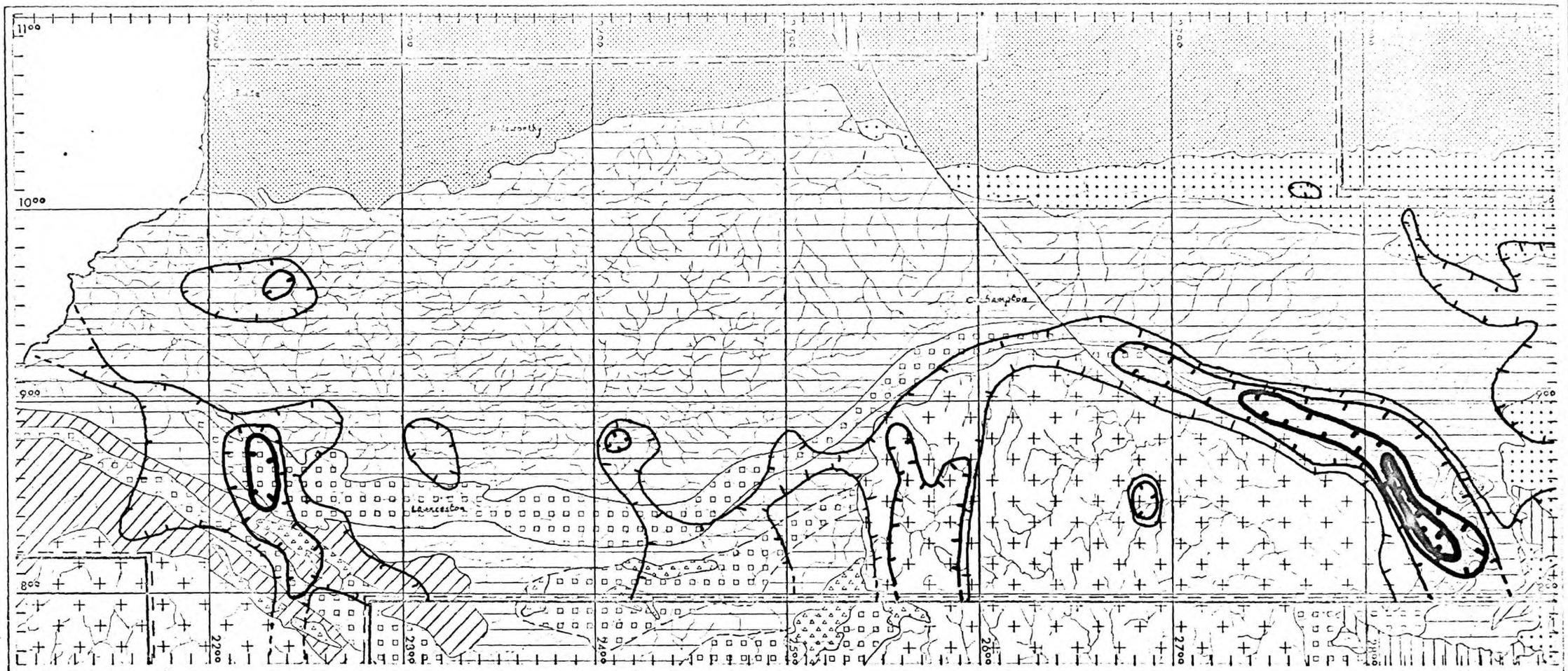
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- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

NICKEL — Z-VALUES
(standard deviation units)

- >+1·0
- +0·0 to +0·9
- −1·0 to −0·1
- −2·0 to −1·1

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FIGURE 71



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

NICKEL — VARIANCE RATIO
(variance units)

- >4·0
- 1·0–1·9
- 2·0–3·9
- 0·5–0·9

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FIGURE 72



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

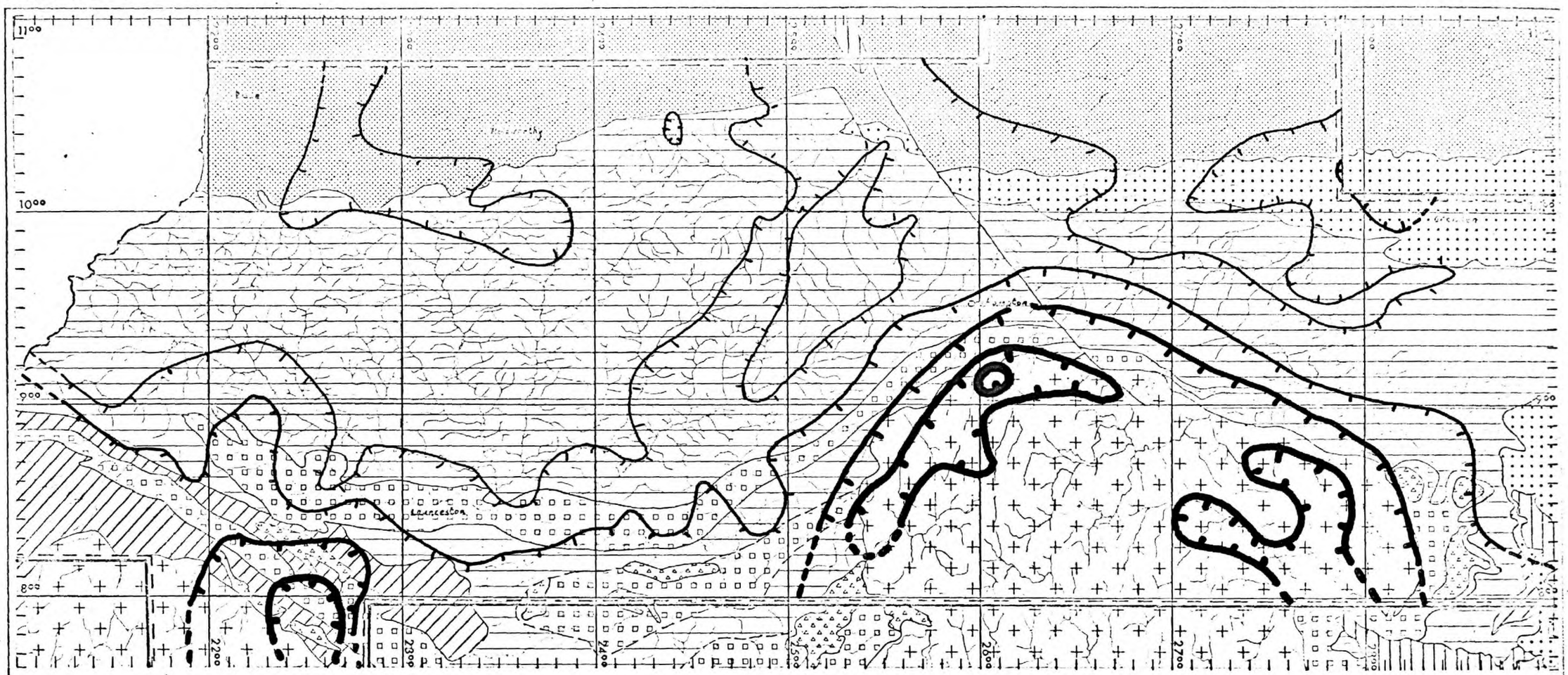
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

TIN — MOVING AVERAGE
(concentration in ppm)

- >700
- 300-699
- 150-299
- 30-149
- 7-29

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FIGURE 73



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

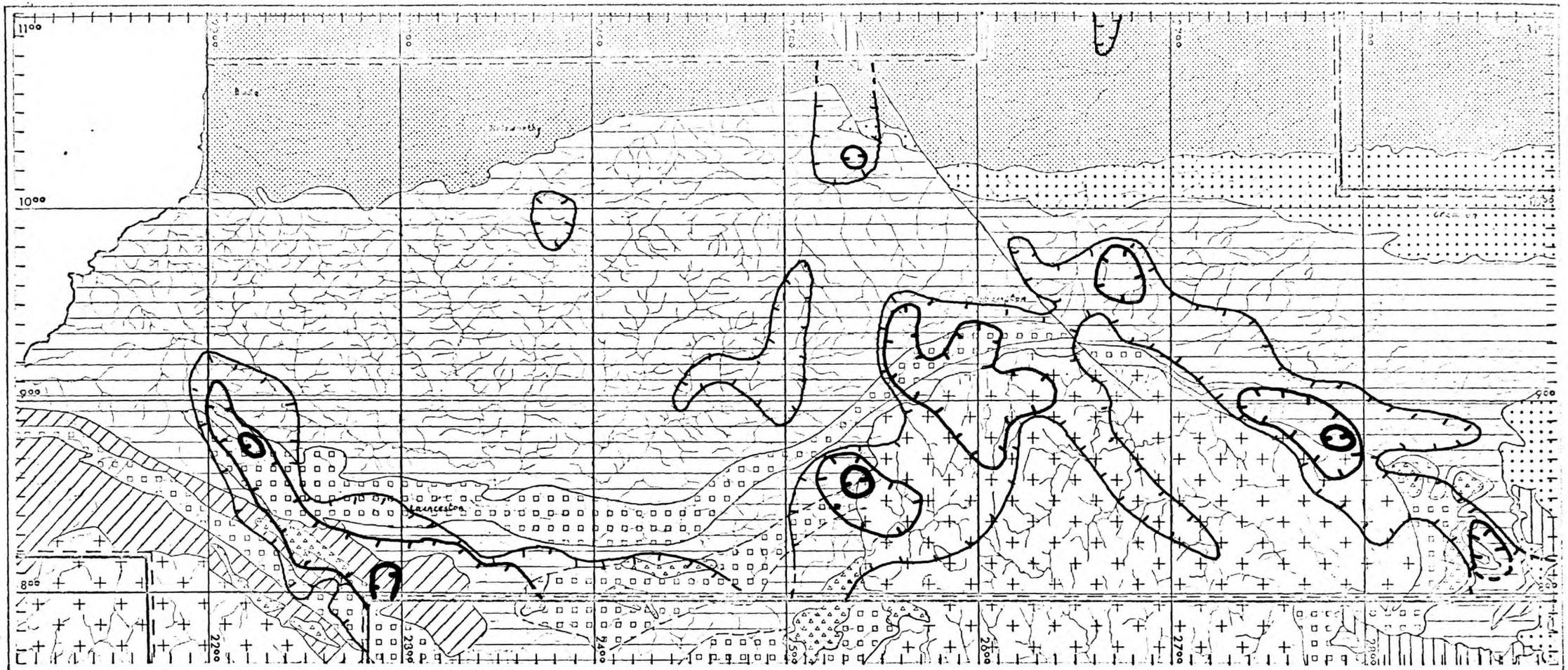
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

TIN — Z-VALUES
(standard deviation units)

- > +3·0
- +2·0 to +2·9
- +1·0 to +1·9
- 0·0 to +0·9
- -0·5 to -0·1

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FIGURE 74



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

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GEOLOGICAL KEY

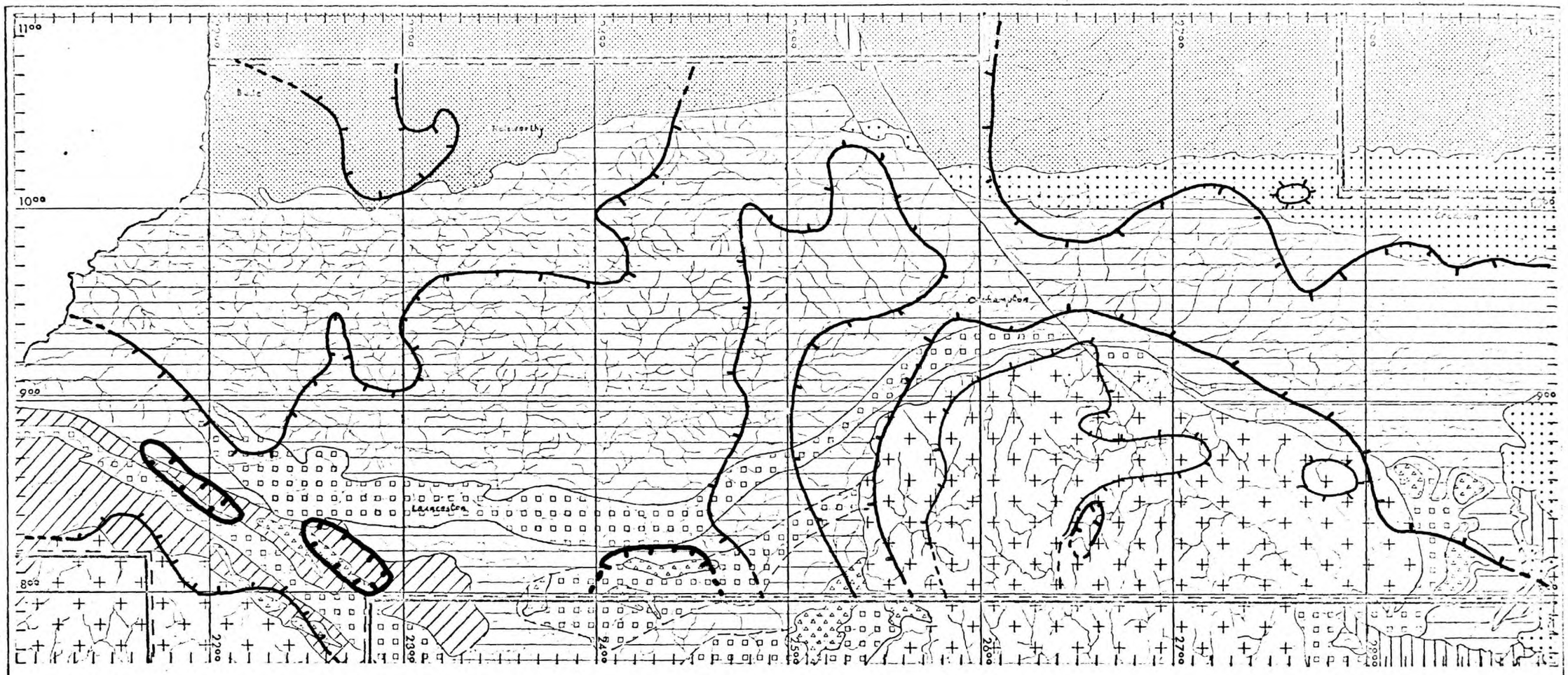
TERTIARY & CRETACEOUS	Clay, sand, gravel & chalk	DINANTIAN	Shale, sandstone, chert with limestone & volcanic rocks
PERMIAN	Breccia, sandstone and marl	DEVONIAN	Shale, slates, sandstone with limestone & volcanic rocks
WESTPHALIAN	Shale with sandstones	GRANITE	
NAMURIAN	Shale with sandstones	DOLERITE	

TIN — VARIANCE RATIO
(variance units)

- > 2·0
- 1·0 — 1·9
- 0·5 — 0·9

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FIGURE 75



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

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GEOLOGICAL KEY

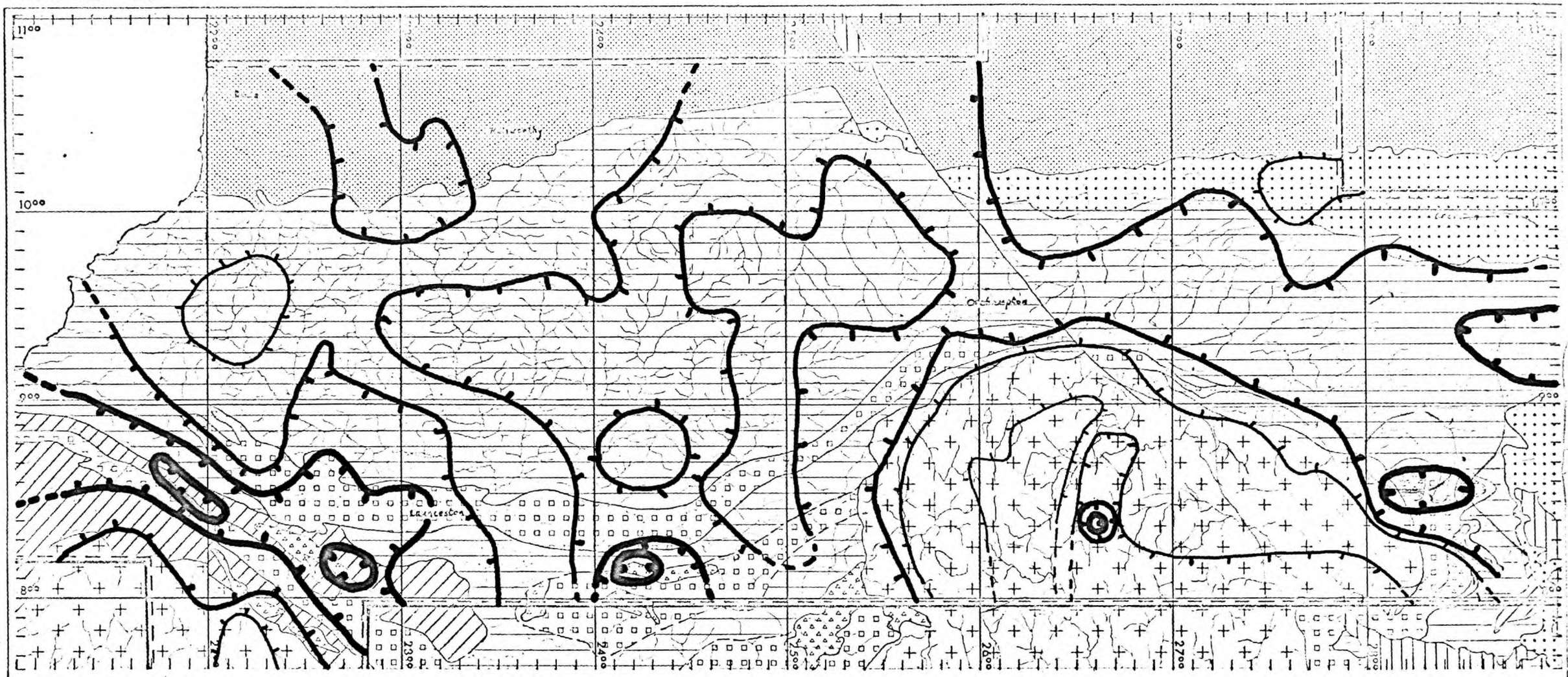
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

TITANIUM–MOVING AVERAGE
(concentration in ppm)

- >7000
- 3000–6999
- 1500–2999

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FIGURE 76



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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GEOLOGICAL KEY

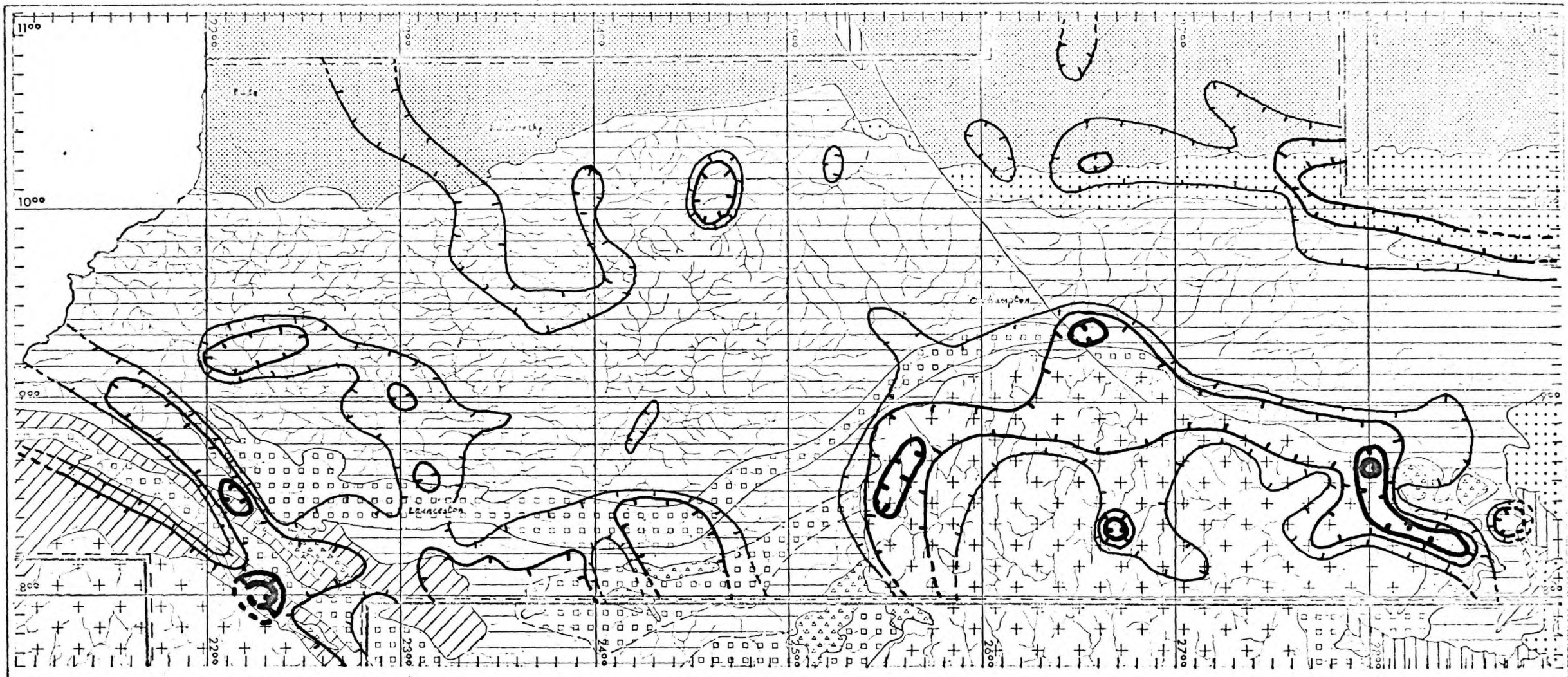
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

TITANIUM — Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- -1·0 to -0·1
- 0·0 to +0·9
- -2·0 to -1·1

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FIGURE 77



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

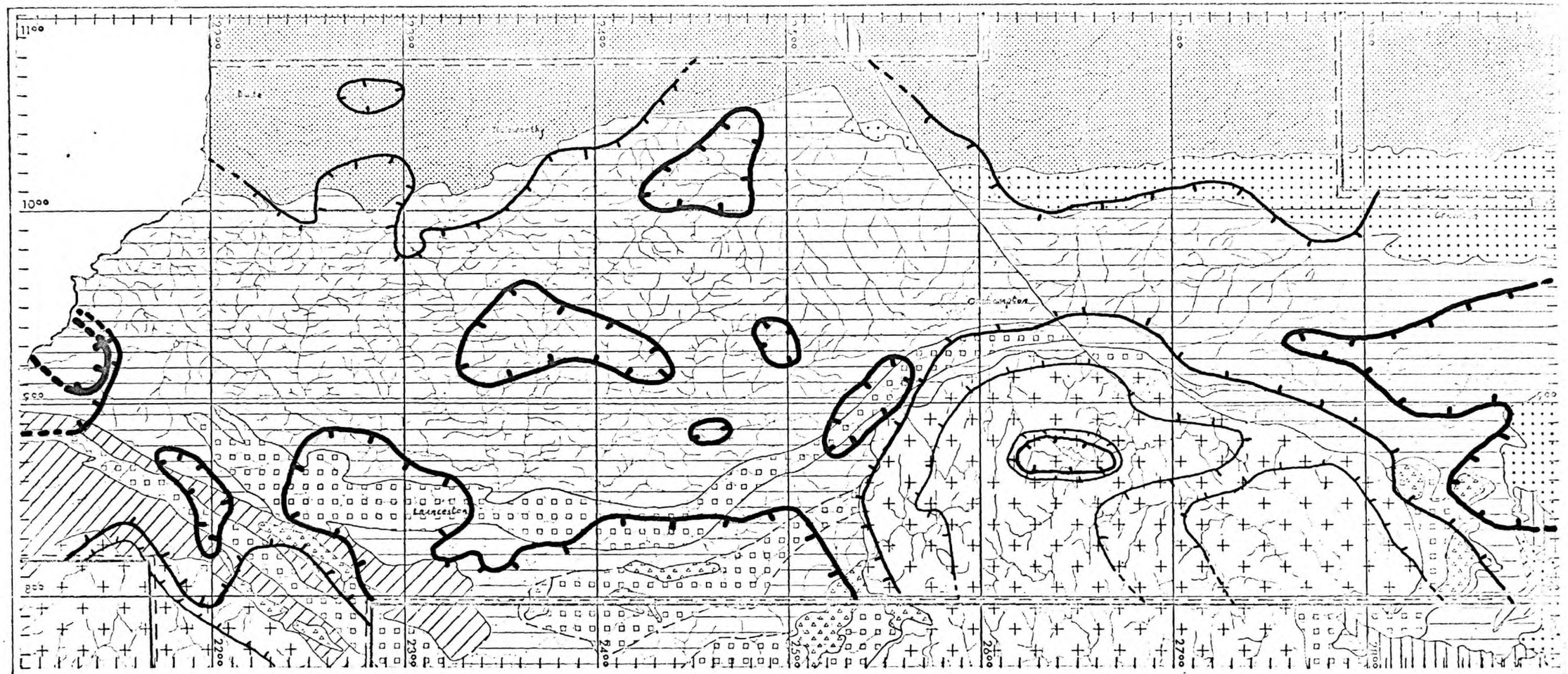
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

TITANIUM — VARIANCE RATIO (variance units)

- >4·0
- 2·0–3·9
- 1·0–1·9
- 0·5–0·9

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FIGURE 78



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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GEOLOGICAL KEY

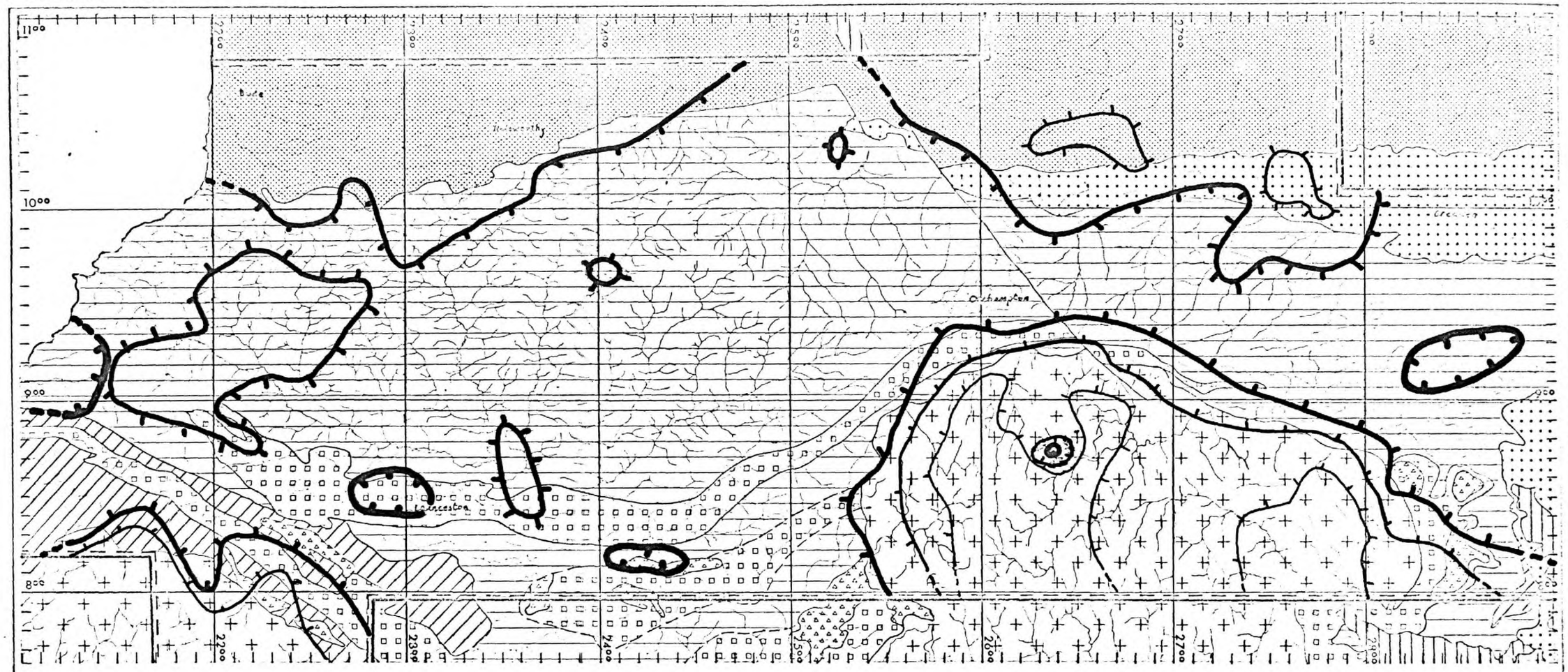
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

VANADIUM — MOVING AVERAGE
(concentration in ppm)

- >150
- 115–149
- 70–114
- 30–69

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FIGURE 79



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

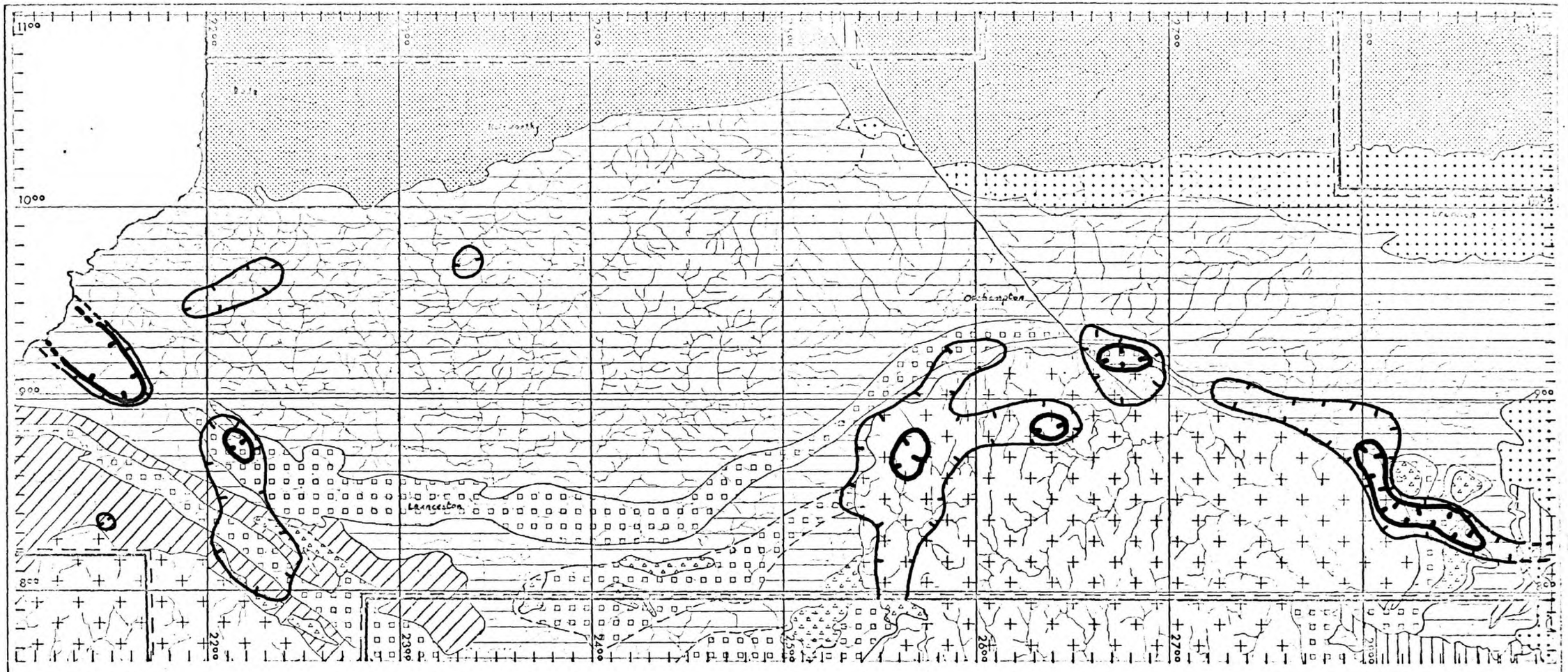
VANADIUM — Z-VALUES
(standard deviation units)

- >+1·0
- −1·0 to −0·1
- 0·0 to +0·9
- −2·0 to −1·1

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FIGURE 80



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

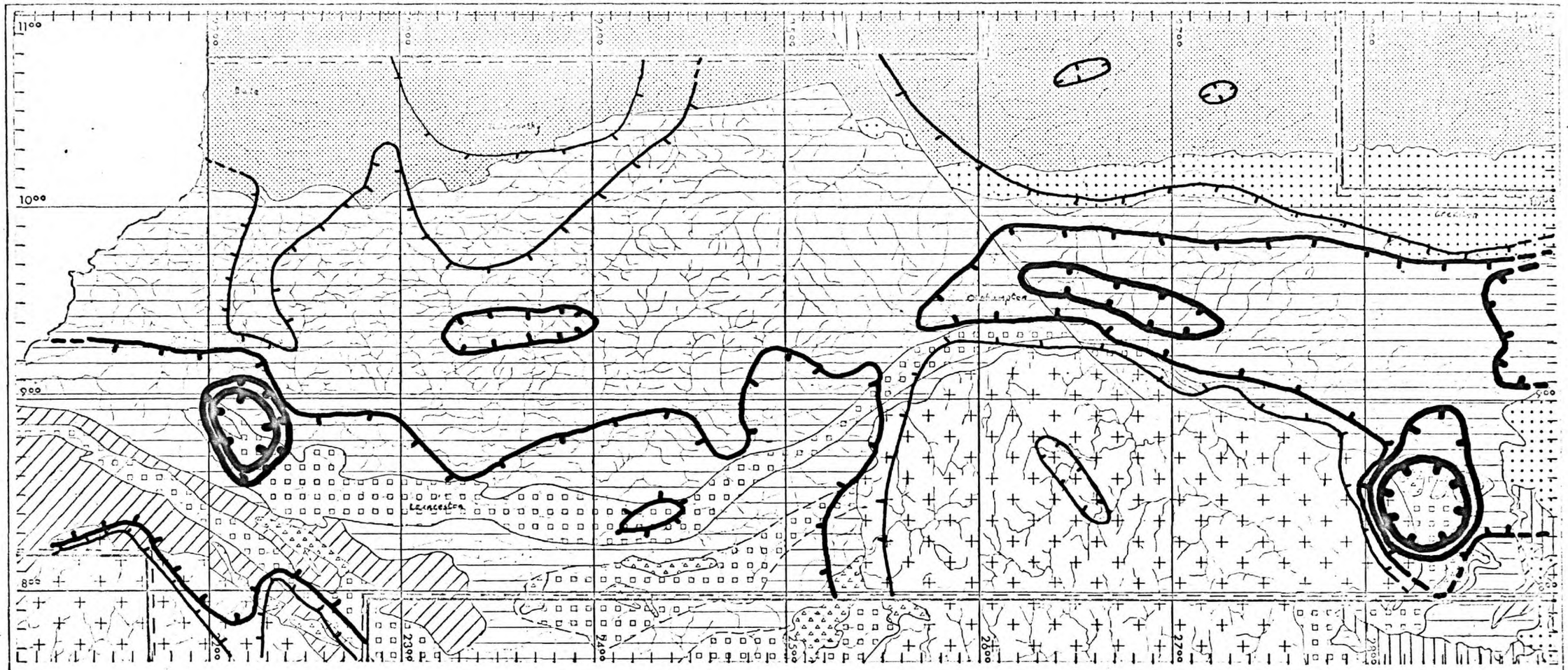
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

VANADIUM — VARIANCE RATIO
(variance units)

- > 2·0
- 1·0 — 1·9

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FIGURE 81



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

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N

GEOLOGICAL KEY

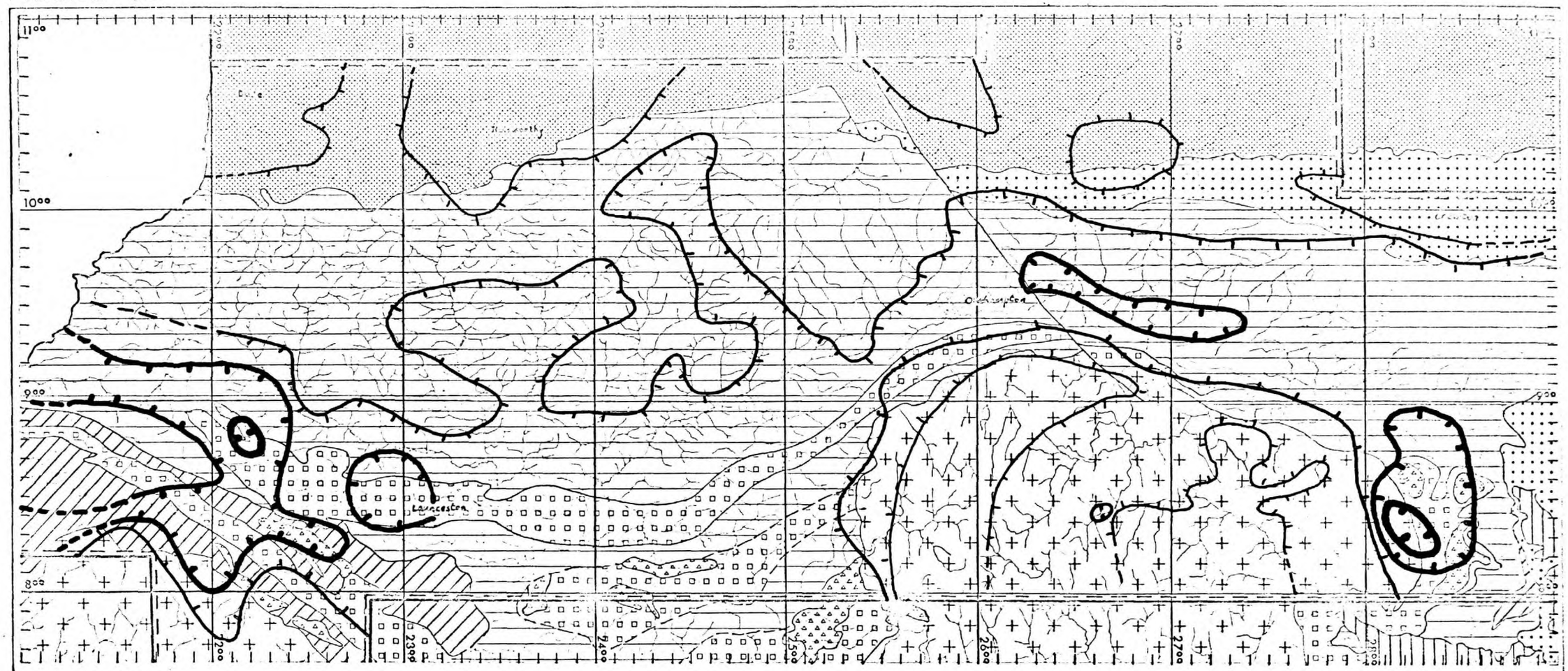
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

ZINC — MOVING AVERAGE
(concentration in ppm)

- >300
- 225-299
- 110-149
- 150-224
- 70-109

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FIGURE 82



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

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GEOLOGICAL KEY

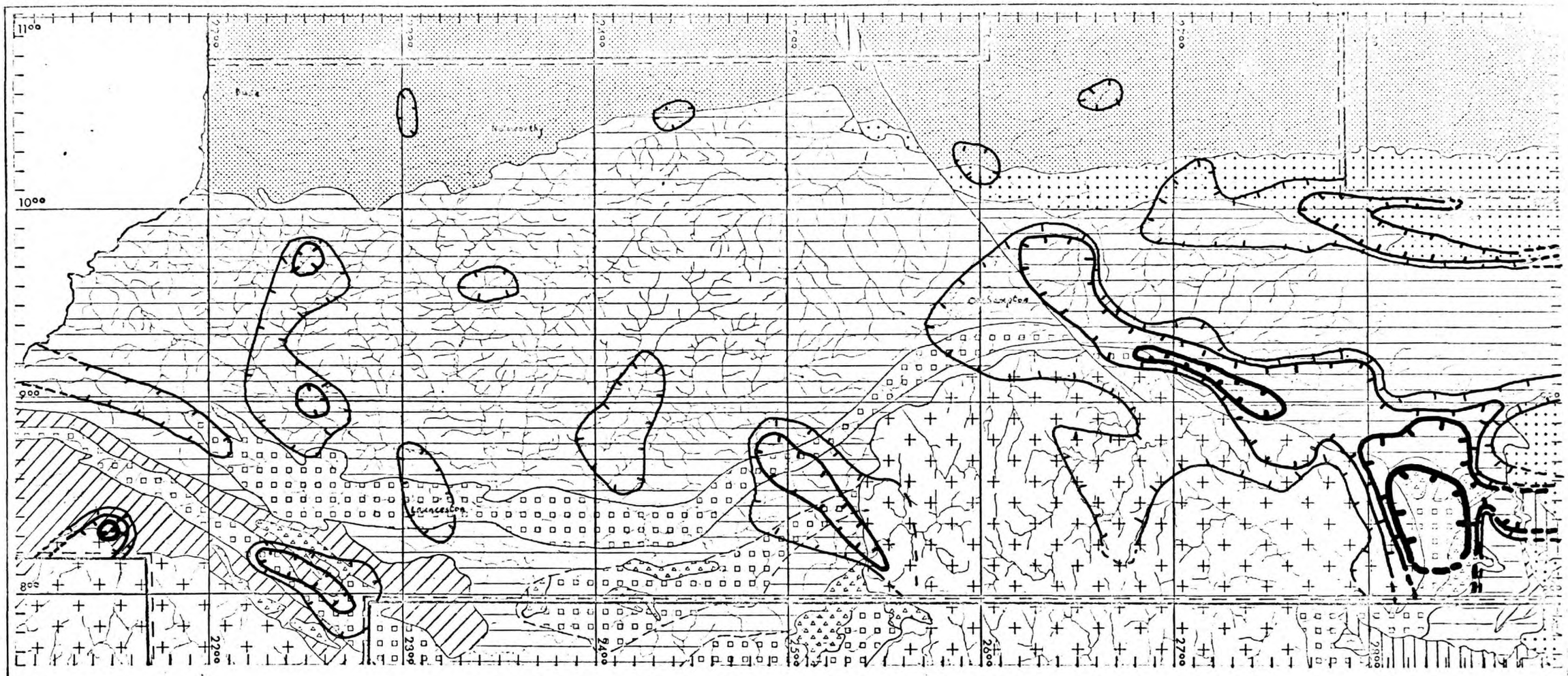
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

ZINC — Z-VALUES
(standard deviation units)

- >+2·0
- 0·0 to +0·9
- +1·0 to +1·9
- -1·0 to -0·1

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FIGURE 83



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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GEOLOGICAL KEY

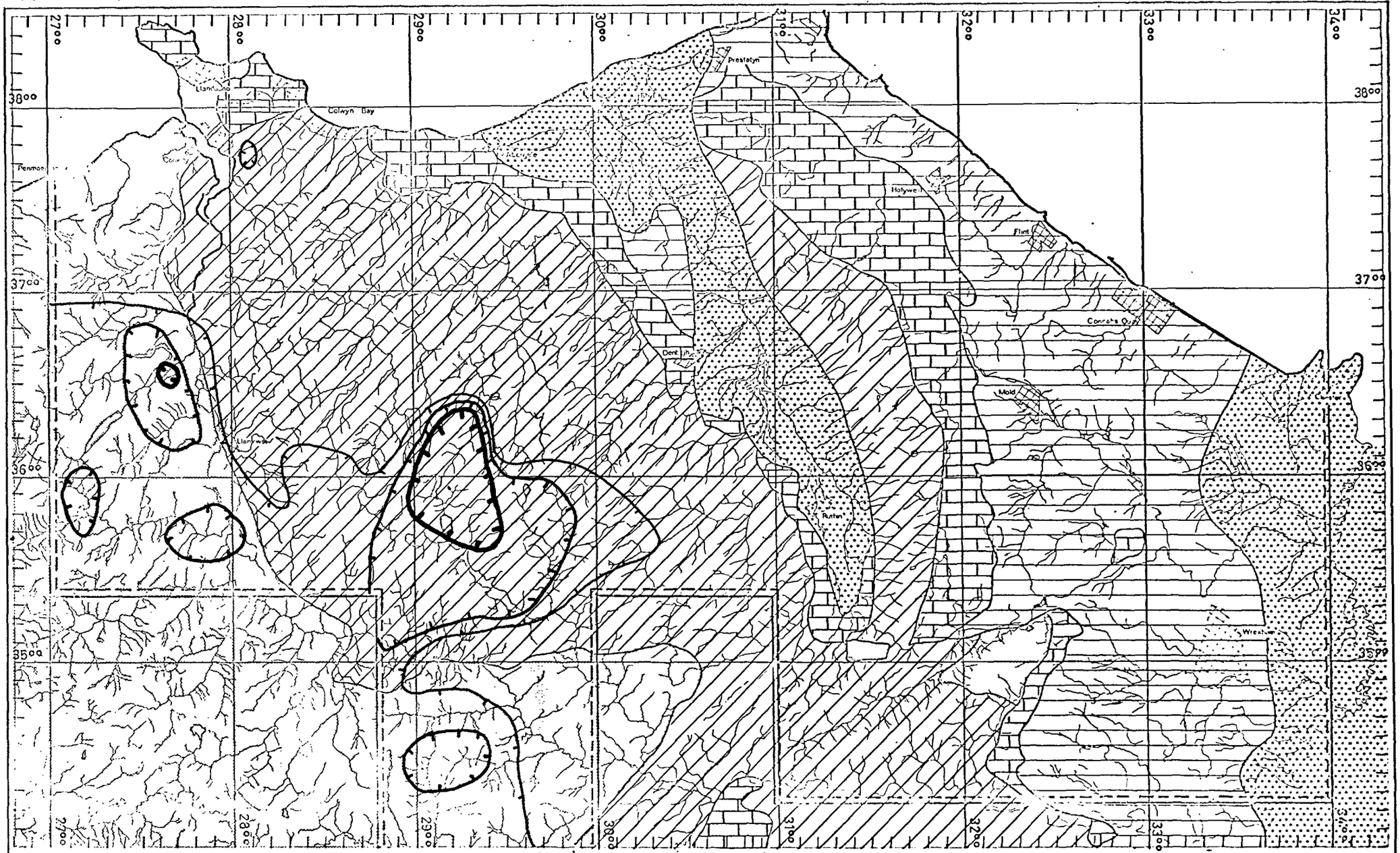
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

ZINC – VARIANCE RATIO (variance units)

- >4·0
- 2·0–3·9
- 1·0–1·9
- 0·5–0·9

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FIGURE 84



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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0 1 2 3 4
miles

N

GEOLOGICAL KEY

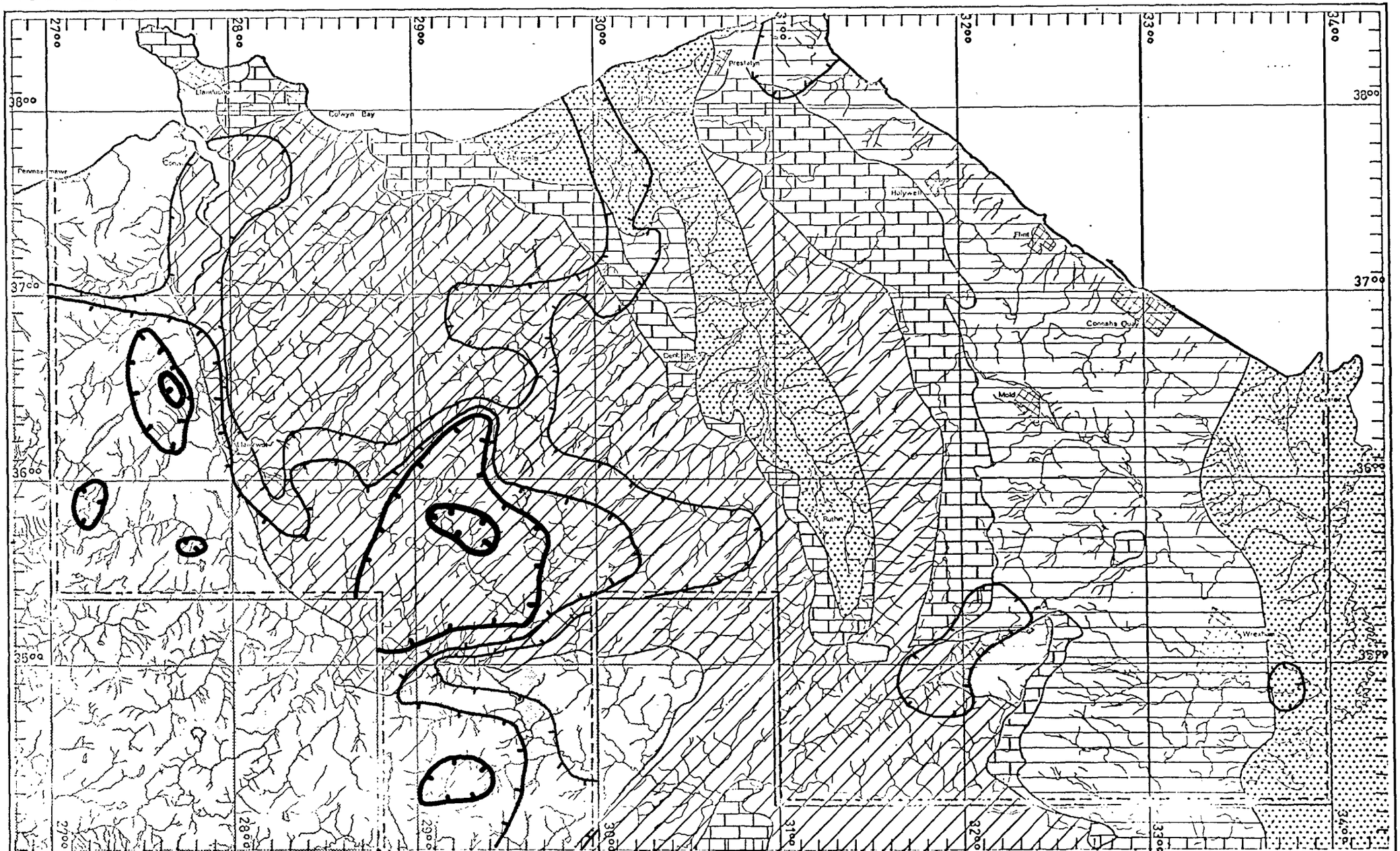
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soopy mudstones with subardinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

ARSENIC – MOVING AVERAGE
(concentration in ppm)

- >30
- 15–29
- 7–14

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FIGURE 85



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

N

0 1 2 3 4
miles

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GEOLOGICAL KEY

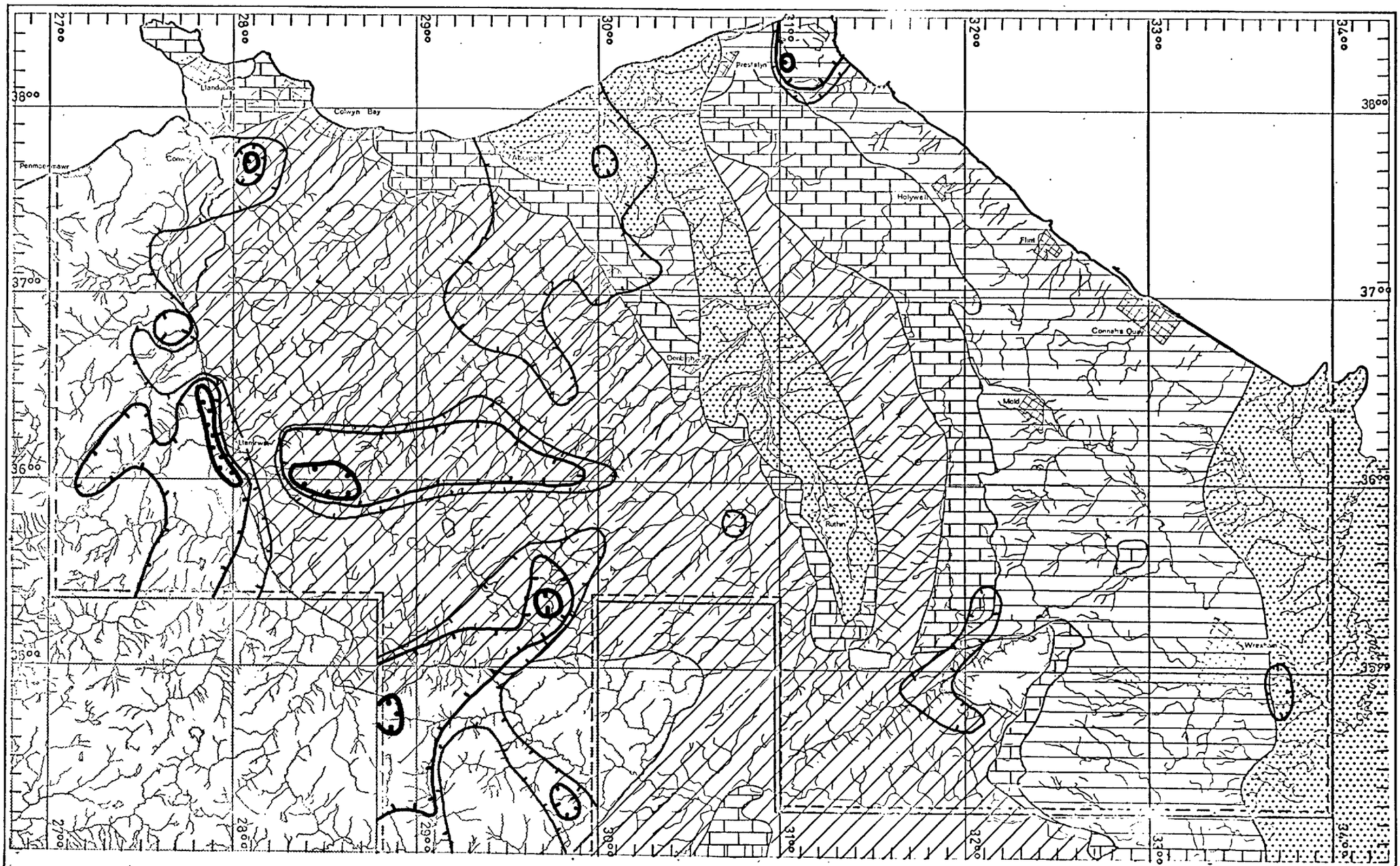
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

ARSENIC — Z-VALUES
(standard deviation units)

- > +3·0
- +2·0 to +2·9
- +1·0 to +1·9
- 0·0 to +0·9

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FIGURE 86



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

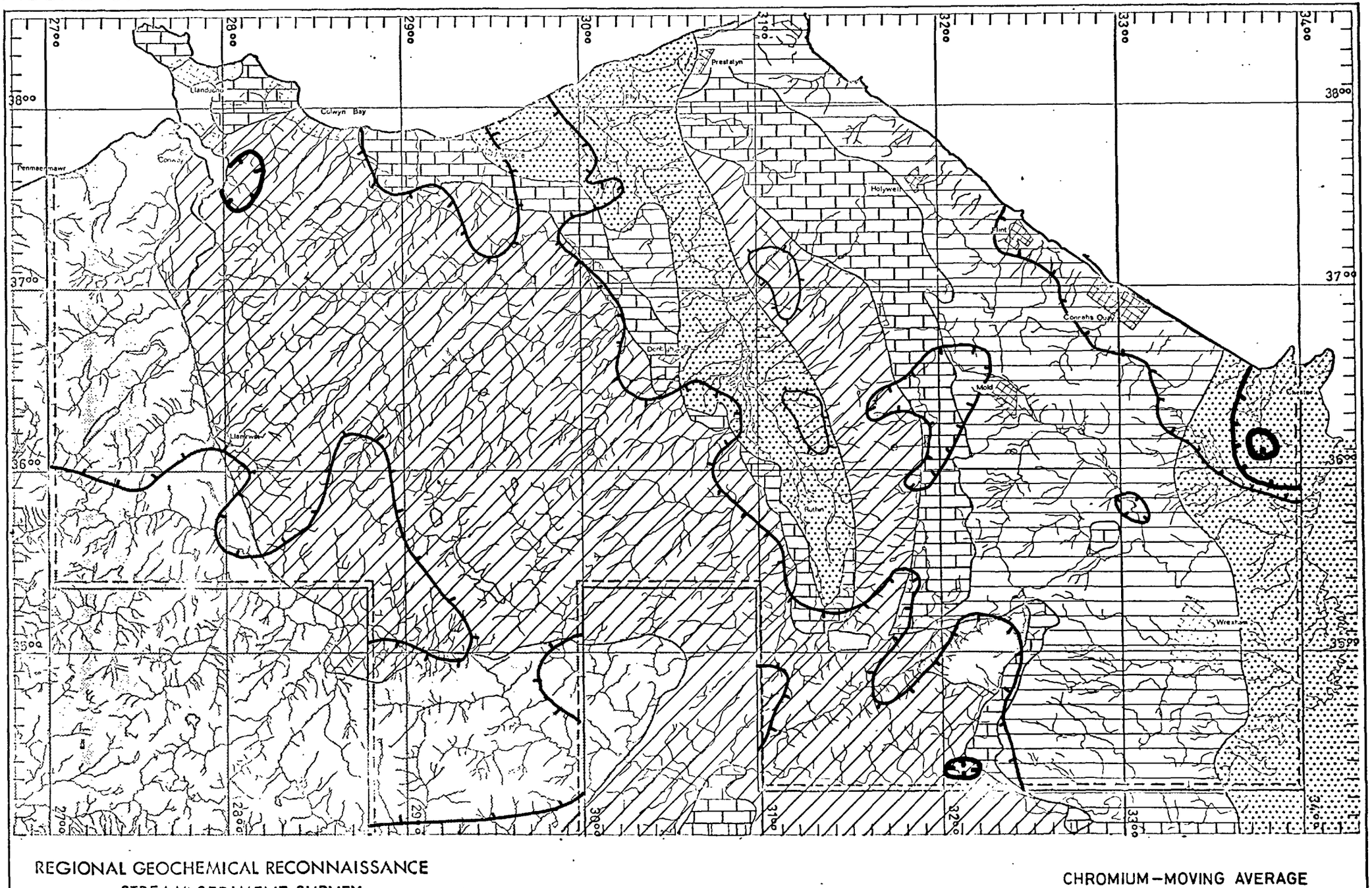
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

ARSENIC – VARIANCE RATIO
(variance units)

- > 4·0
- 2·0 – 3·9
- 1·0 – 1·9

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FIGURE 87



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

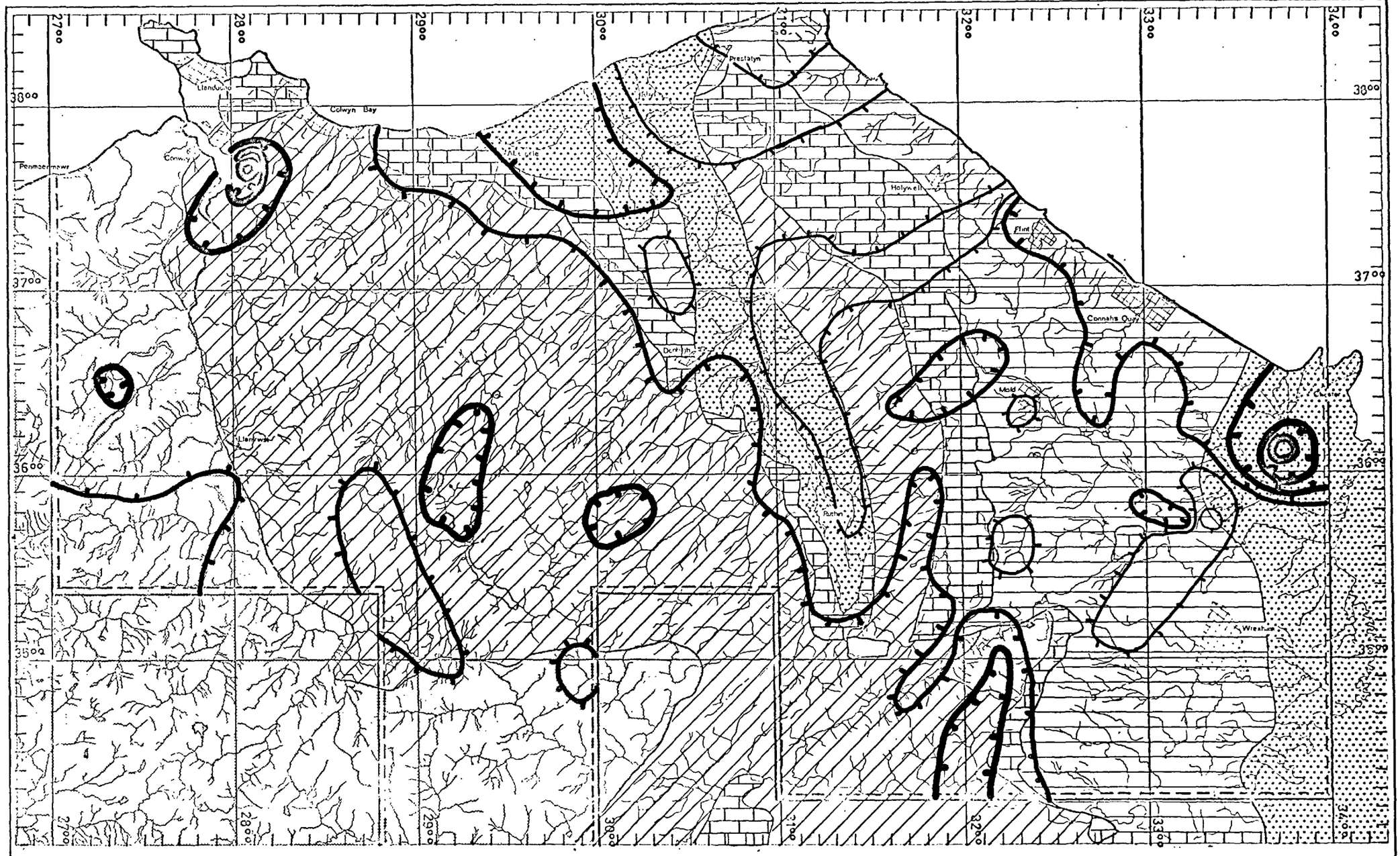
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

CHROMIUM—MOVING AVERAGE
(concentration in ppm)

- >300
- 150–299
- 70–149
- 30–69

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FIGURE 88



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

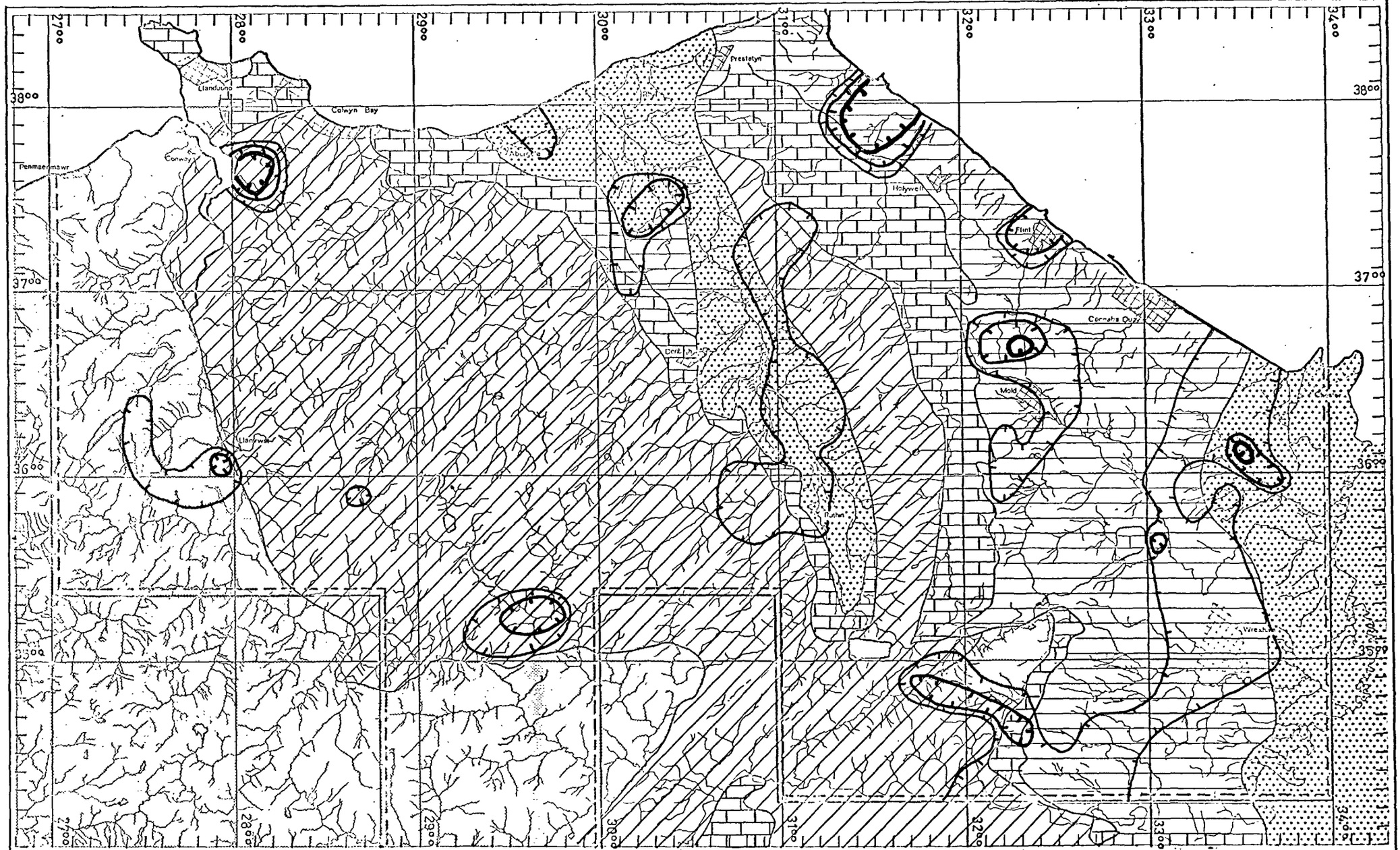
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

CHROMIUM – Z-VALUES
(standard deviation units)

- > +3·0
- +2·0 to +2·9
- +1·0 to +1·9
- 0·0 to +0·9
- −1·0 to −0·1
- −2·0 to −1·1

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FIGURE 89



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

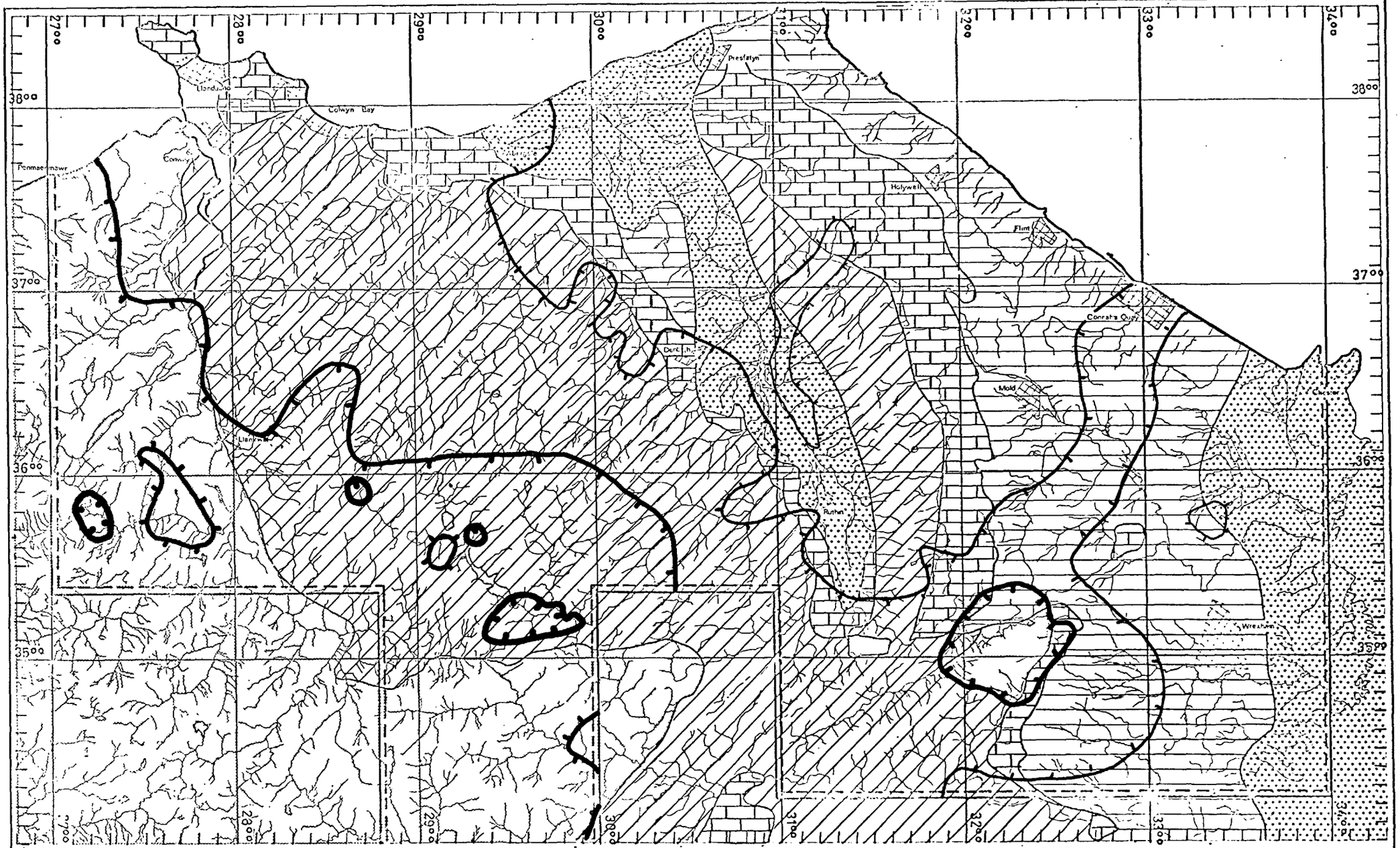
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

CHROMIUM — VARIANCE RATIO
(variance units)

- >4·0
- 2·0—3·9
- 1·0—1·9

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FIGURE 90



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

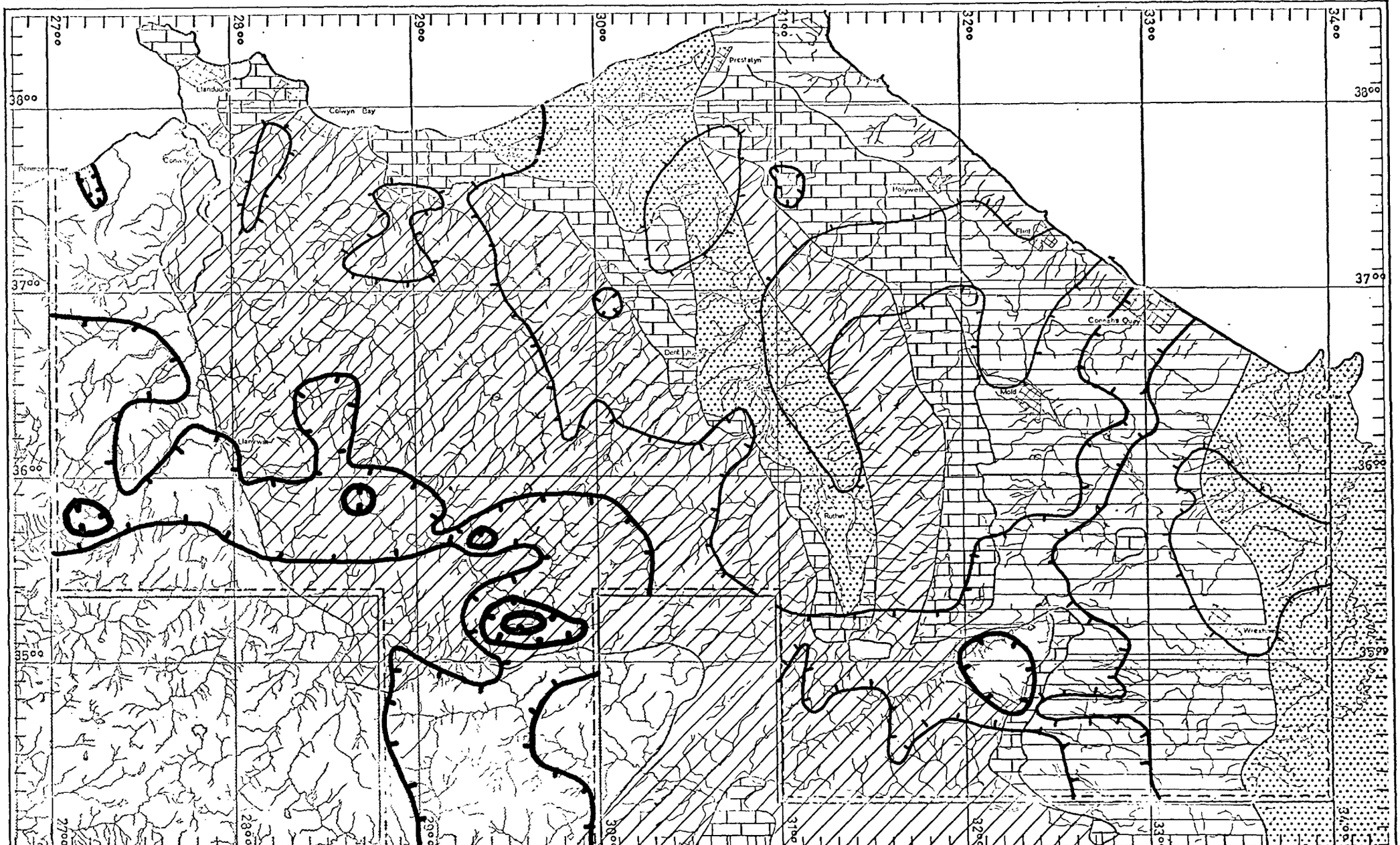
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

COBALT—MOVING AVERAGE
(concentration in ppm)

- >70
- 30–69
- 15–29
- 7–14

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FIGURE 91



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

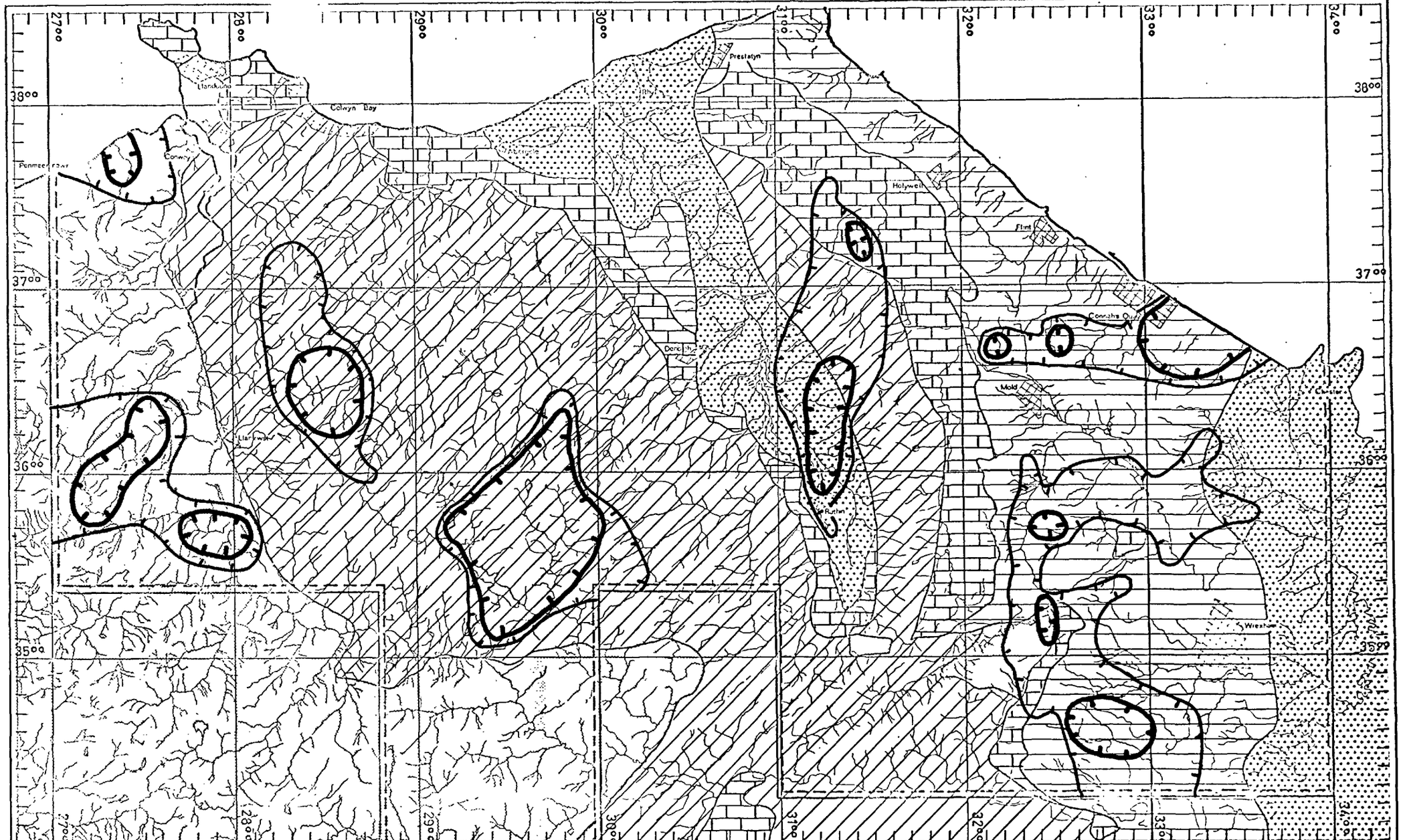
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

COBALT — Z-VALUES
(standard deviation units)

- >+3·0
- +2·0 to +2·9
- 0·0 to +0·9
- +1·0 to +1·9
- -1·0 to -0·1

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FIGURE 92



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

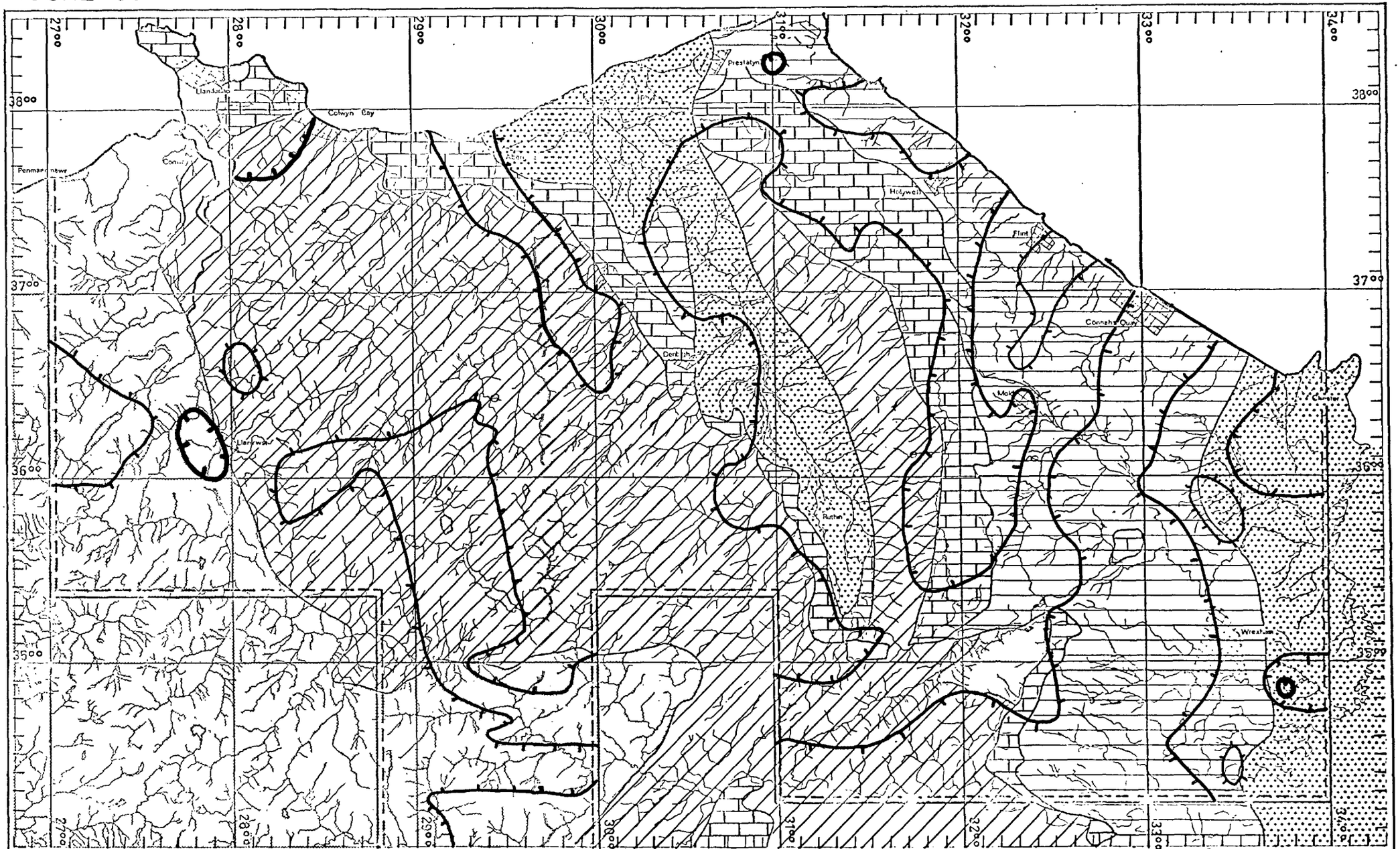
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

COBALT – VARIANCE RATIO
(variance units)

- >1·0
- 0·5–0·9

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FIGURE 93



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

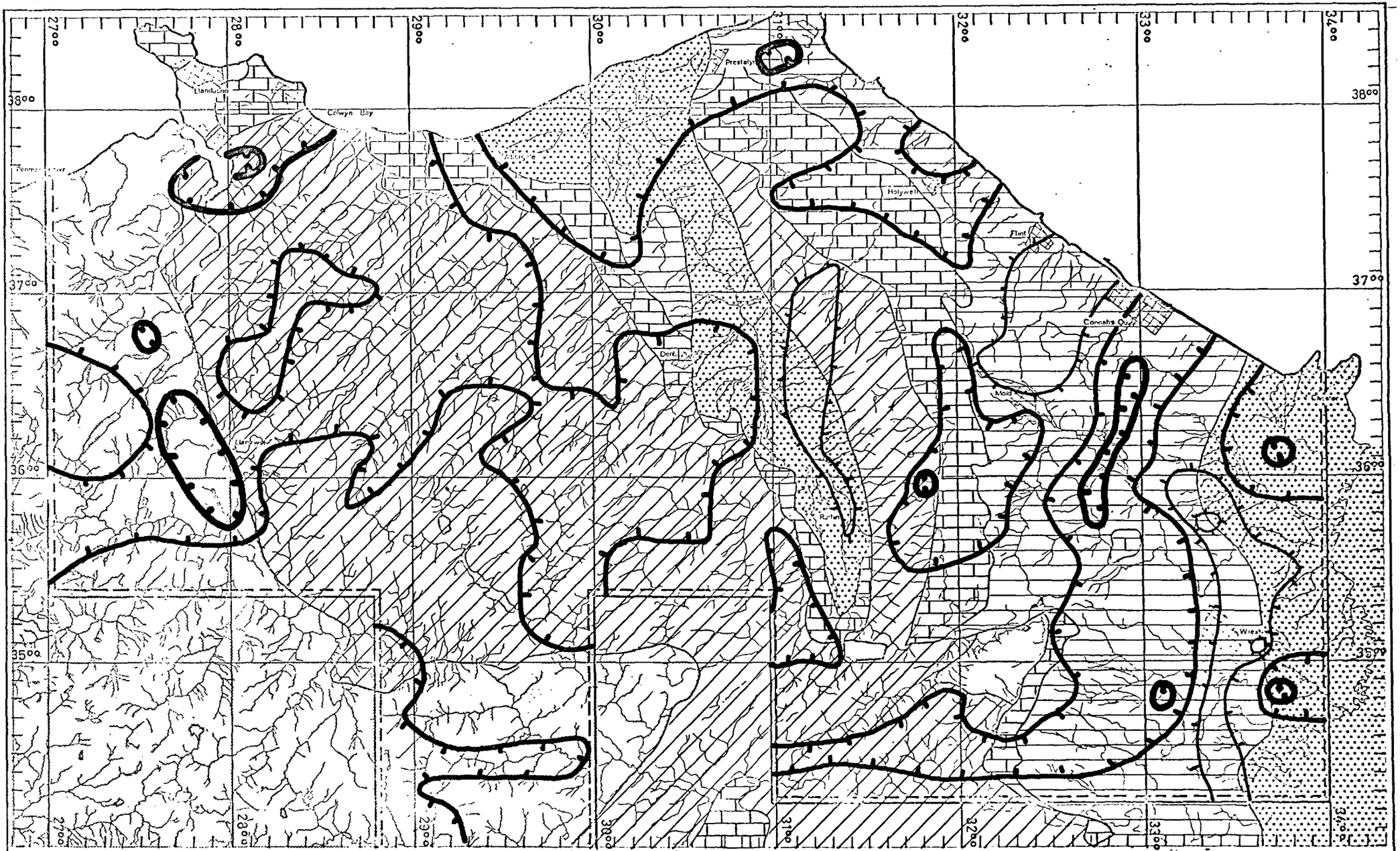
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

COPPER —MOVING AVERAGE
(concentration in ppm)

- >70
- 30—69
- 15—29

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FIGURE 94



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

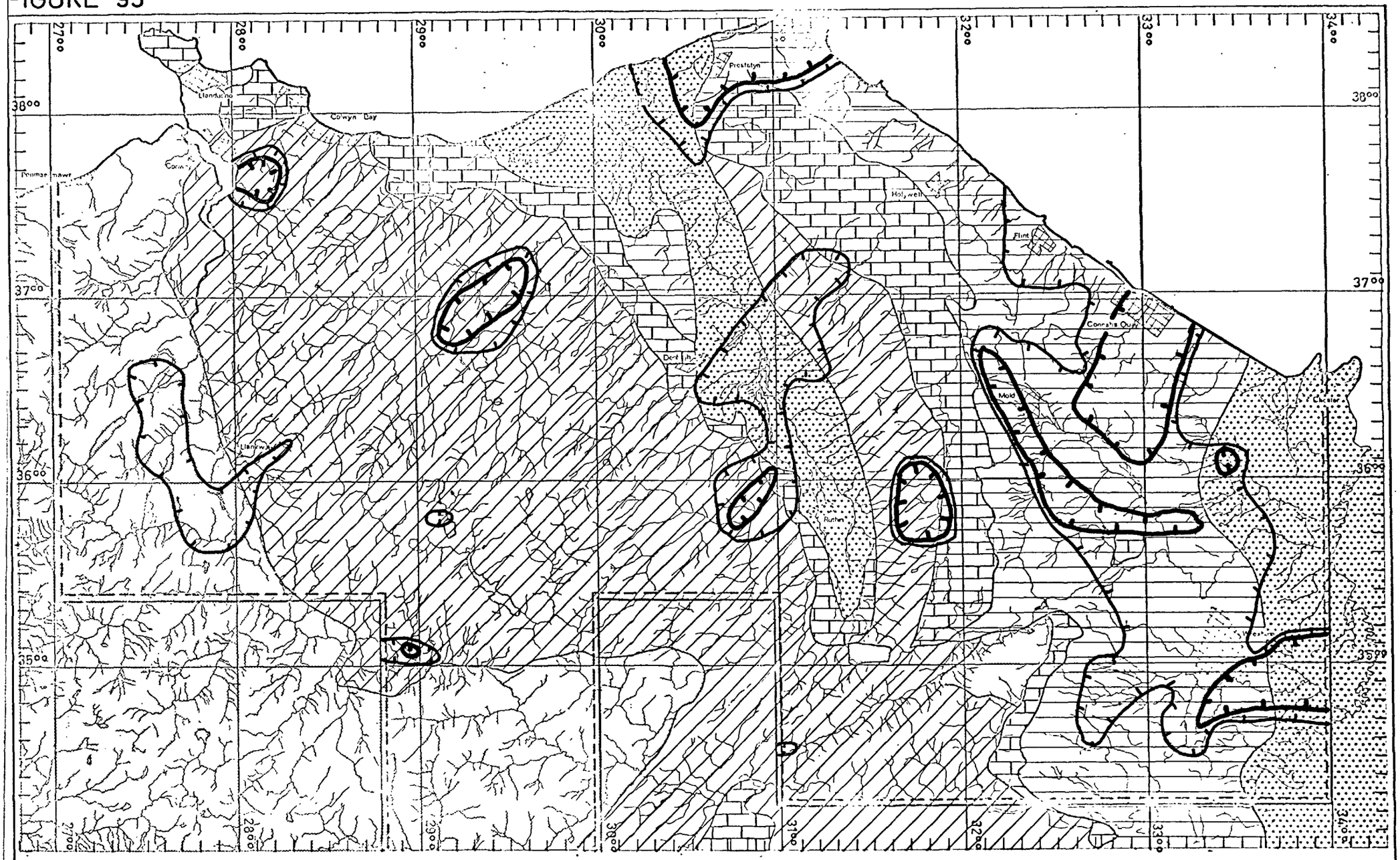
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

COPPER — Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- −1·0 to −0·1
- 0·0 to +0·9
- −2·0 to −1·1

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FIGURE 95



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

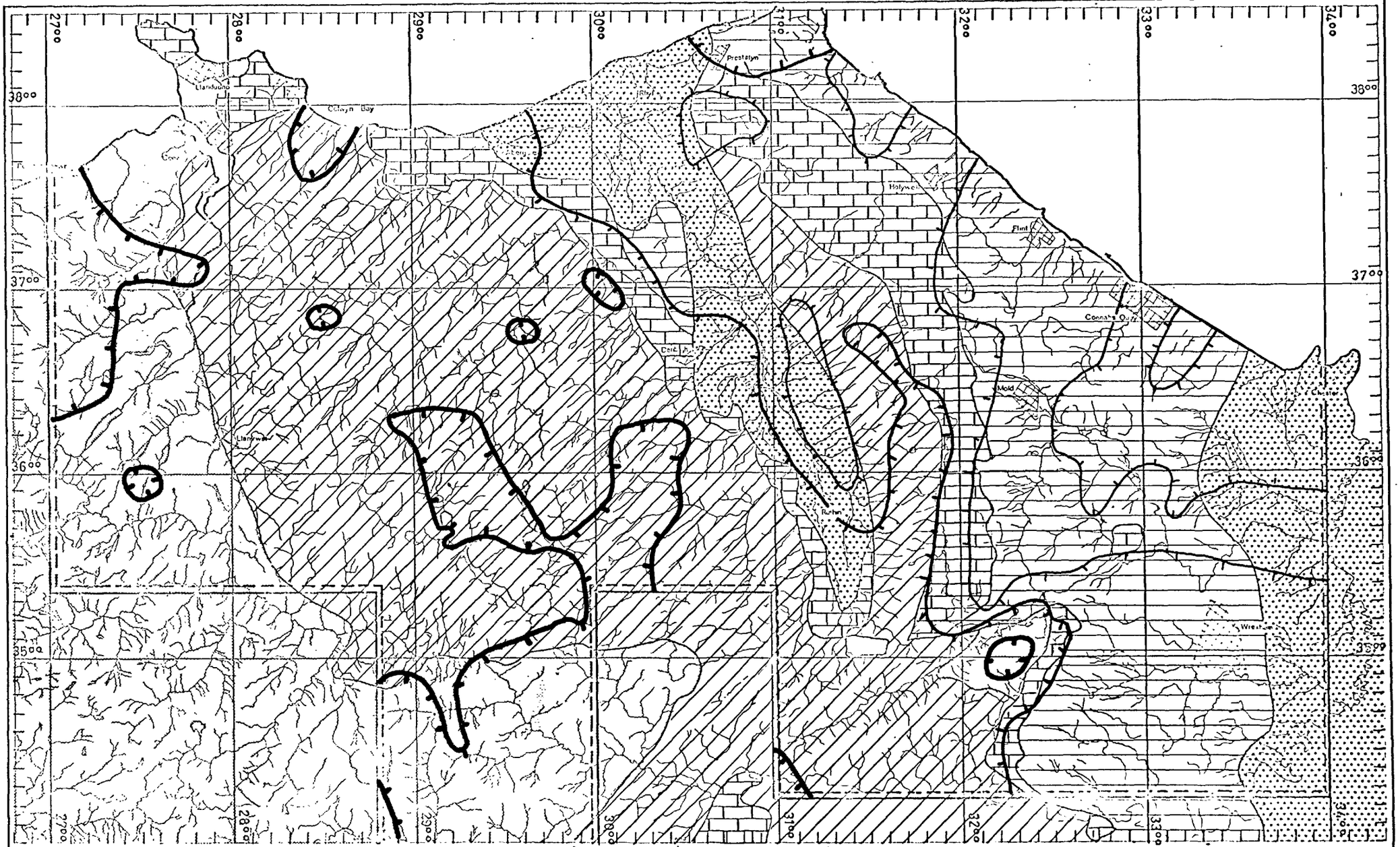
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

COPPER — VARIANCE RATIO
(variance units)

- >2·0
- 1·0–1·9

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(Institute of Geological Sciences)

FIGURE 96



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

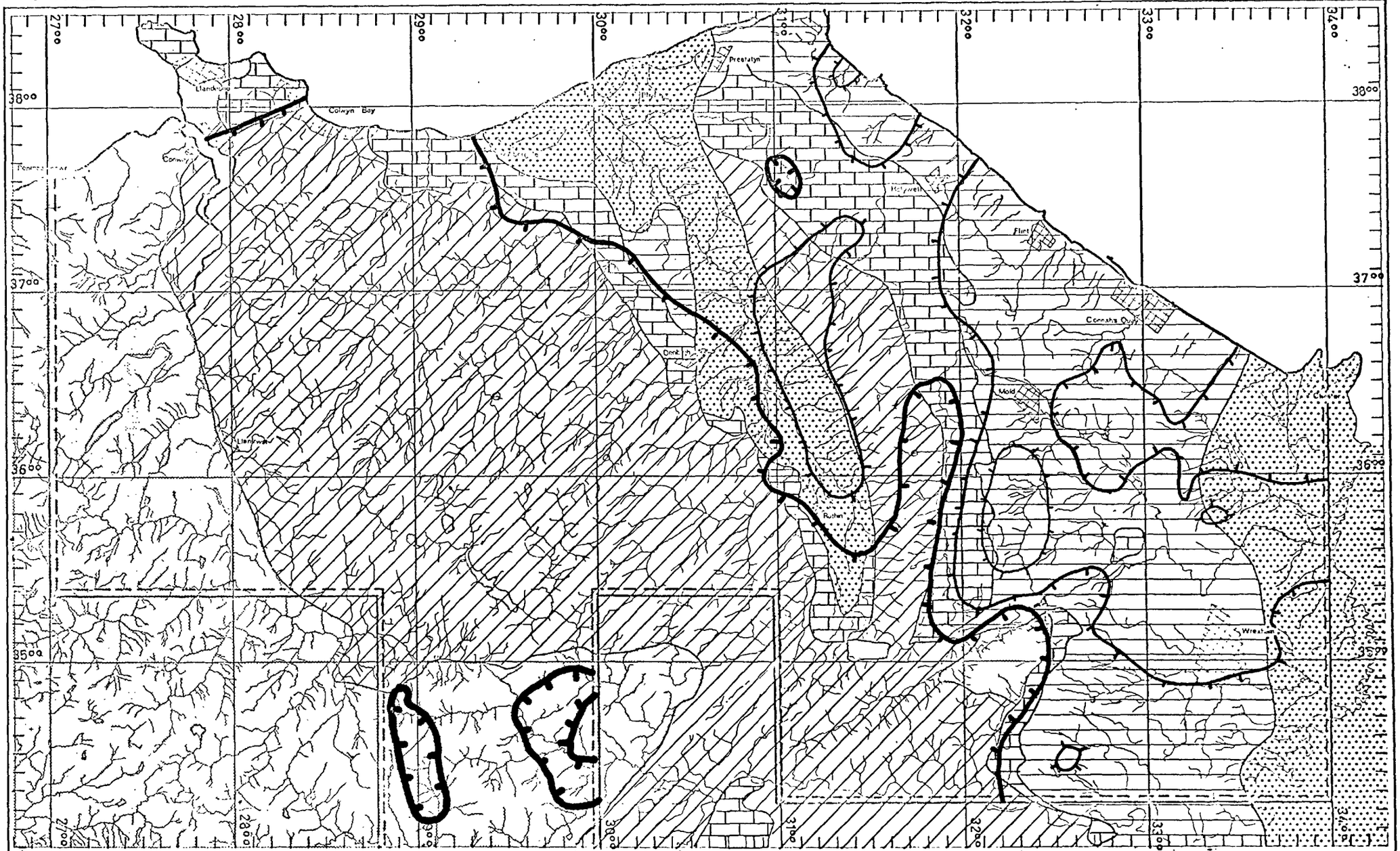
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

GALLIUM — MOVING AVERAGE
(concentration in ppm)

- >30
- 15–29
- 7–14

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FIGURE 97



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

N

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miles

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GEOLOGICAL KEY

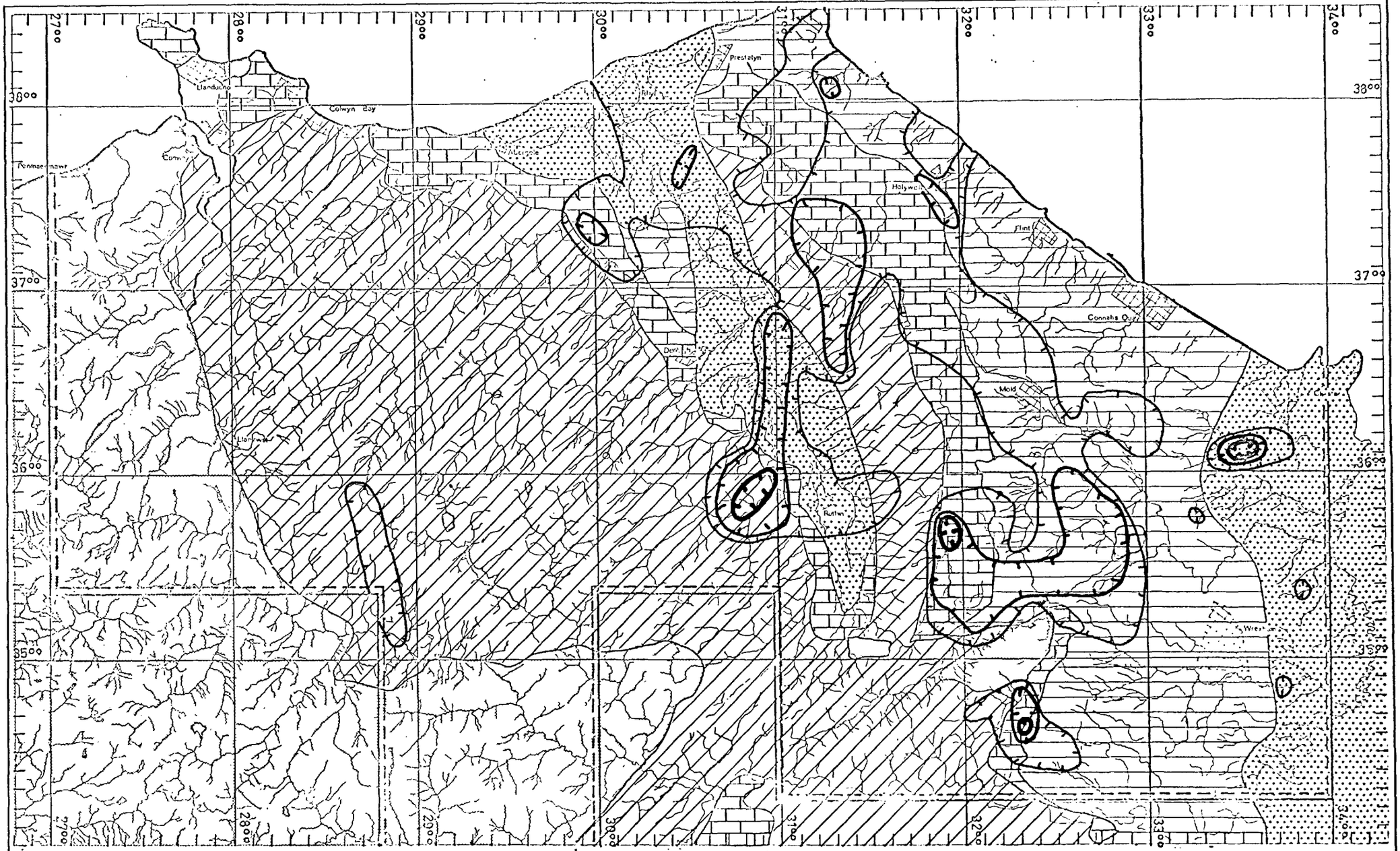
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

GALLIUM —Z-VALUES
(standard deviation units)

- > +1·0
- −1·0 to −0·1
- 0·0 to +0·9
- −2·0 to −1·1

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FIGURE 98



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

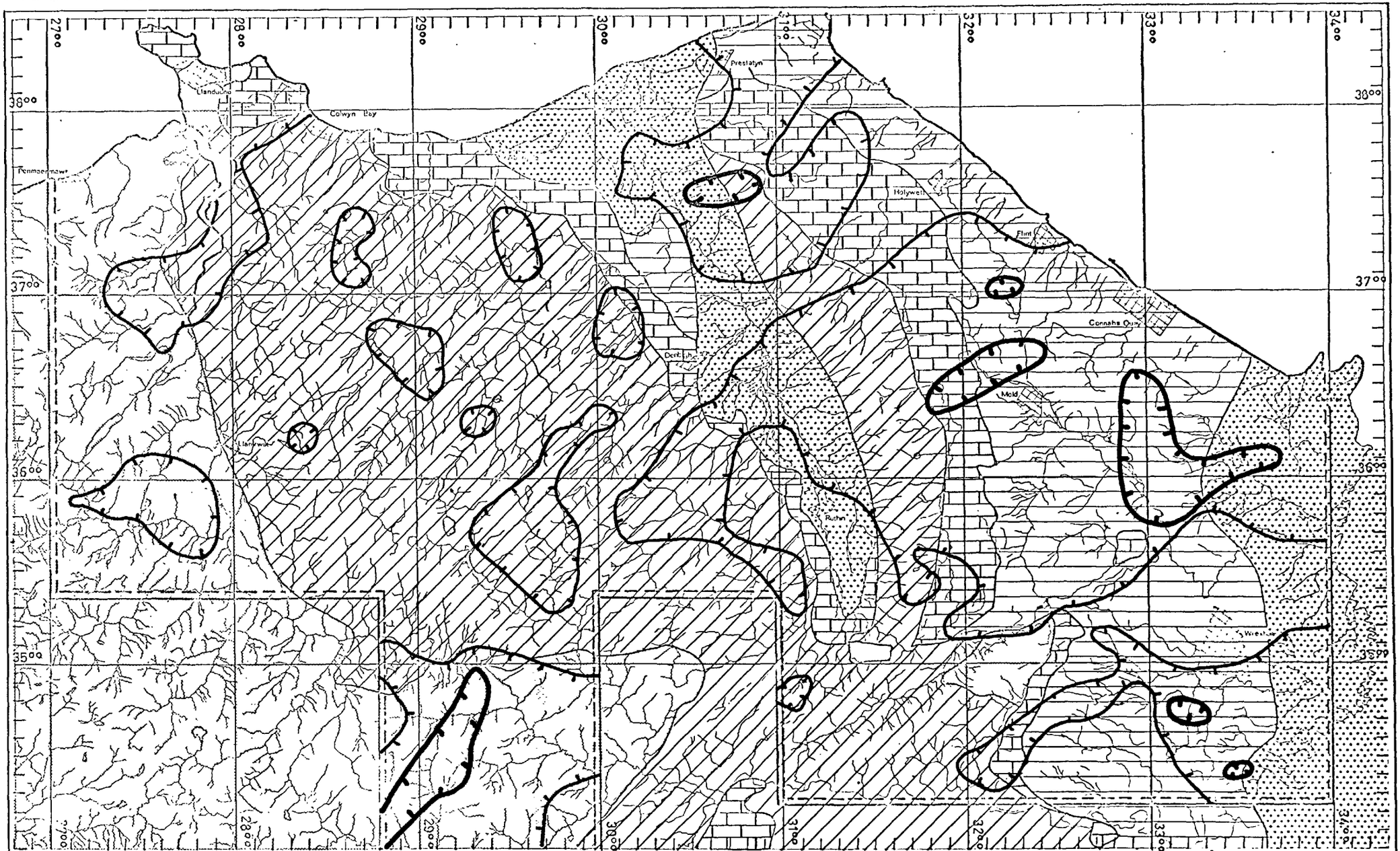
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, soot-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

GALLIUM — VARIANCE RATIO
(variance units)

- > 2·0
- 1·0 — 1·9
- 0·5 — 0·9

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FIGURE 99



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

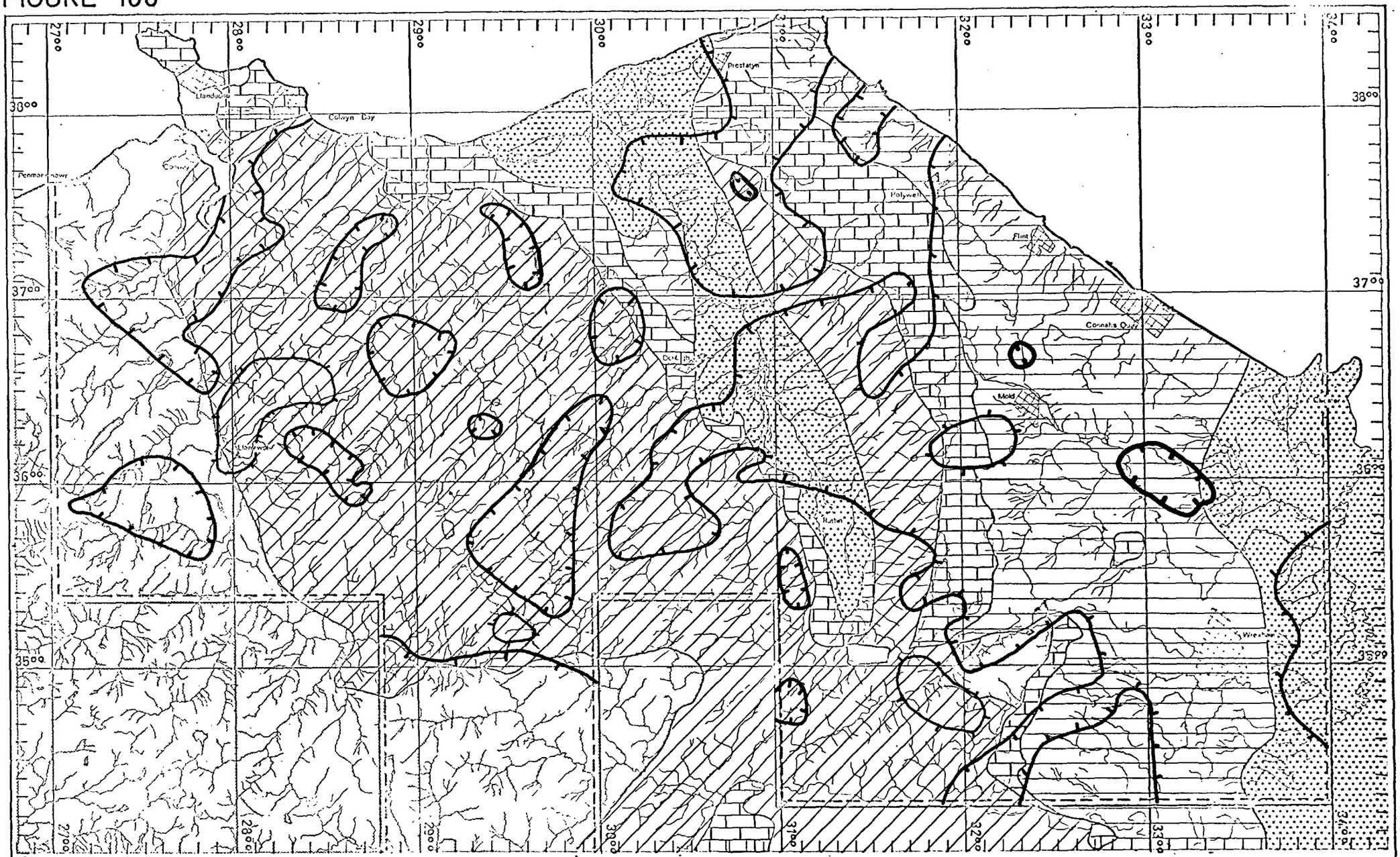
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Sholes, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

GERMANIUM —MOVING AVERAGE
(concentration in ppm)

- >500
- 450-499

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FIGURE 100



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

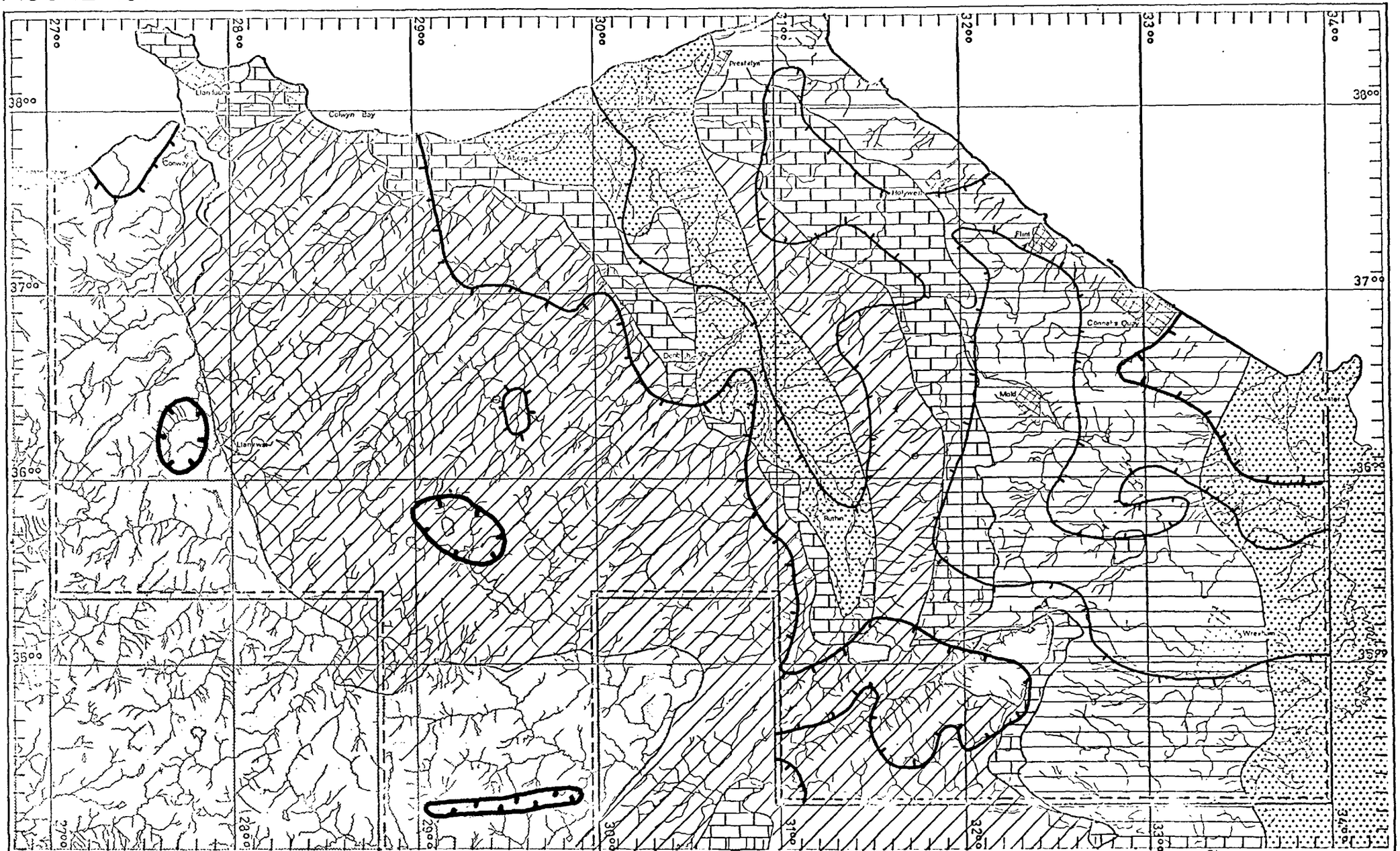
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Sholes, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

GERMANIUM — Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9
- −1·0 to −0·1

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FIGURE 101



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

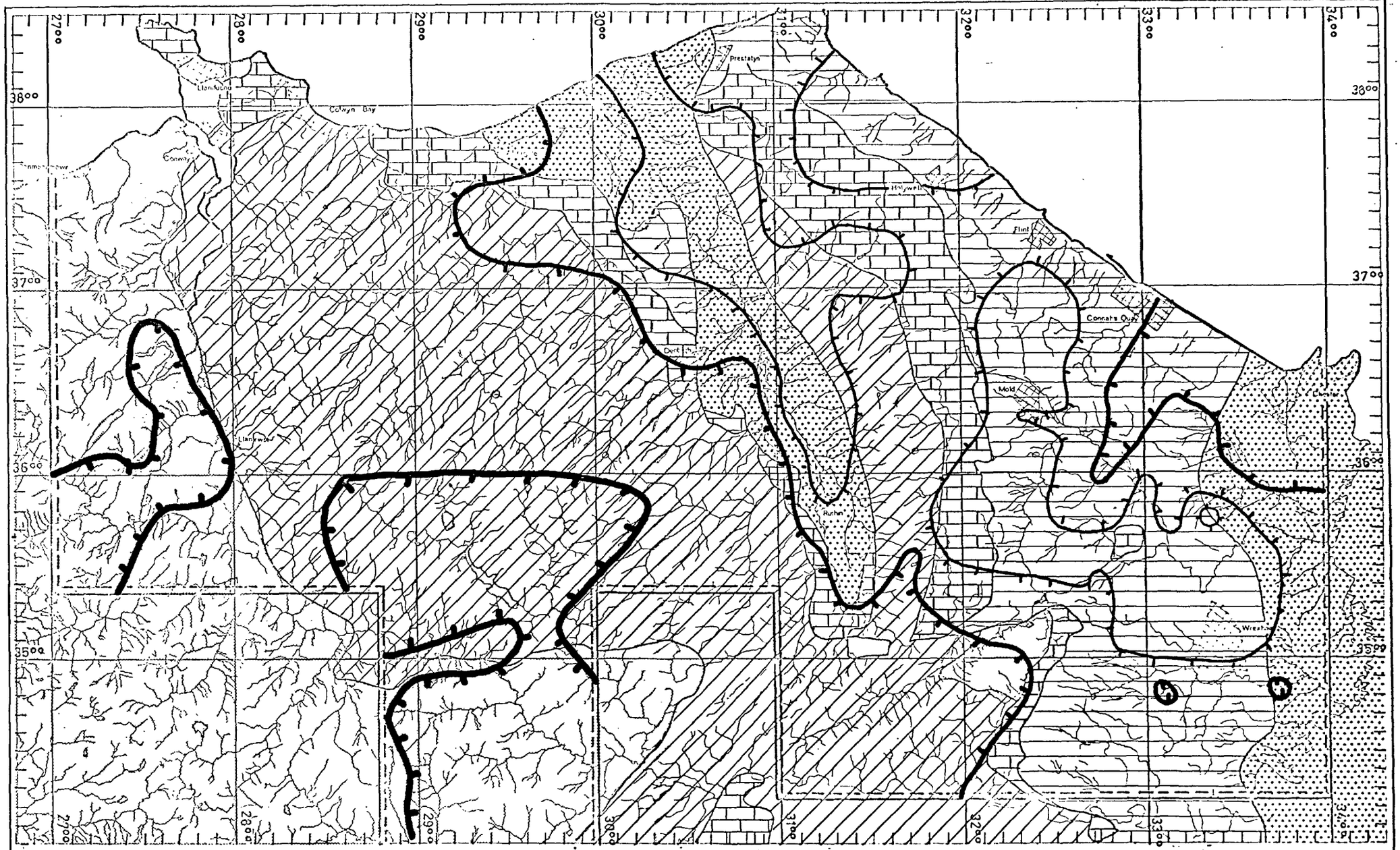
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

IRON — MOVING AVERAGE
(concentration in percentages)

- >7·0
- 3·0—6·9
- 1·5—2·9

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FIGURE 102



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

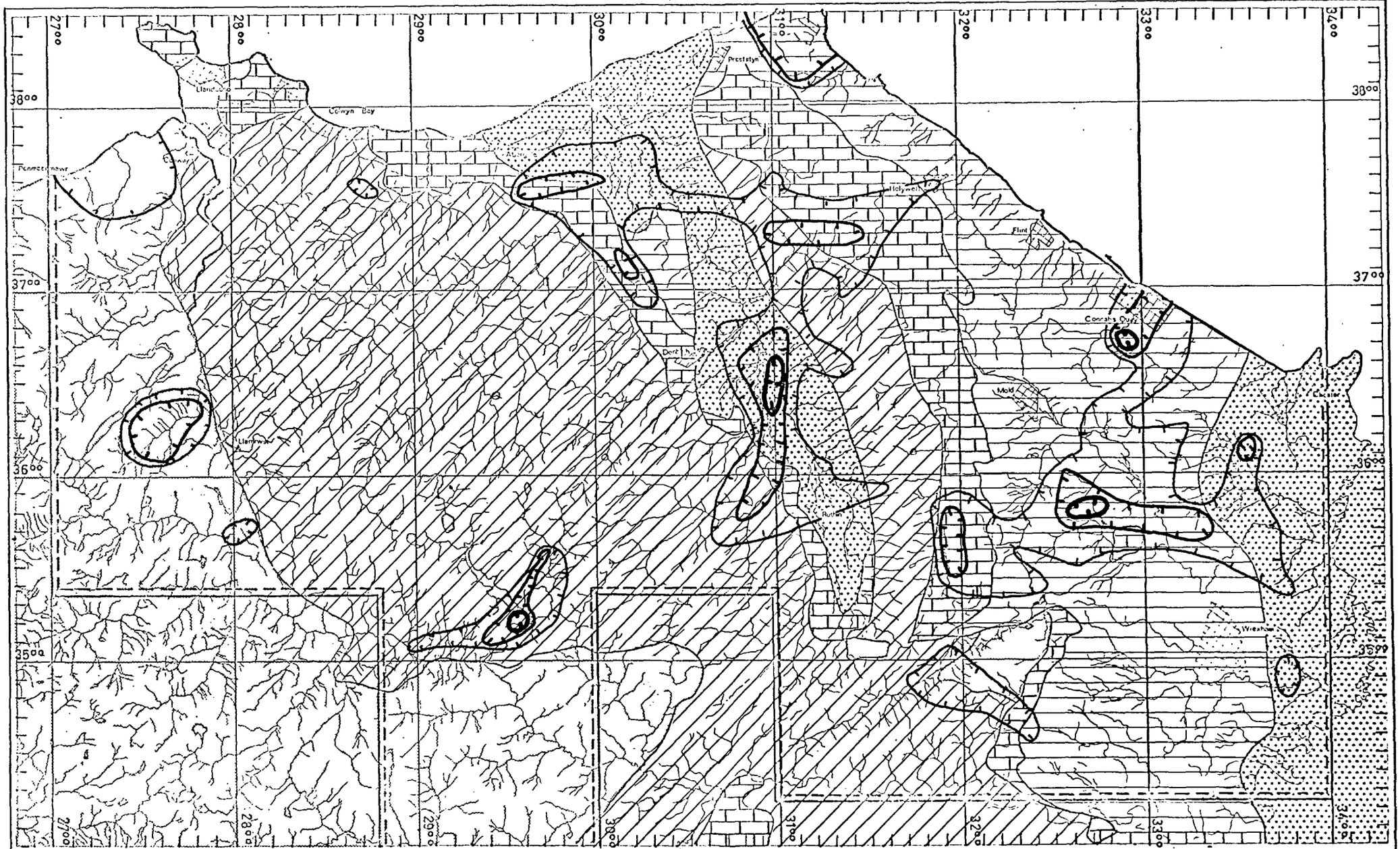
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones).
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

IRON — Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9
- −1·0 to −0·1
- −2·0 to −1·1

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FIGURE 103



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
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Imperial College, London. S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

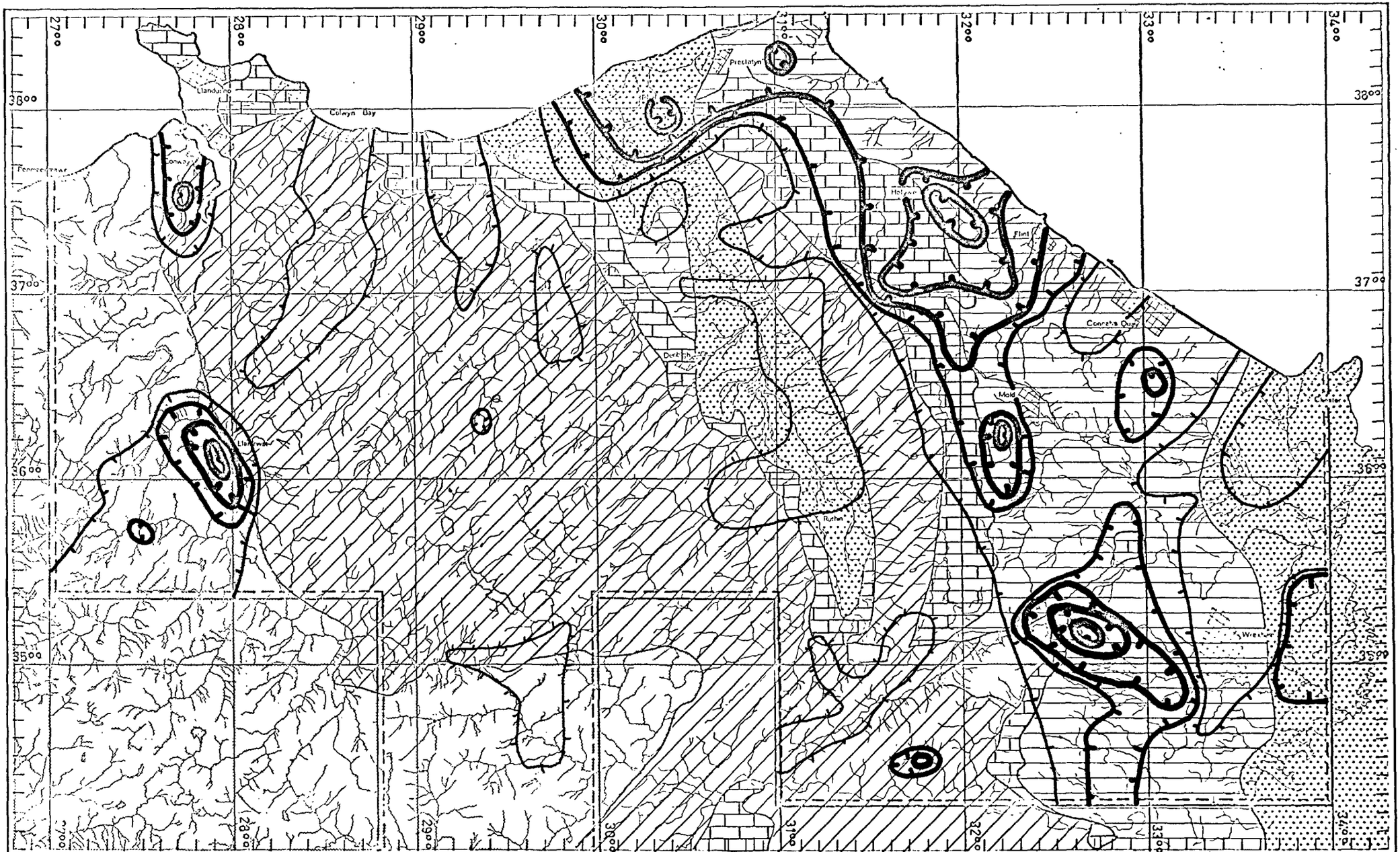
PERMO-TRIASSIC (Red sandstones with subordinate shales)
SILESIAN (Shales, sandstones, seat-clay and coal)
DINANTIAN (Limestones with subordinate shales and cherts)
SILURIAN (Soapy mudstones with subordinate sandstones)
ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

IRON — VARIANCE RATIO
(variance units)

> 2·0
1·0 — 1·9
0·5 — 0·9

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FIGURE 104



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

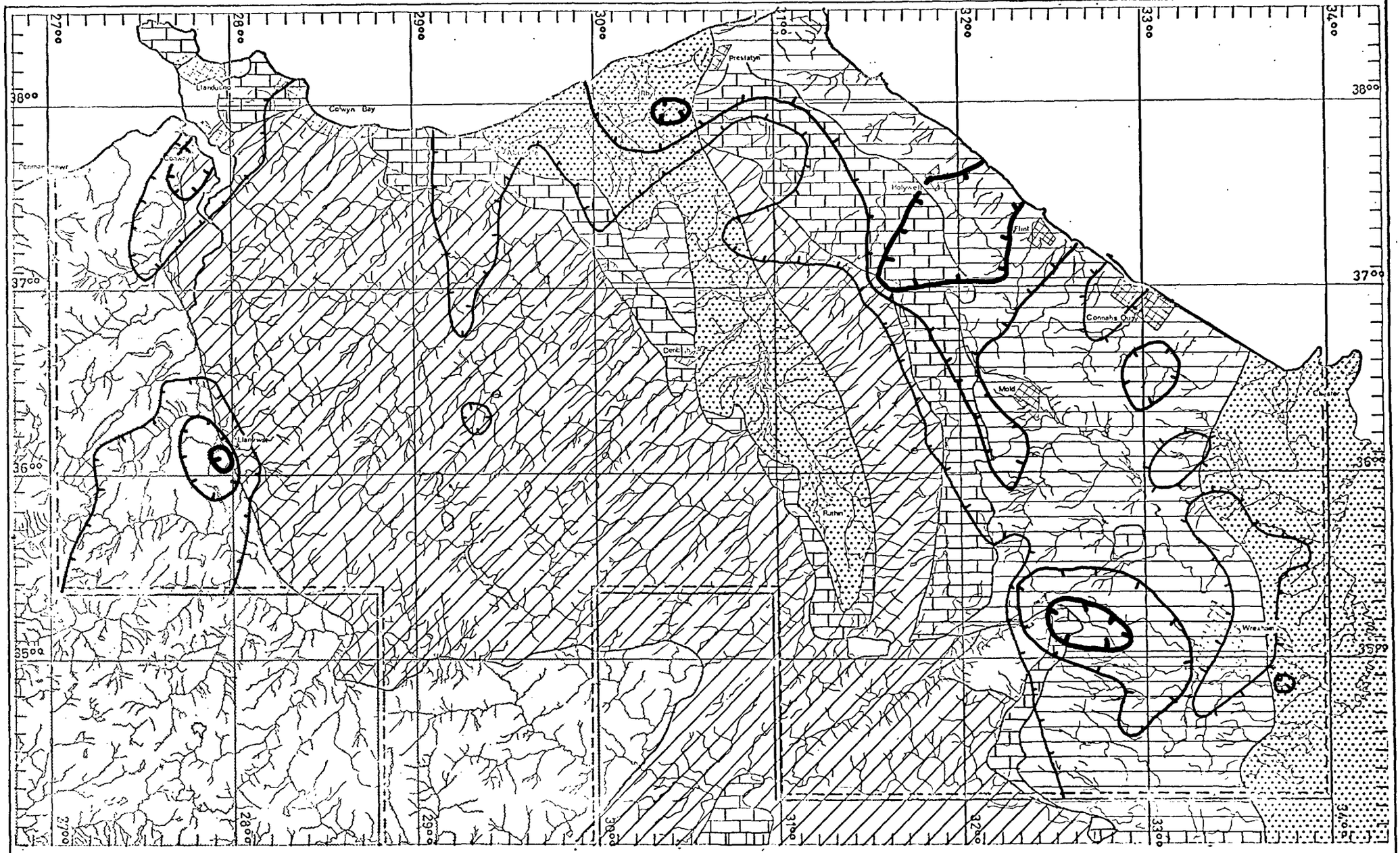
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay, and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

LEAD — MOVING AVERAGE
(concentration in ppm)

>1500	150–299
700–1499	70–149
300–699	30–69

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FIGURE 105



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

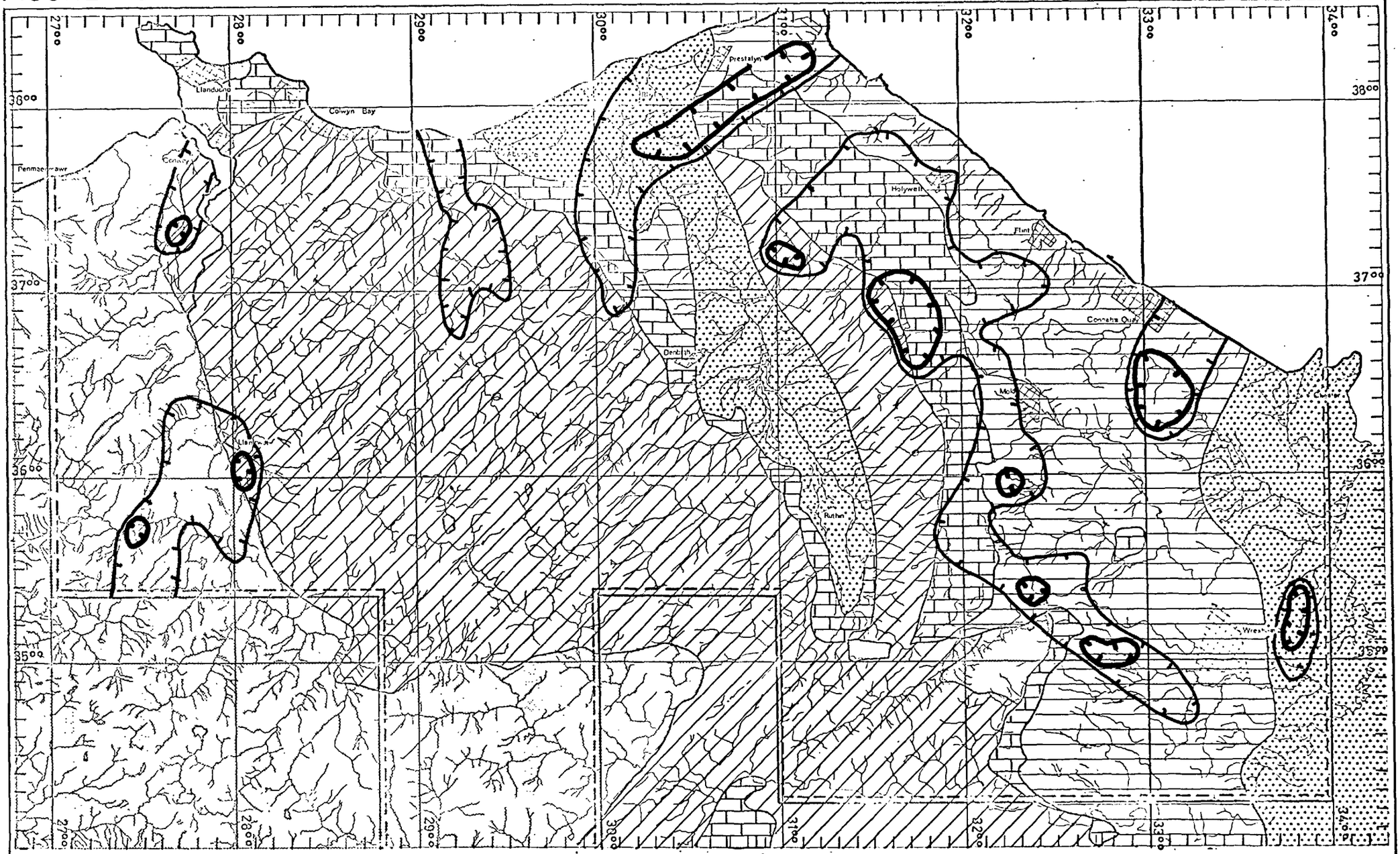
PERMO-TRIASSIC (Red sandstones with subordinate shales)
SILESIAN (Shales, sandstones, seat-clay and coal)
DINANTIAN (Limestones with subordinate shales and cherts)
SILURIAN (Soopy mudstones with subordinate sandstones)
ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

LEAD — Z-VALUES
(standard deviation units)

> +2·0
+1·0 to +1·9
0·0 to +0·9

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FIGURE 106



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

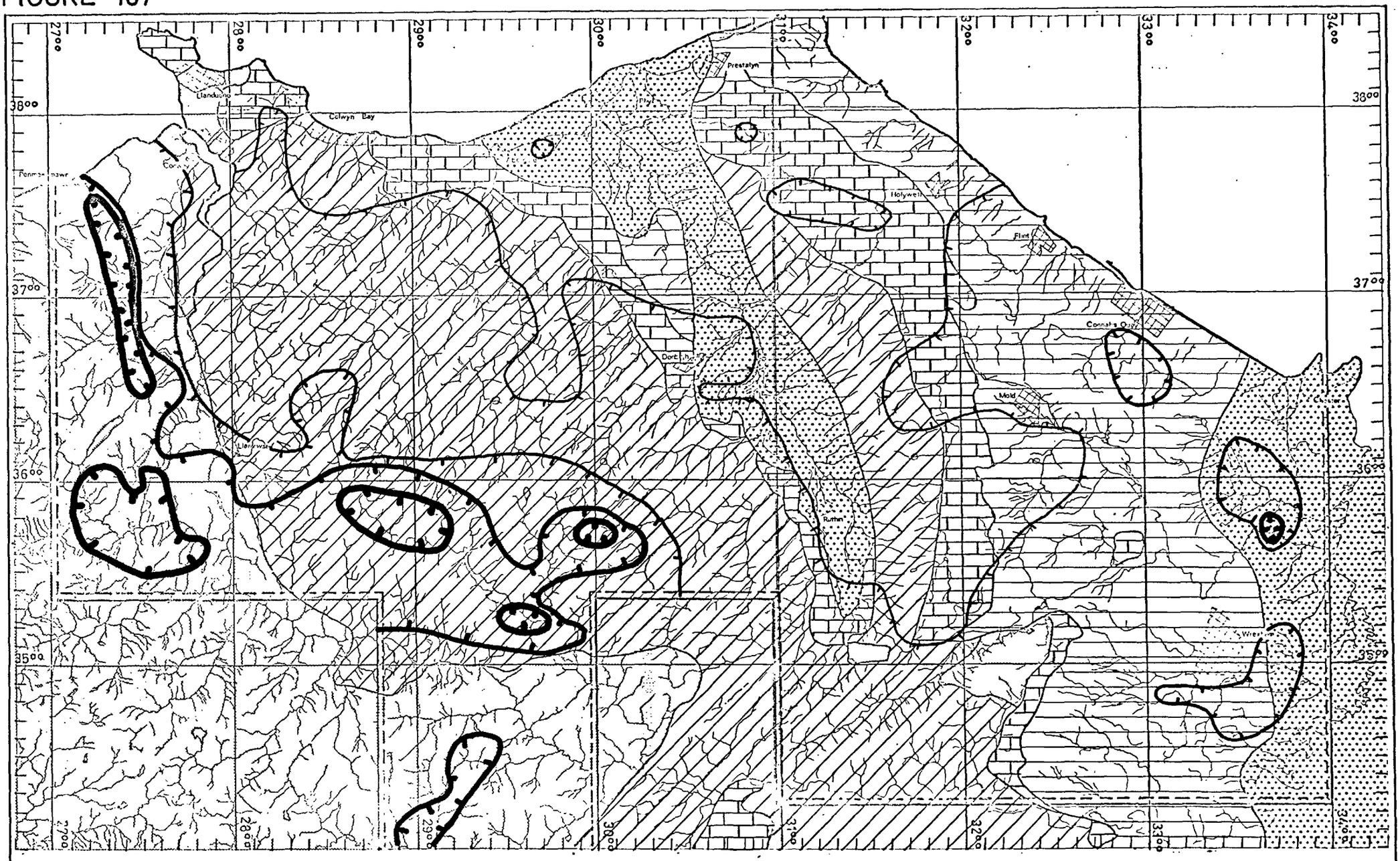
- PERMO-TRIASSIC (Red sandstones with subordinate sholes)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

LEAD —VARIANCE RATIO
(variance units)

- >2·0
- 1·0—1·9

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(Institute of Geological Sciences)

FIGURE 107



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

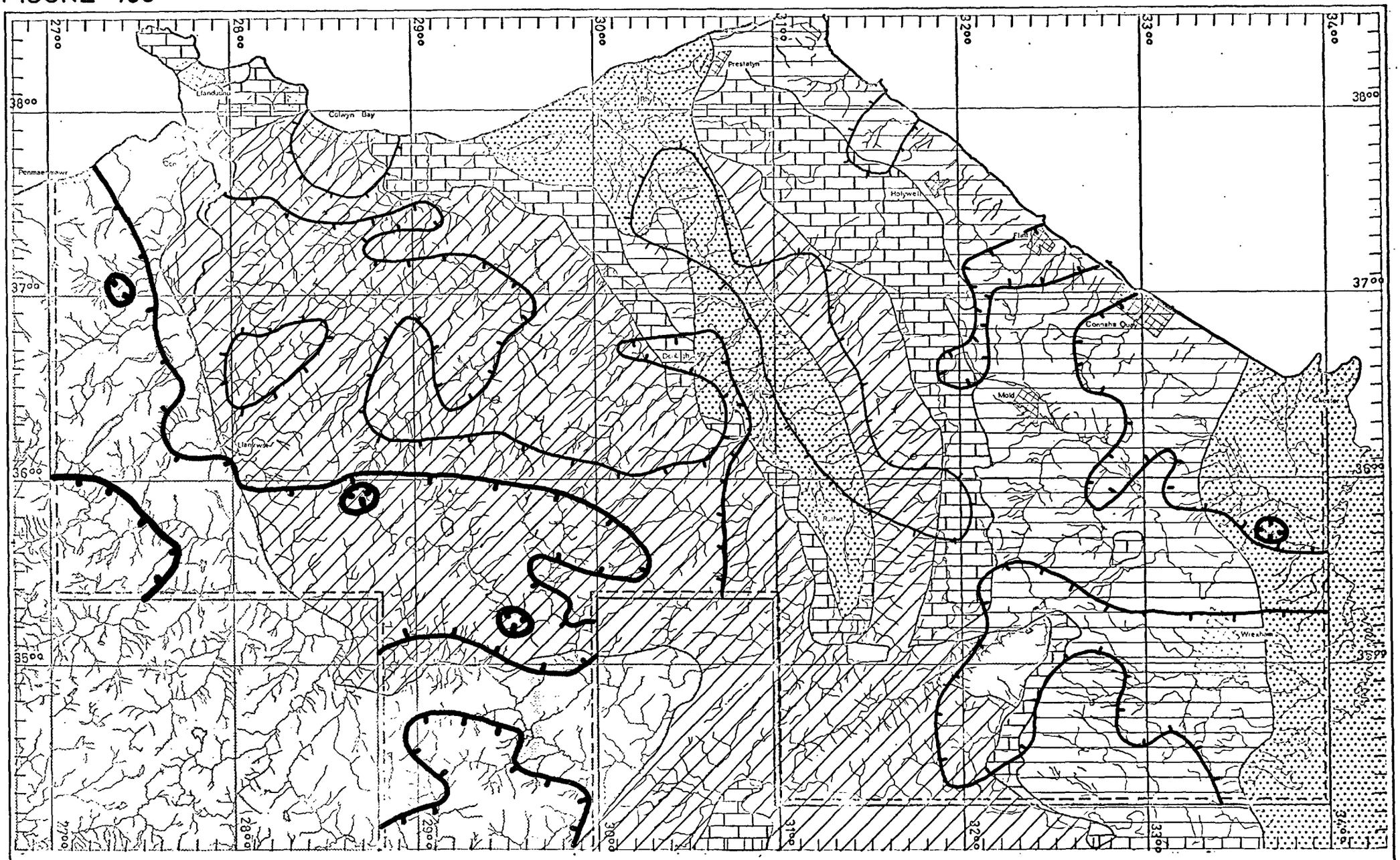
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

MANGANESE — MOVING AVERAGE
(concentration in ppm)

- > 3000
- 1500 – 2999
- 700 – 1499
- 300 – 699

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(Institute of Geological Sciences)

FIGURE 108



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

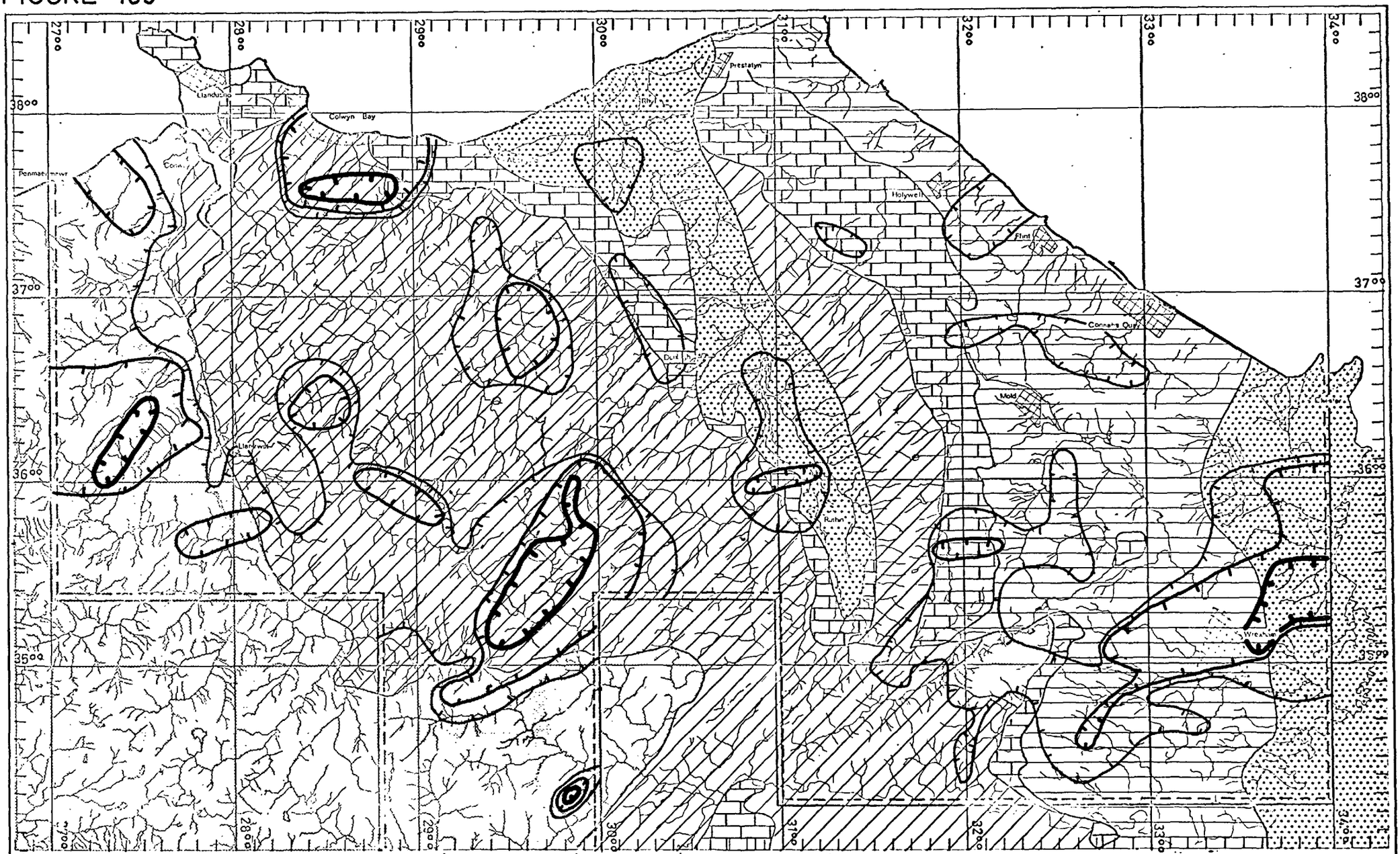
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

MANGANESE — Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to+1·9
- 0·0 to +0·9
- −1·0 to−0·1

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FIGURE 109



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

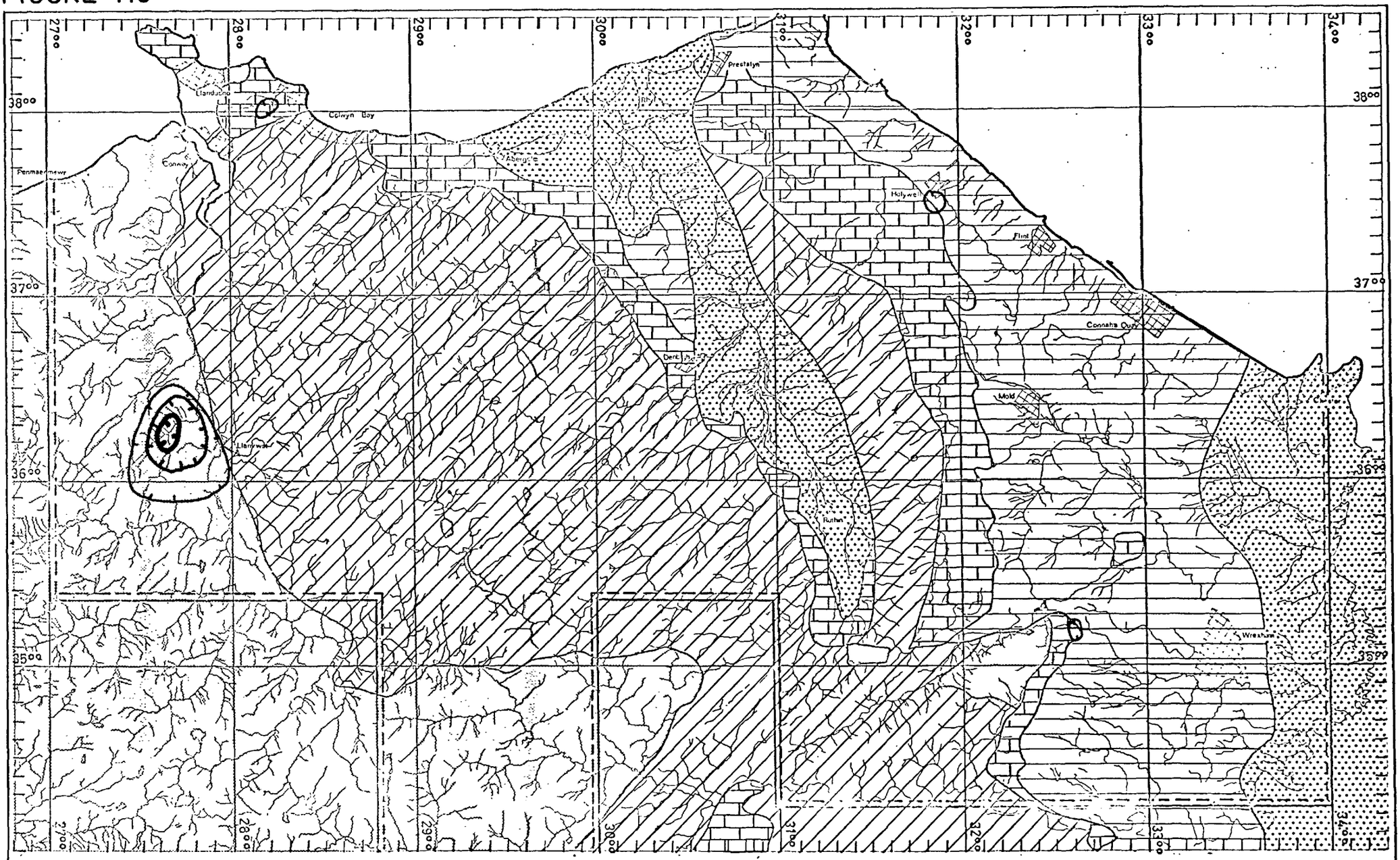
PERMO-TRIASSIC (Red sandstones with subordinate shales)
SILESIAN (Sholes, sandstones, seat-clay and coal)
DINANTIAN (Limestones with subardinate shales and cherts)
SILURIAN (Soapy mudstones with subordinate sandstones)
ORDOVICIAN (Slates and acid volconics with subordinate dolerites)

MANGANESE — VARIANCE RATIO
(variance units)

>2·0
1·0–1·9
0·5–0·9

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(Institute of Geological Sciences)

FIGURE 110



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

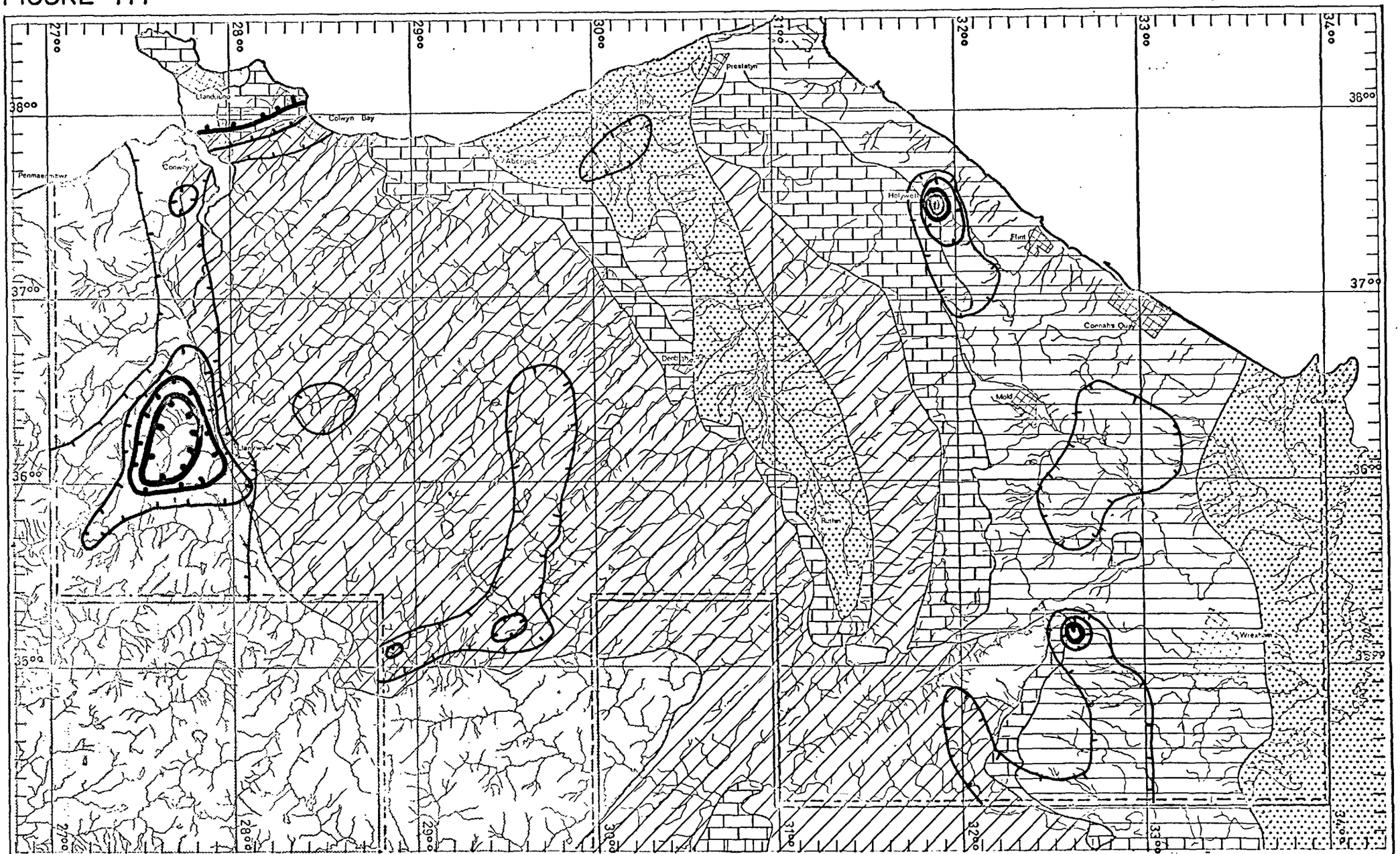
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

MOLYBDENUM — MOVING AVERAGE
(concentration in ppm)

- >15
- 10–14
- 3–9

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(Institute of Geological Sciences)

FIGURE 111



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

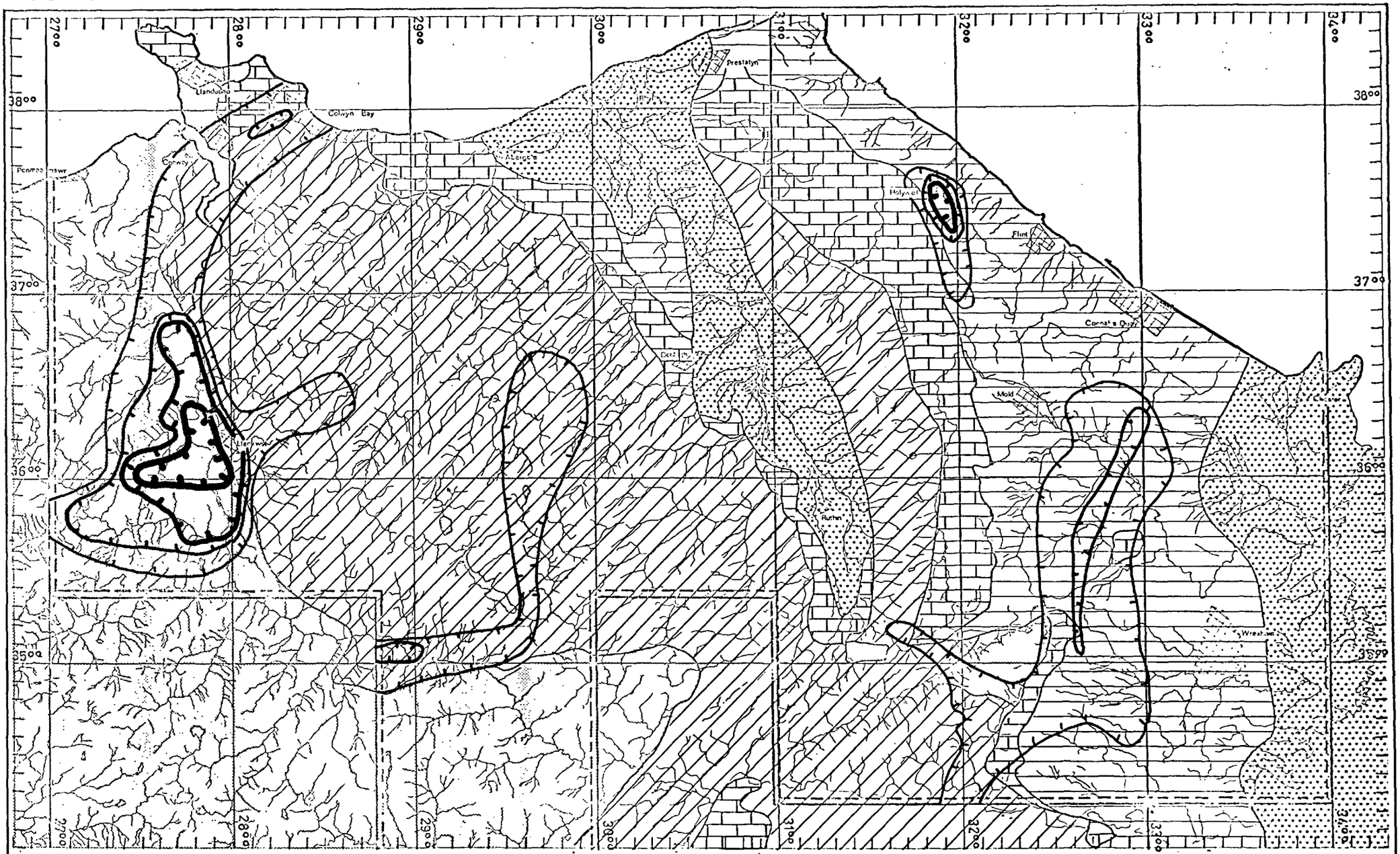
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

MOLYBDENUM — Z-VALUES
(standard deviation units)

- >+3·0
- +2·0 to +2·9
- +1·0 to +1·9
- 0·0 to +0·9

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(Institute of Geological Sciences)

FIGURE 112



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

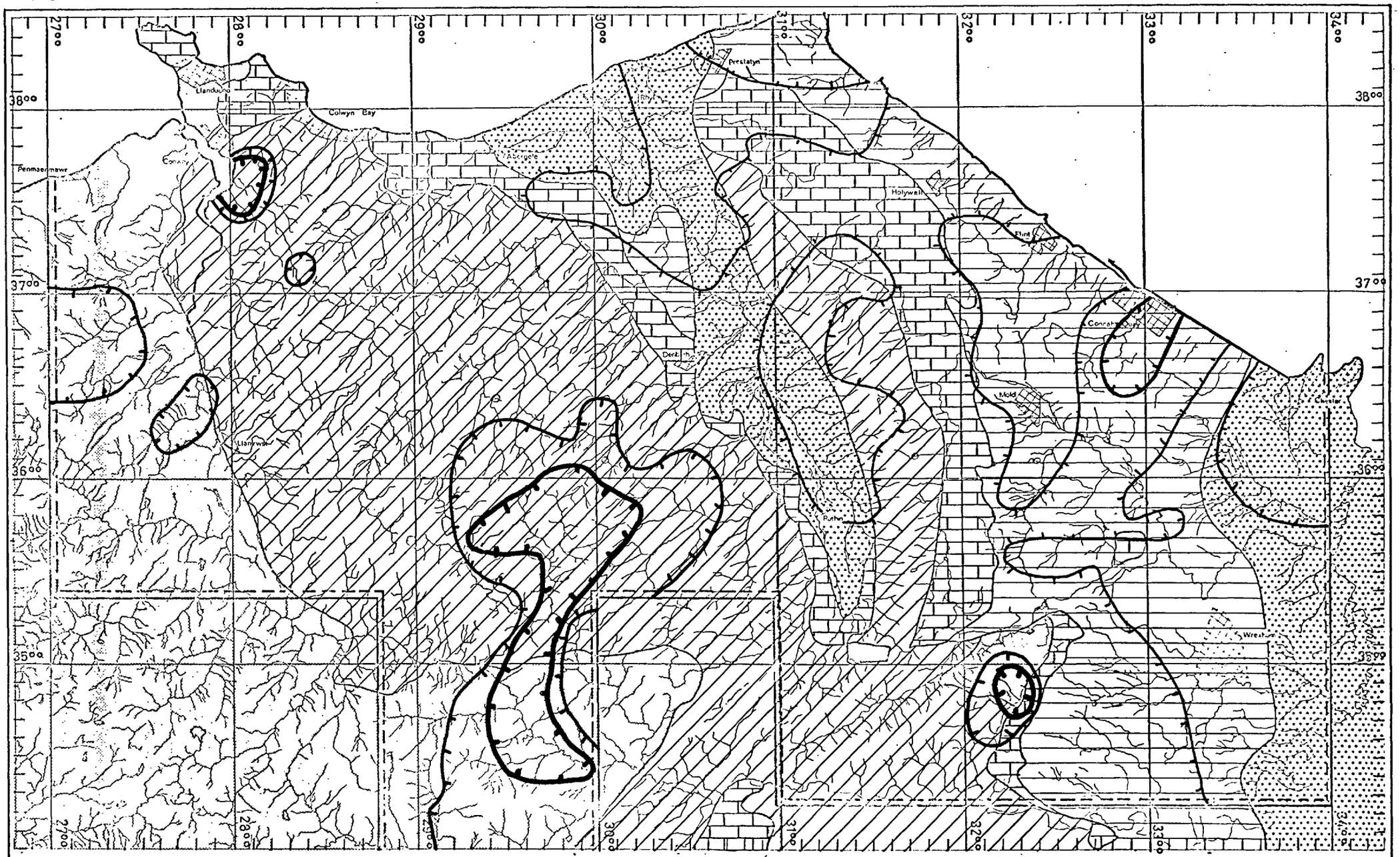
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

MOLYBDENUM — VARIANCE RATIO
(variance units)

- >8·0
- 4·0–7·9
- 2·0–3·9
- 0·5–1·9

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 113



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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GEOLOGICAL KEY

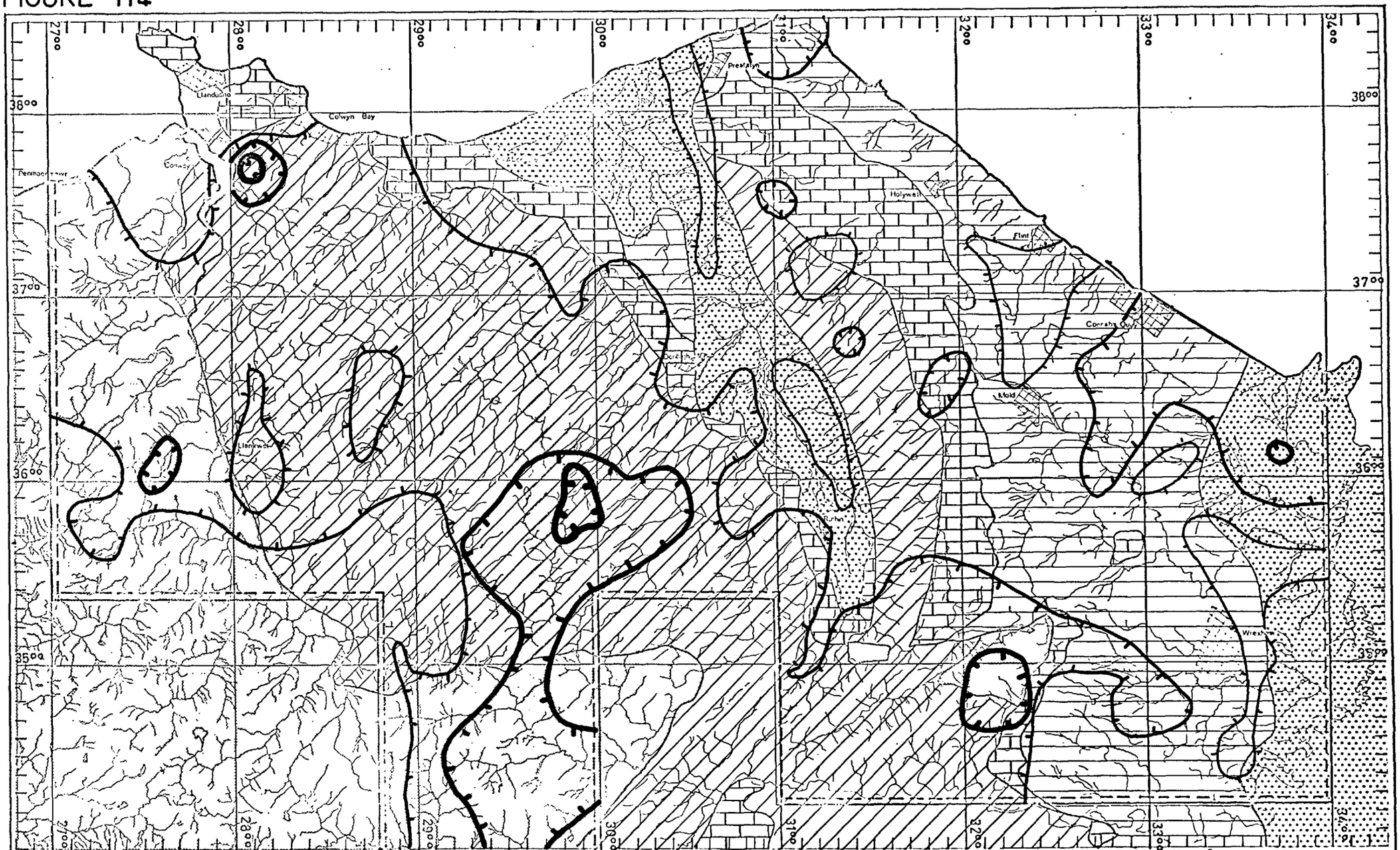
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soopy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

NICKEL — MOVING AVERAGE
(concentration in ppm)

- >70
- 50–69
- 30–49

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(Institute of Geological Sciences)

FIGURE 114



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

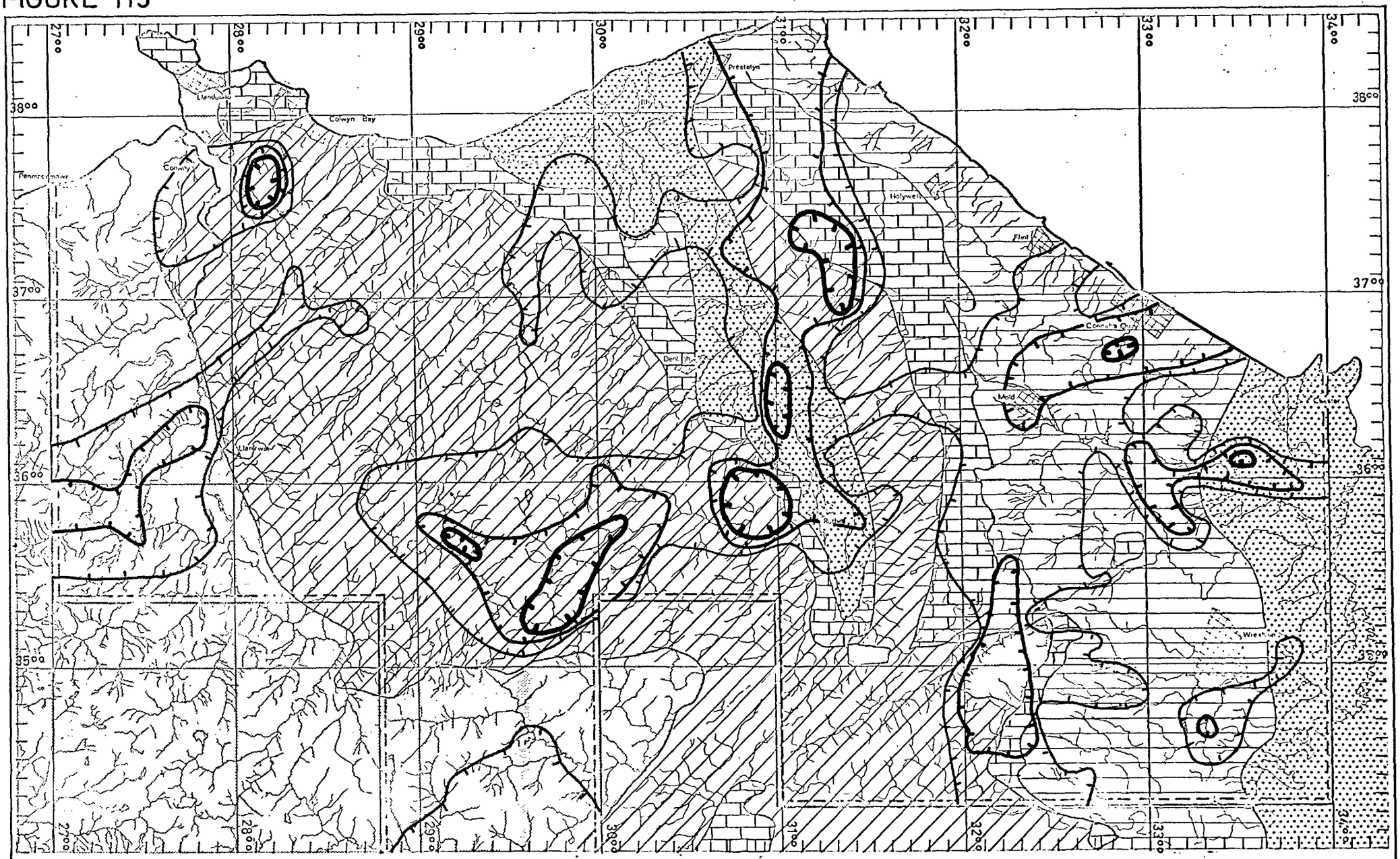
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

NICKEL —Z-VALUES
(standard deviation units)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9
- −1·0 to −0·1

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(Institute of Geological Sciences)

FIGURE 115



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

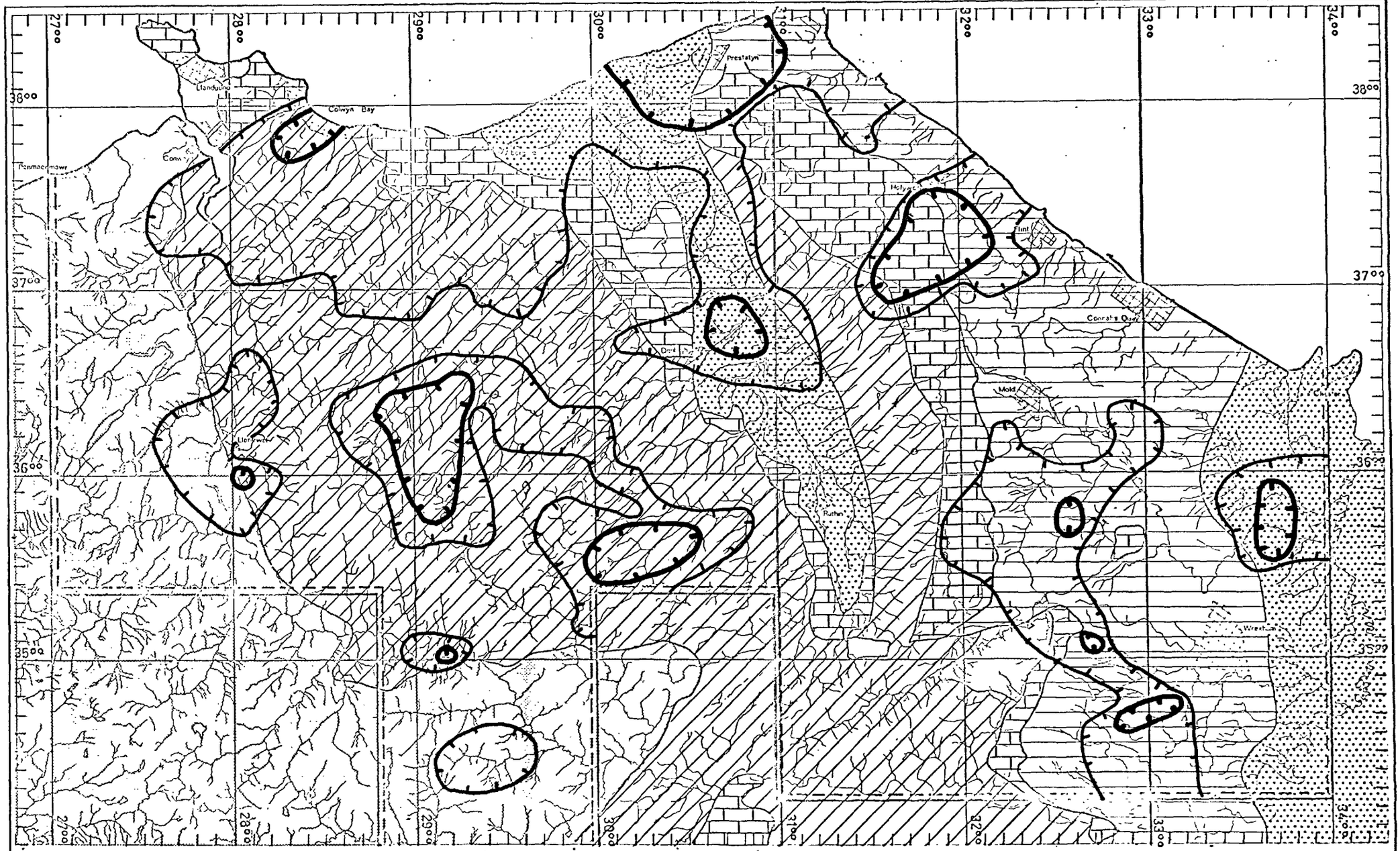
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

NICKEL – VARIANCE RATIO
(variance units)

- >2·0
- 1·0 – 1·9
- 0·5 – 0·9

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(Institute of Geological Sciences)

FIGURE 116



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

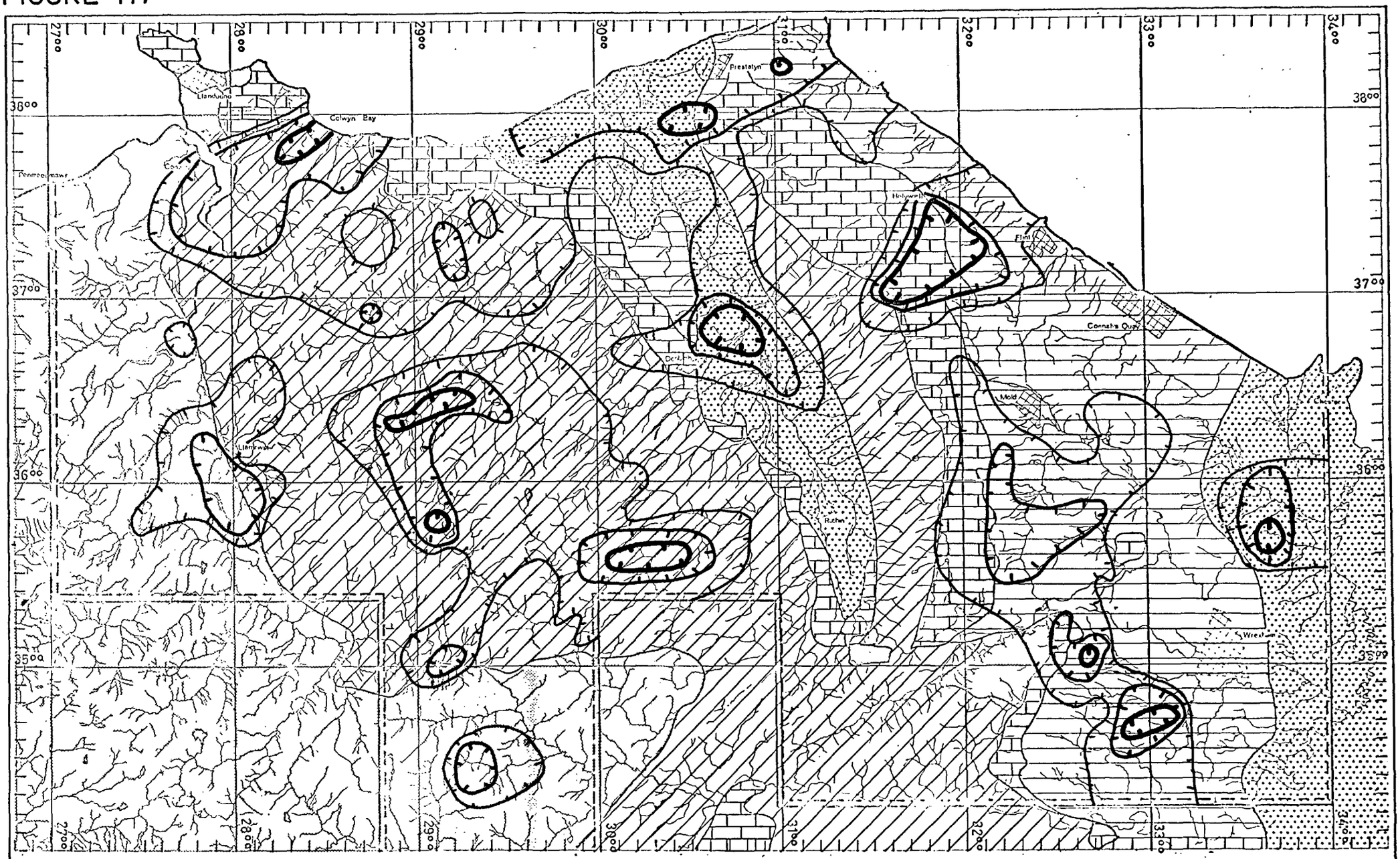
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

SILVER — MOVING AVERAGE
(concentration in ppm)

- > 0·30
- 0·15 — 0·29

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 117



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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miles

GEOLOGICAL KEY

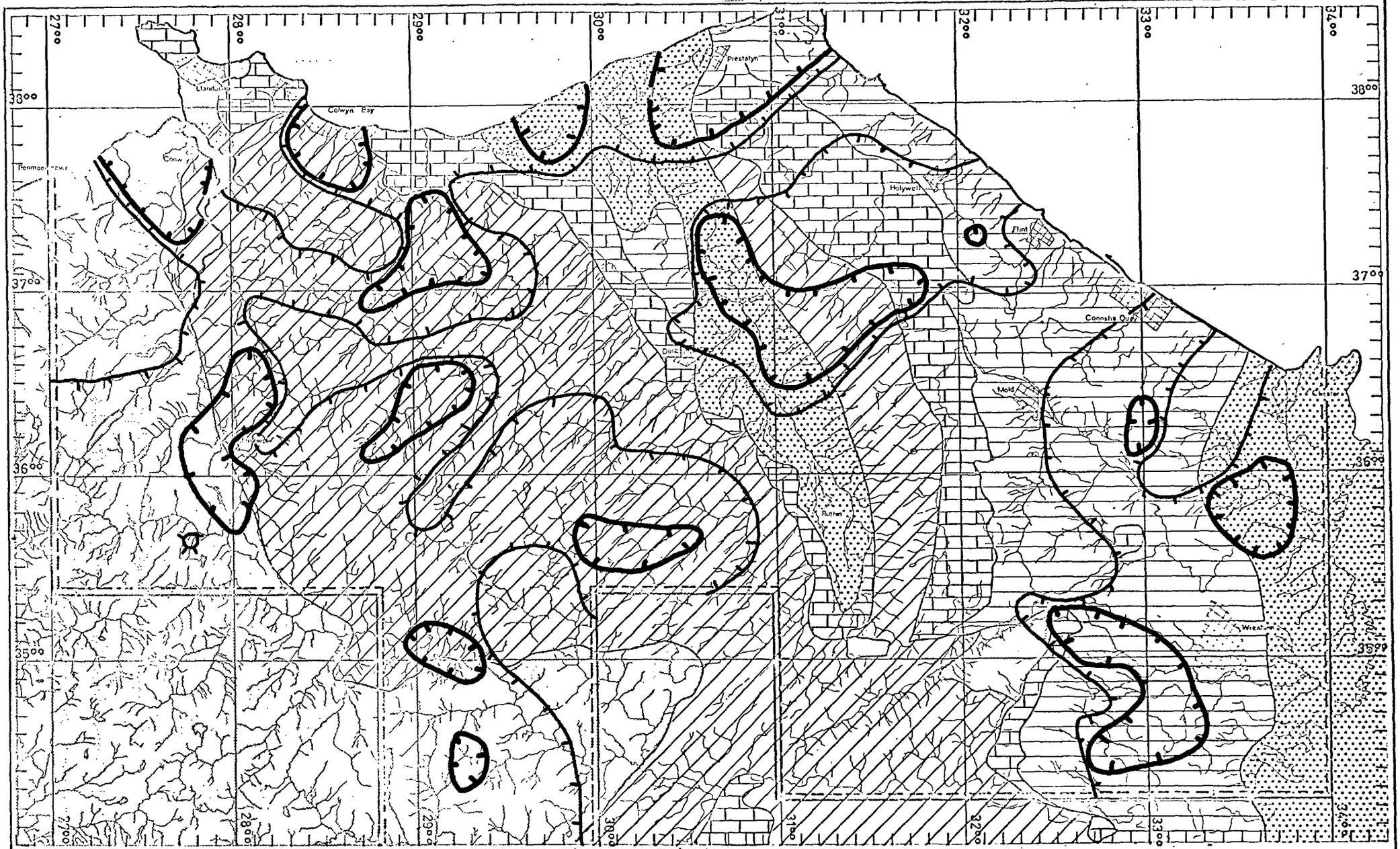
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subardinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

SILVER — Z-VALUES
(standard deviation units)

- > +1·0
- +0·5 to +0·9
- 0·0 to +0·4

Regional Geochemical Survey for N.E.R.C.
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FIGURE 118



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

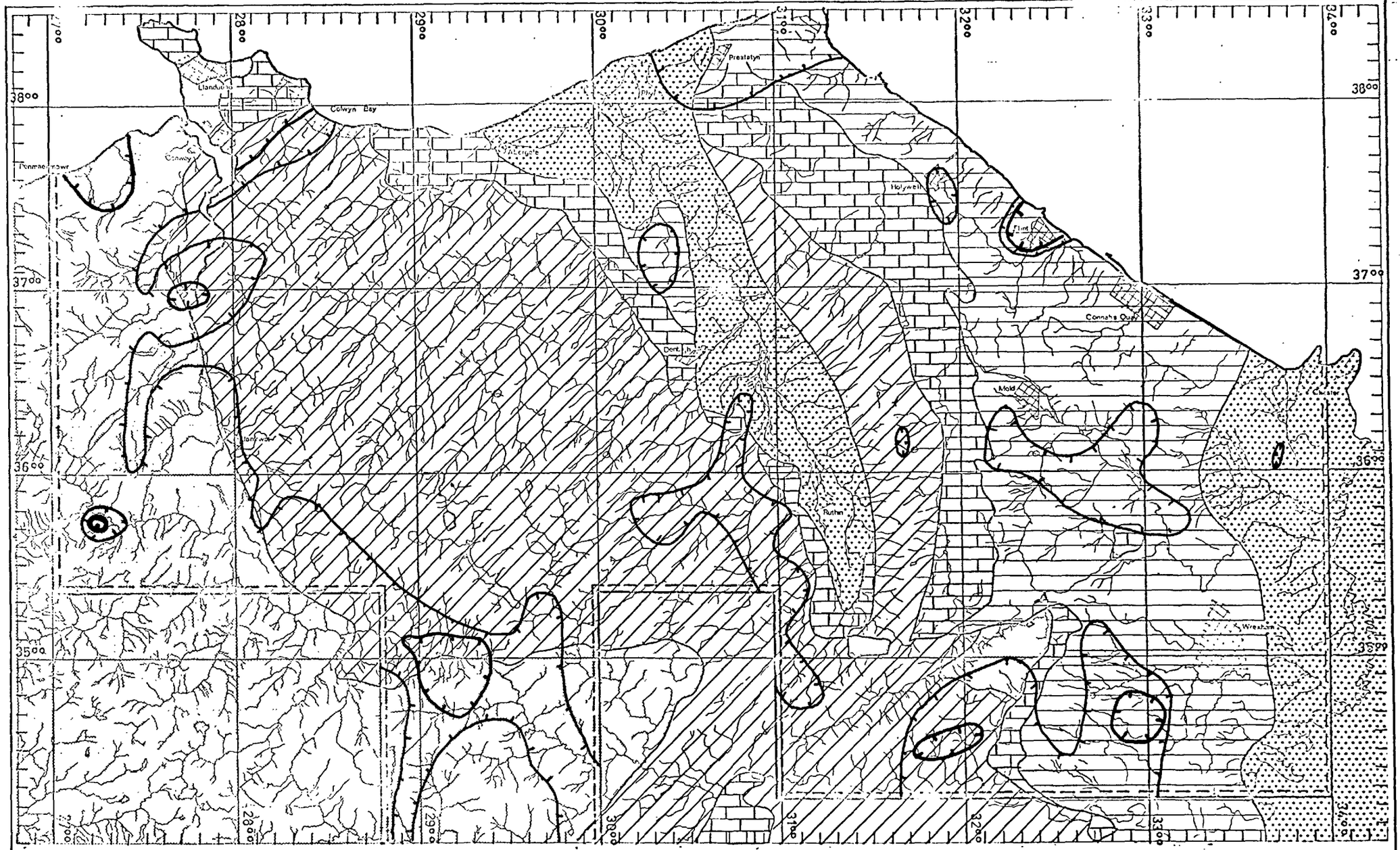
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

SILVER — VARIANCE RATIO
(variance units)

- >2·0
- 1·0 — 1·9

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(Institute of Geological Sciences)

FIGURE 119



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

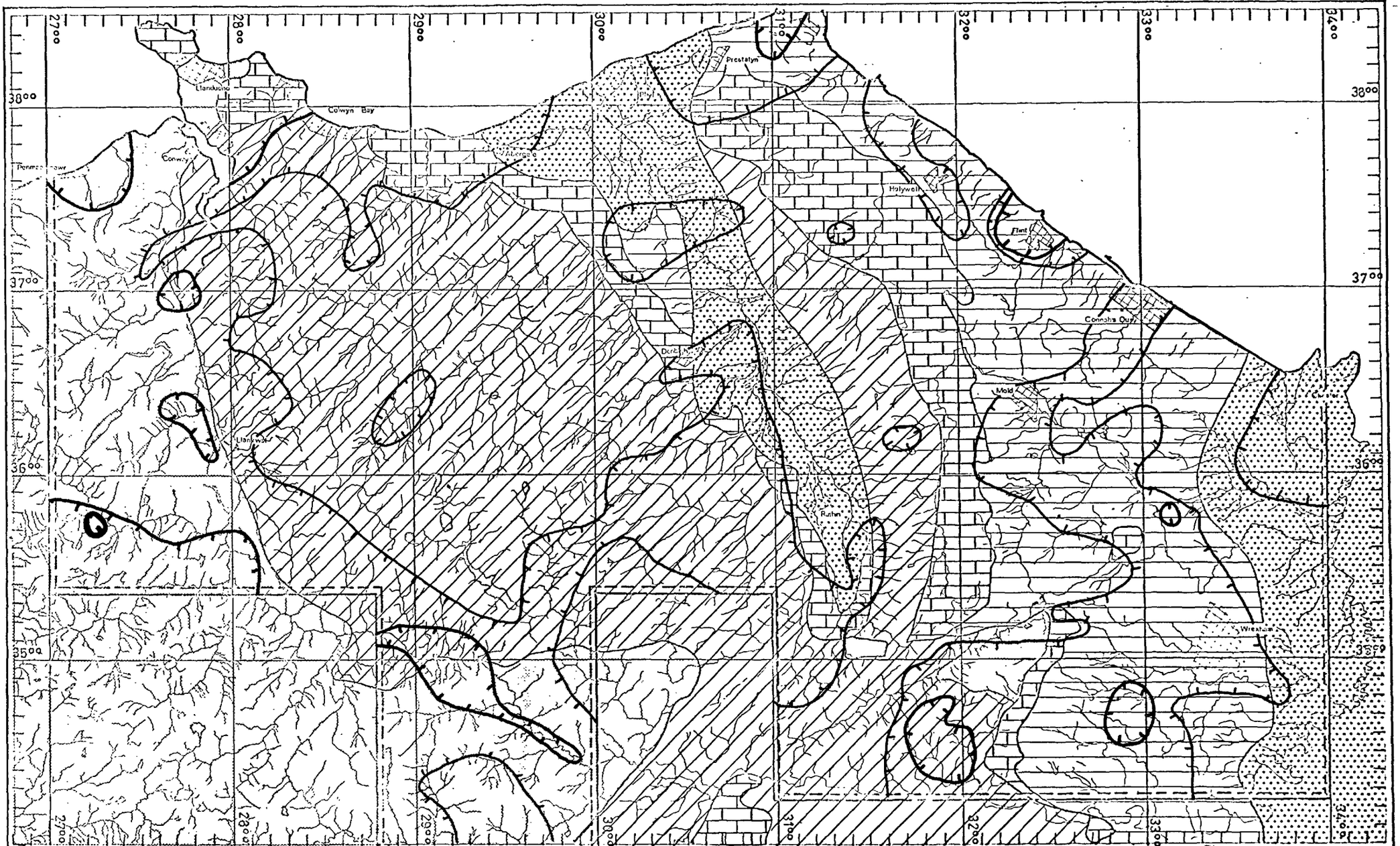
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

TIN—MOVING AVERAGE
(concentration in ppm)

- >30
- 15—29
- 7—14

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FIGURE 120



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

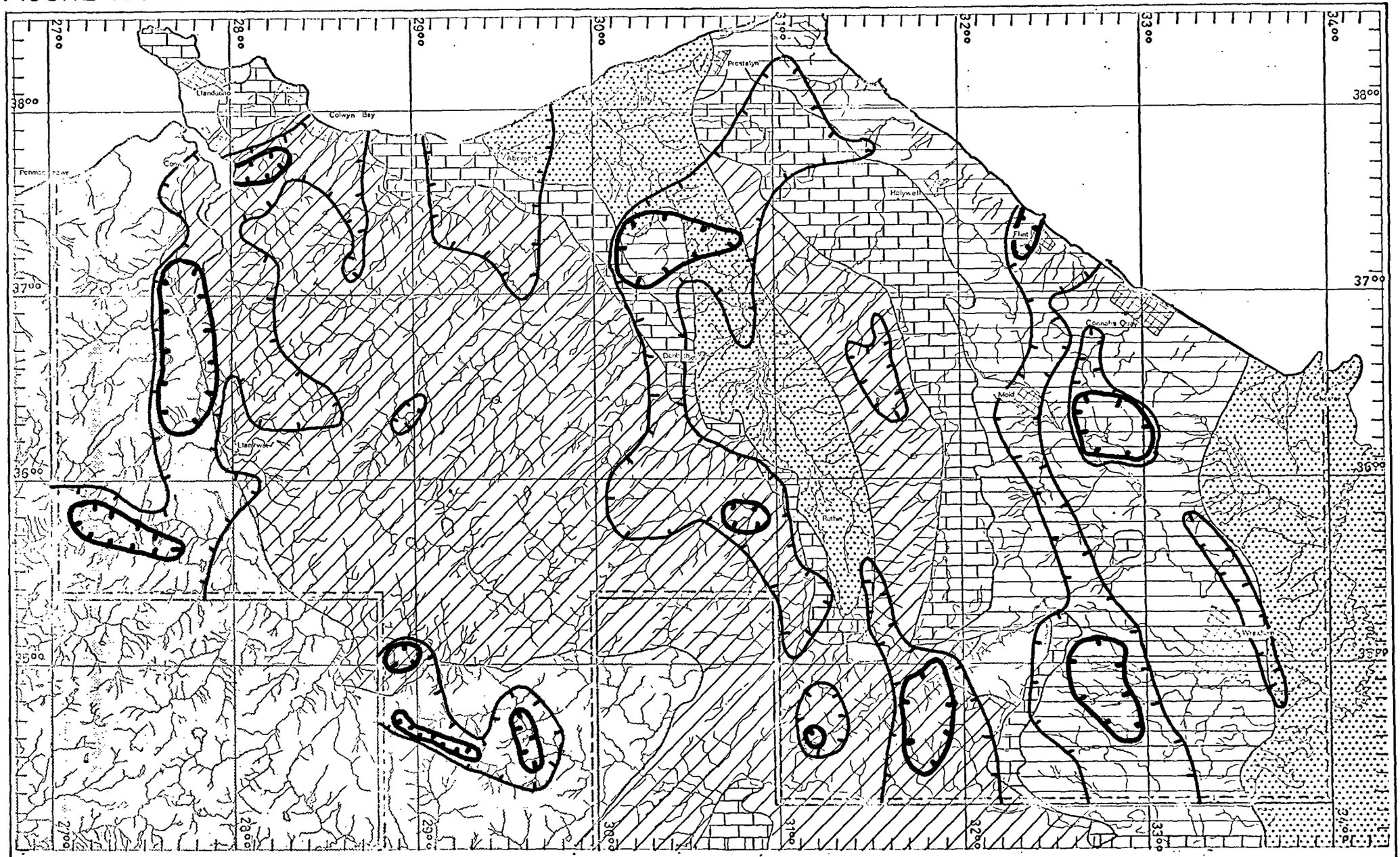
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

TIN —Z-VALUES
(standard deviation units)

- > +2·0
- +1·0 to +1·9
- 0·0 to +0·9

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FIGURE 121



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

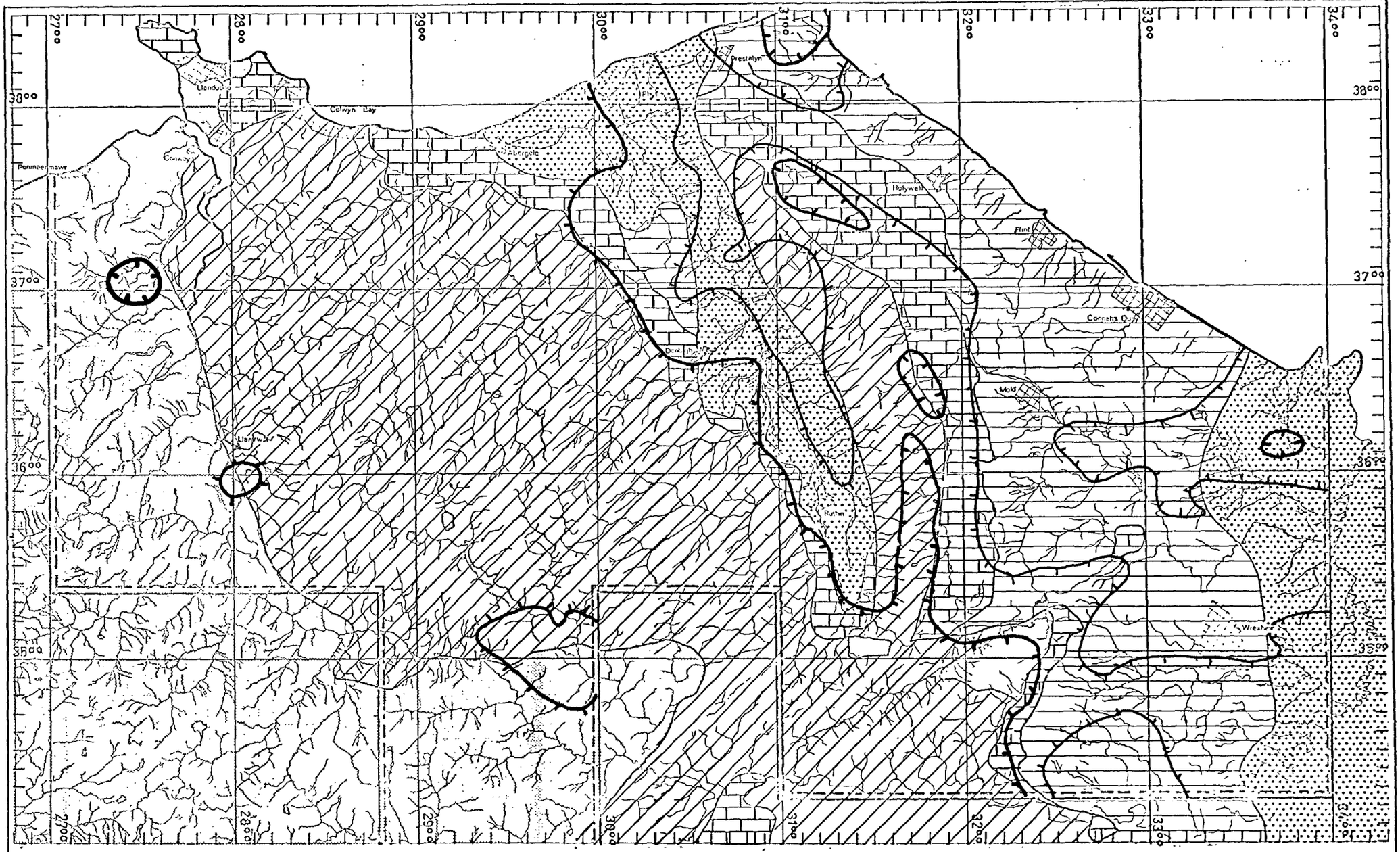
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soopy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

TIN – VARIANCE RATIO
(variance units)

- >2·0
- 1·0–1·9

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FIGURE 122



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

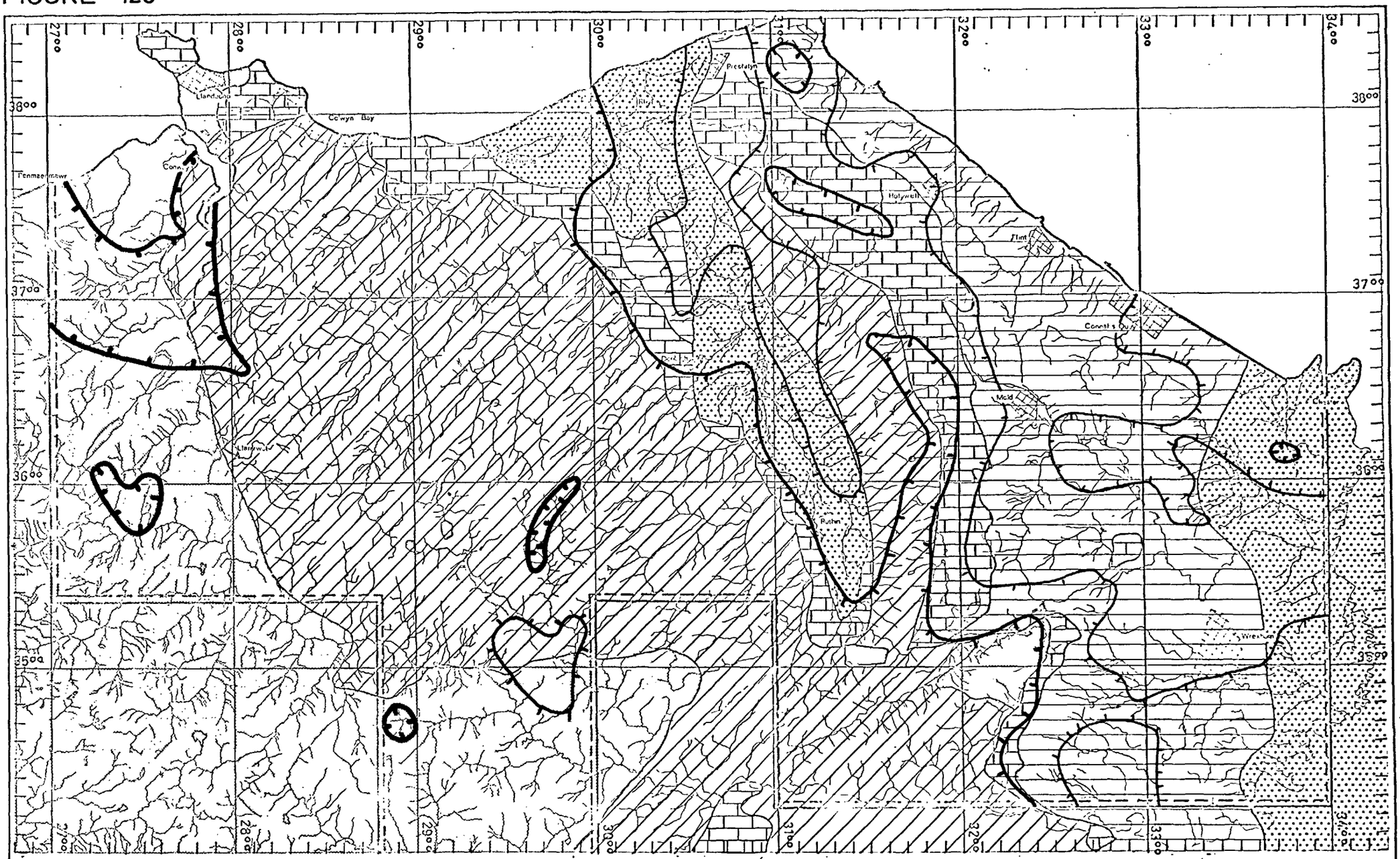
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

TITANIUM — MOVING AVERAGE
(concentration in ppm)

- >7000
- 3000–6999
- 1500–2999

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FIGURE 123



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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miles

GEOLOGICAL KEY

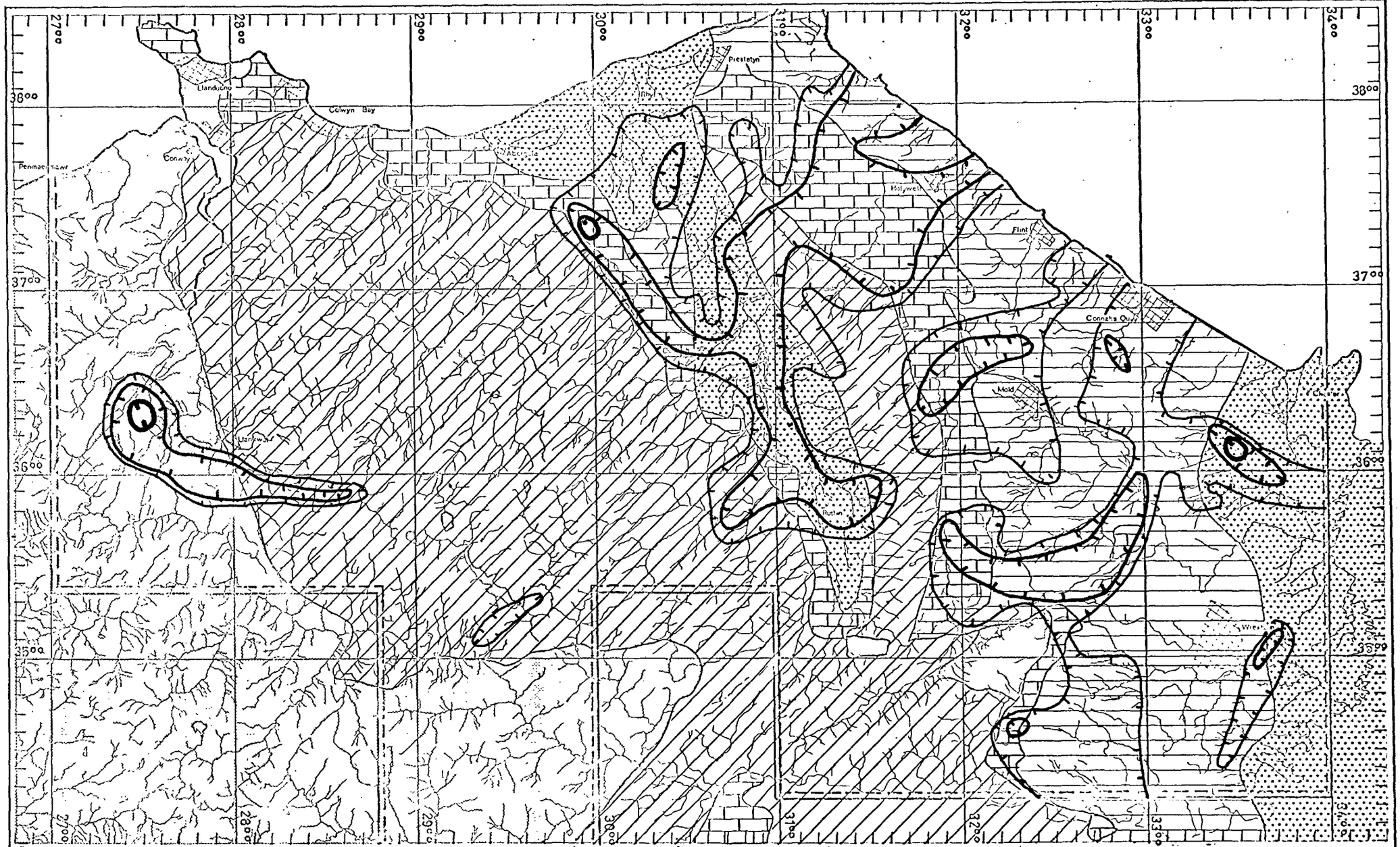
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Saapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

TITANIUM — Z-VALUES
(standard deviation units)

- > +1·0
- 0·0 to +0·9
- −1·0 to −0·1

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FIGURE 124



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

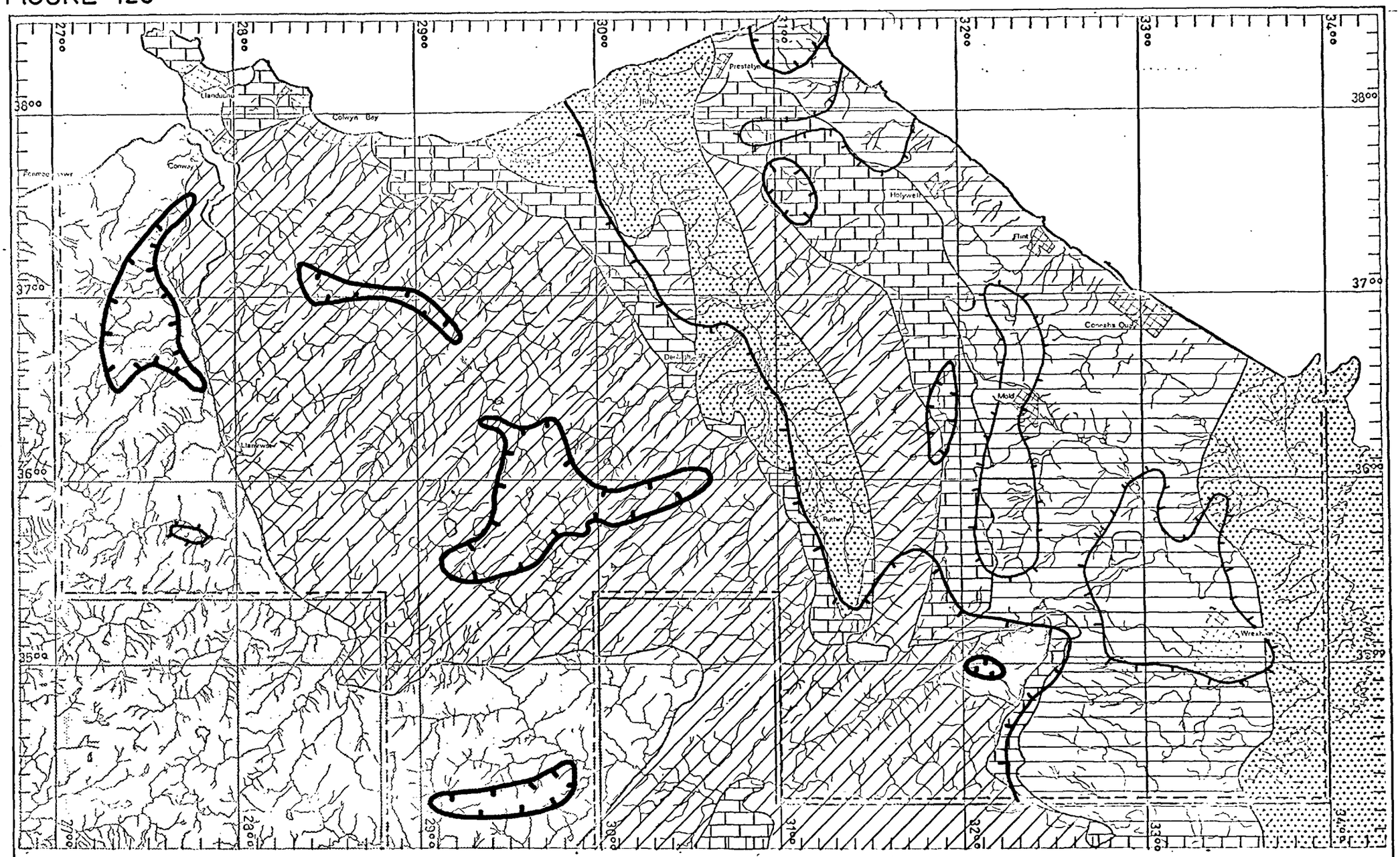
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

TITANIUM — VARIANCE RATIO
(variance units)

- >2·0
- 1·0 — 1·9
- 0·5 — 0·9

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(Institute of Geological Sciences)

FIGURE 125



RE·GIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Imperial College, London, S.W.7.

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miles

GEOLOGICAL KEY

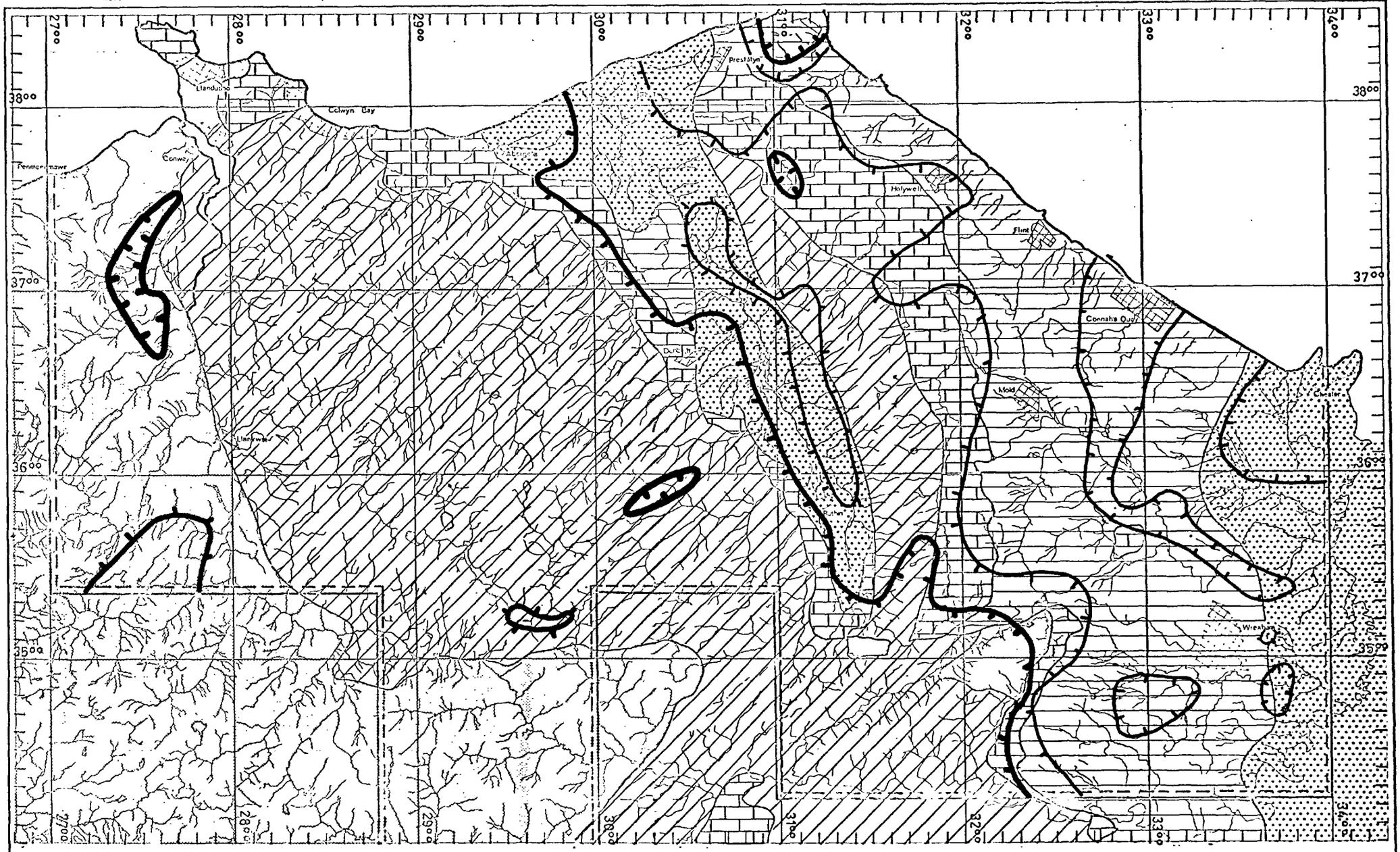
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

VANADIUM—MOVING AVERAGE
(concentration in ppm)

- >150
- 70–149
- 30–69

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(Institute of Geological Sciences)

FIGURE 126



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

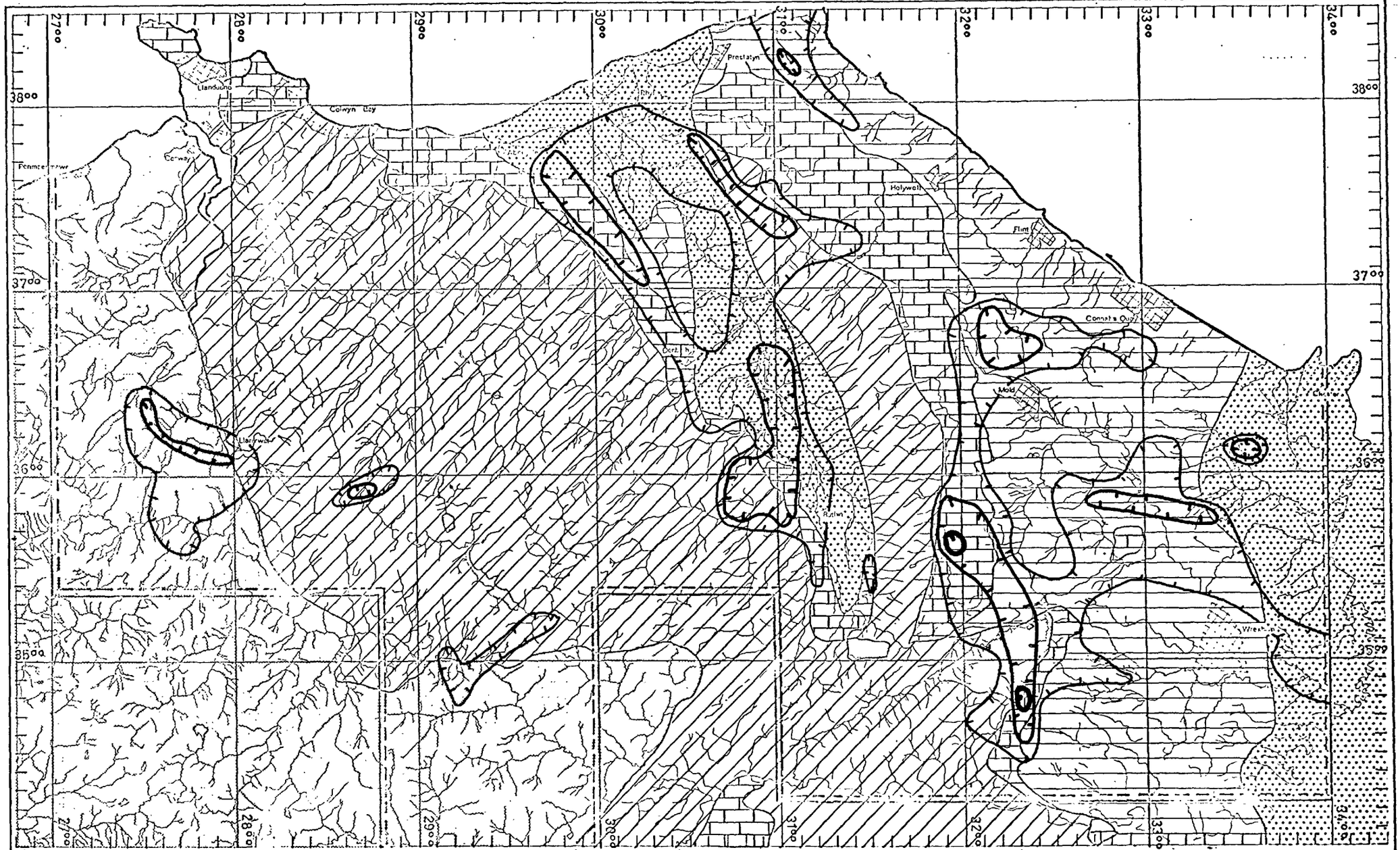
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

VANADIUM —Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9
- -1·0 to -0·1
- -2·0 to -1·1

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(Institute of Geological Sciences)

FIGURE 127



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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Applied Geochemistry Research Group
Imperial College, London, S.W.7.

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miles

GEOLOGICAL KEY

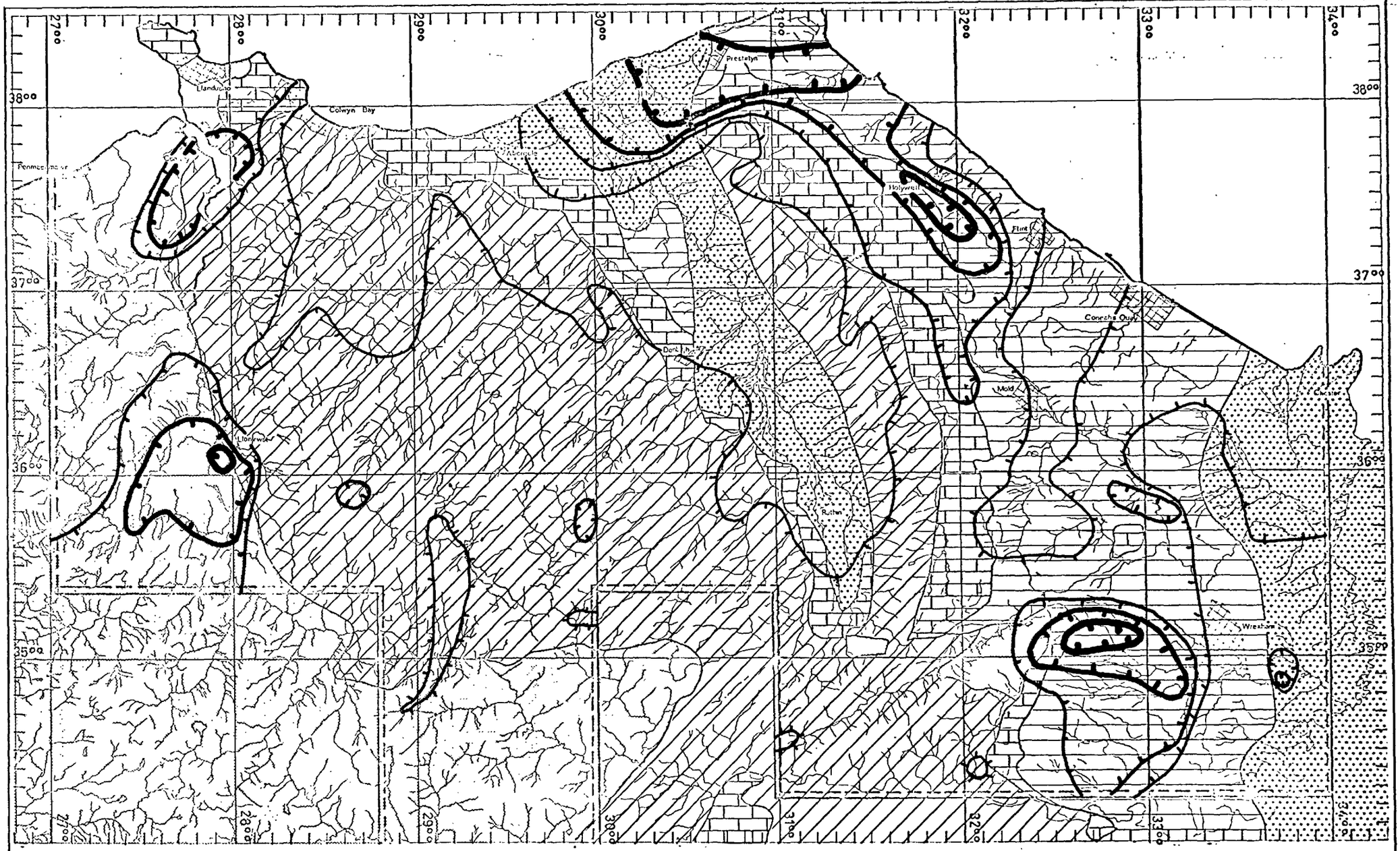
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

VANADIUM — VARIANCE RATIO
(variance units)

- >2·0
- 1·0 — 1·9
- 0·5 — 0·9

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(Institute of Geological Sciences)

FIGURE 128



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

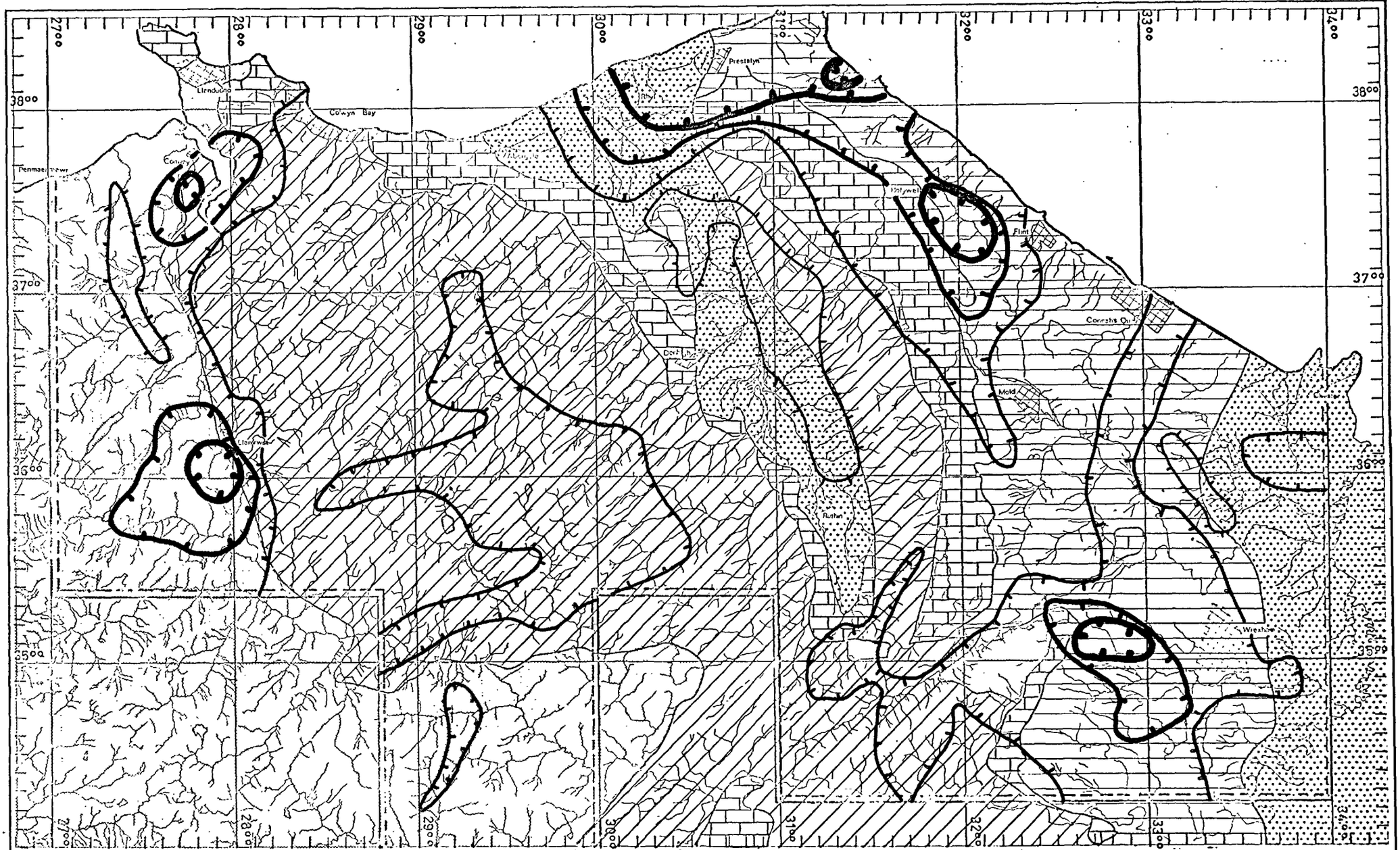
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

ZINC – MOVING AVERAGE
(concentration in ppm)

- >1500
- 700–1499
- 300–699
- 150–299

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(Institute of Geological Sciences)

FIGURE 129



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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0 1 2 3 4
miles

GEOLOGICAL KEY

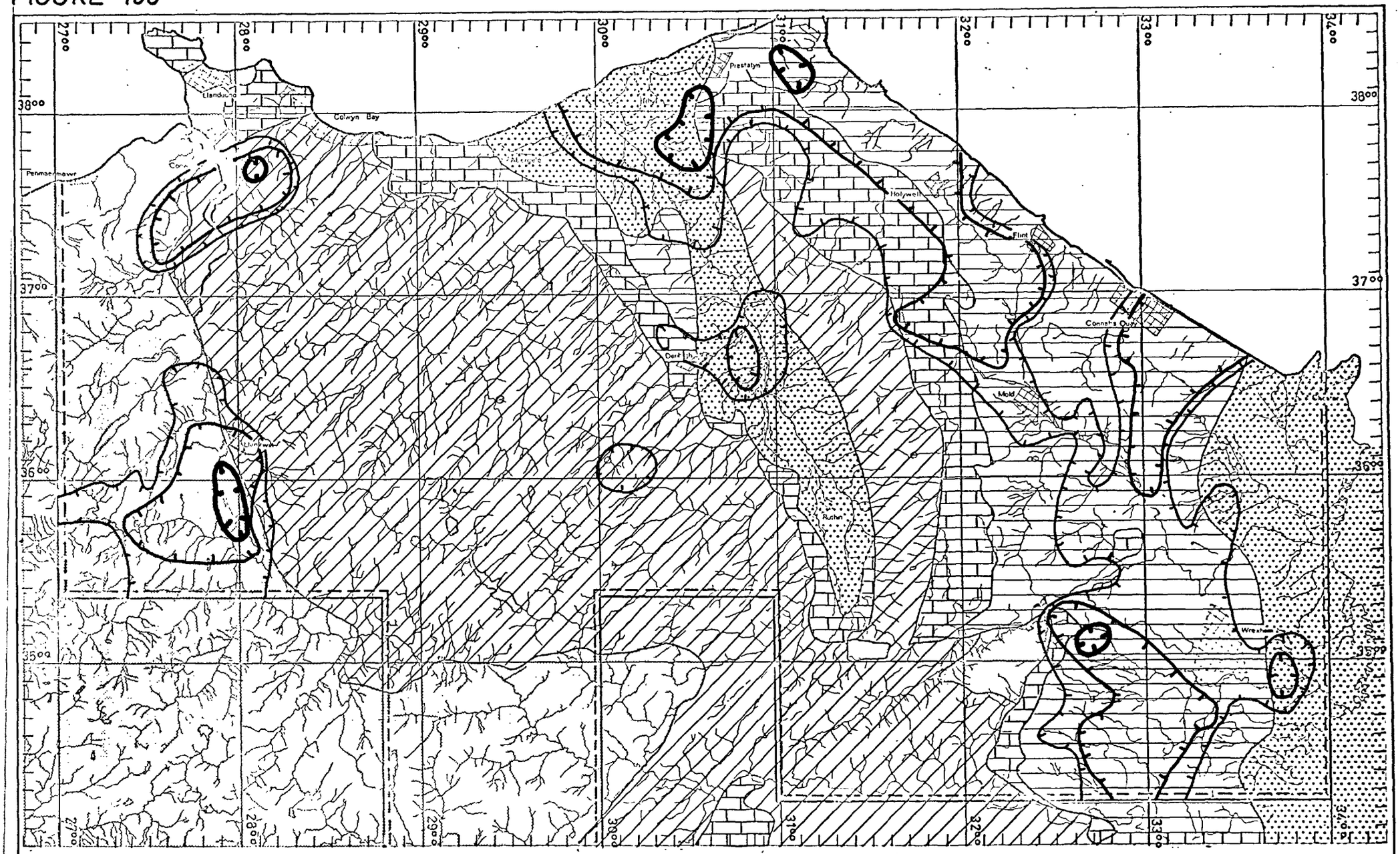
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soopy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

ZINC — Z-VALUES
(standard deviation units)

- >+3·0
- +2·0 to +2·9
- 0·0 to +0·9
- +1·0 to +1·9
- −1·0 to −0·1

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(Institute of Geological Sciences)

FIGURE 130



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

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May 1967
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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

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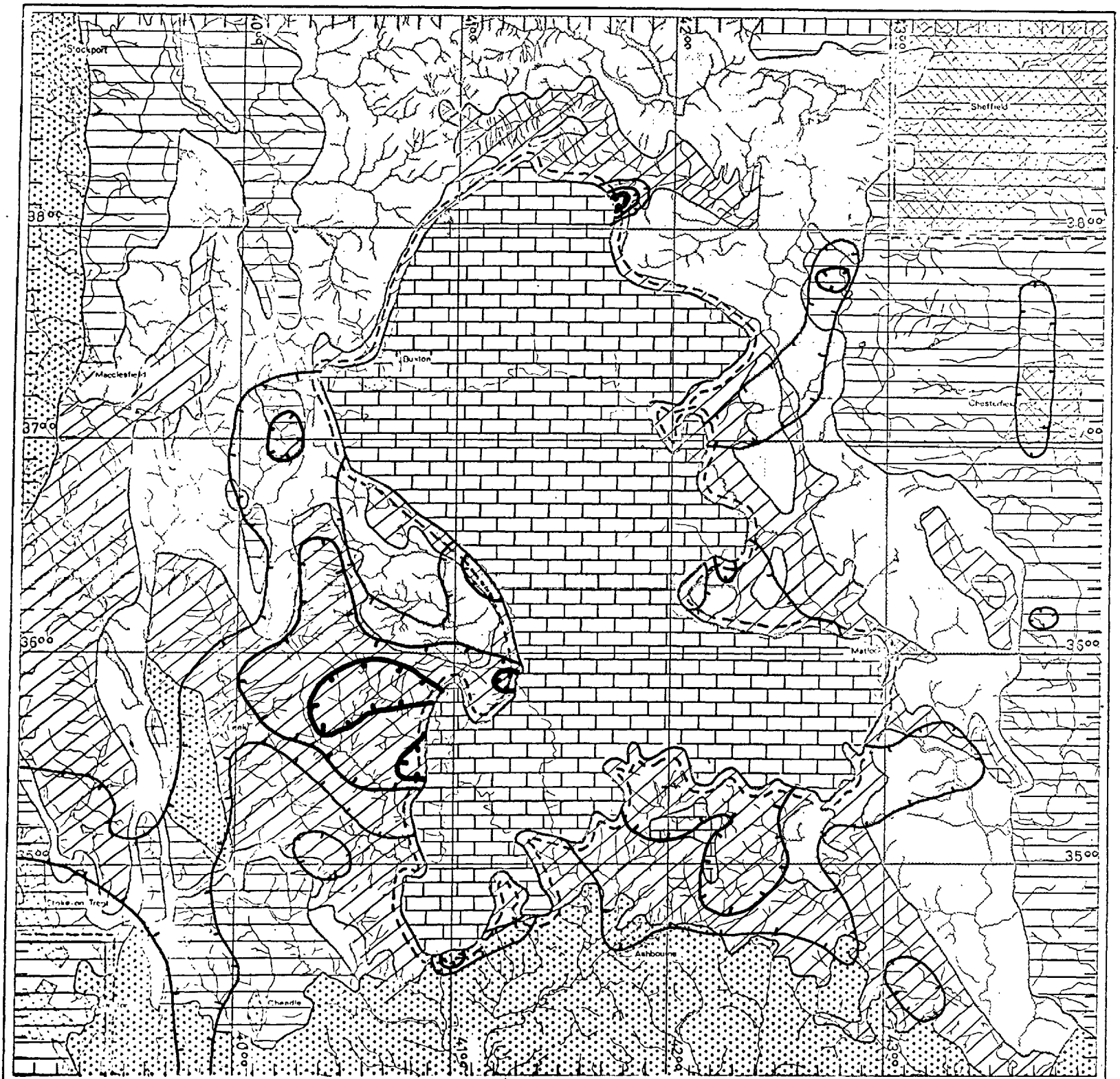
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

ZINC —VARIANCE RATIO
(variance units)

- >4·0
- 1·0–3·9
- 0·5–0·9

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 131



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

GEOLOGICAL KEY

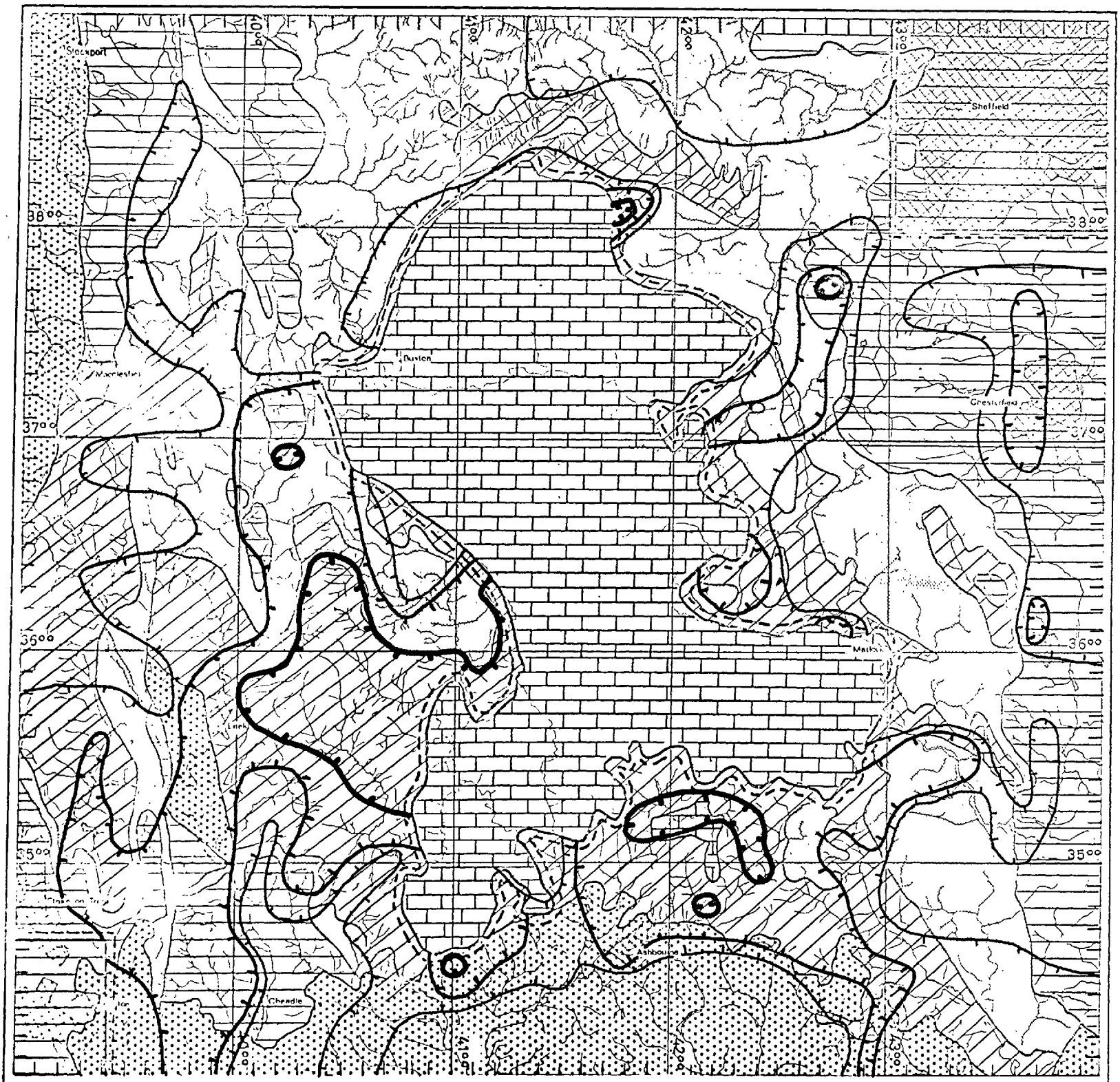
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

ARSENIC — MOVING AVERAGE
(concentration in ppm)

- >30
- 15–29
- 7–14

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(Institute of Geological Sciences)

FIGURE 132



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

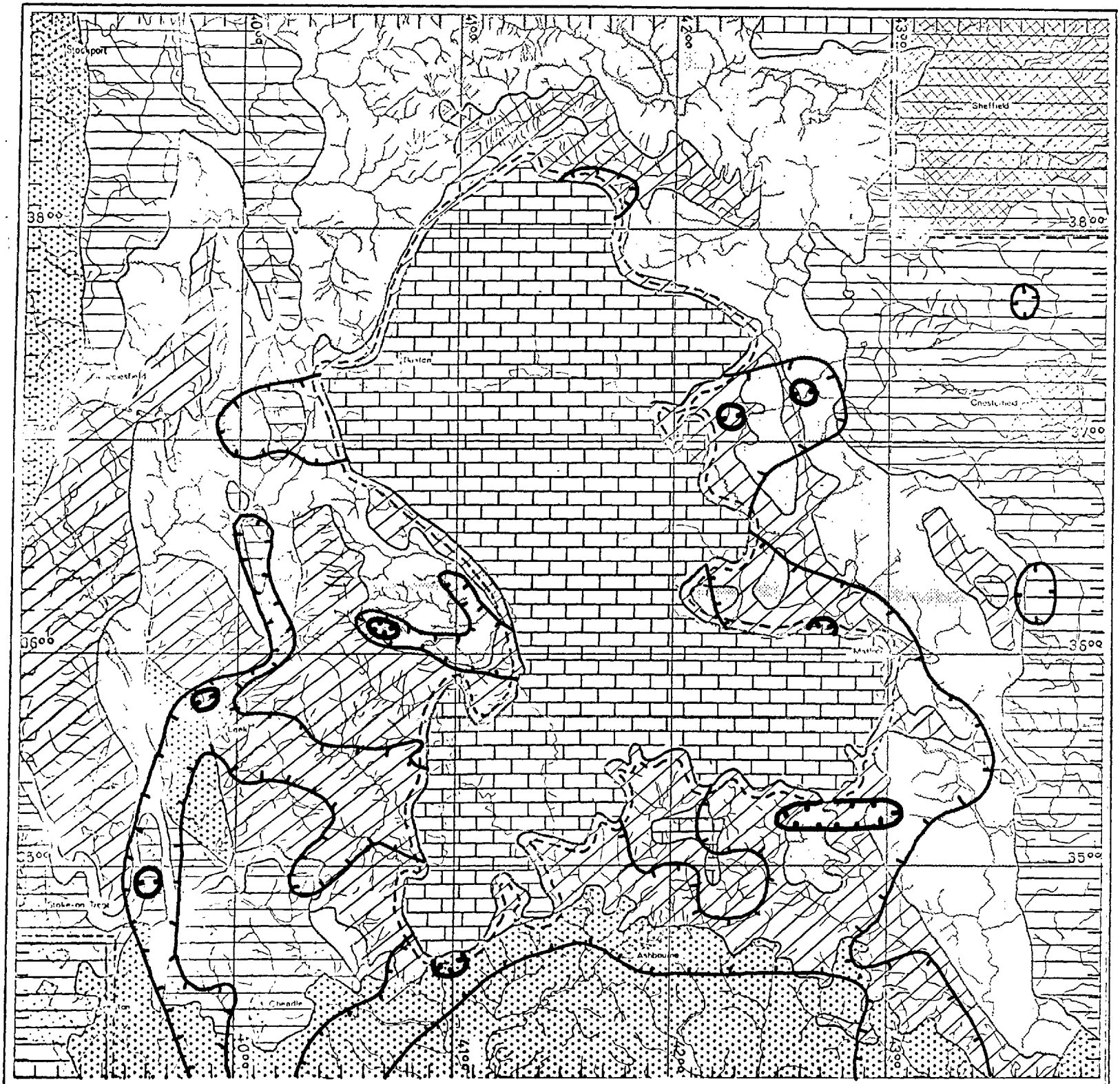
ARSENIC — Z-VALUES
(standard deviation units)

- > +1·0
- 0·0 to +0·9
- −0·5 to −0·1

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(Institute of Geological Sciences)

Project 65
May 1967
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FIGURE 133



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

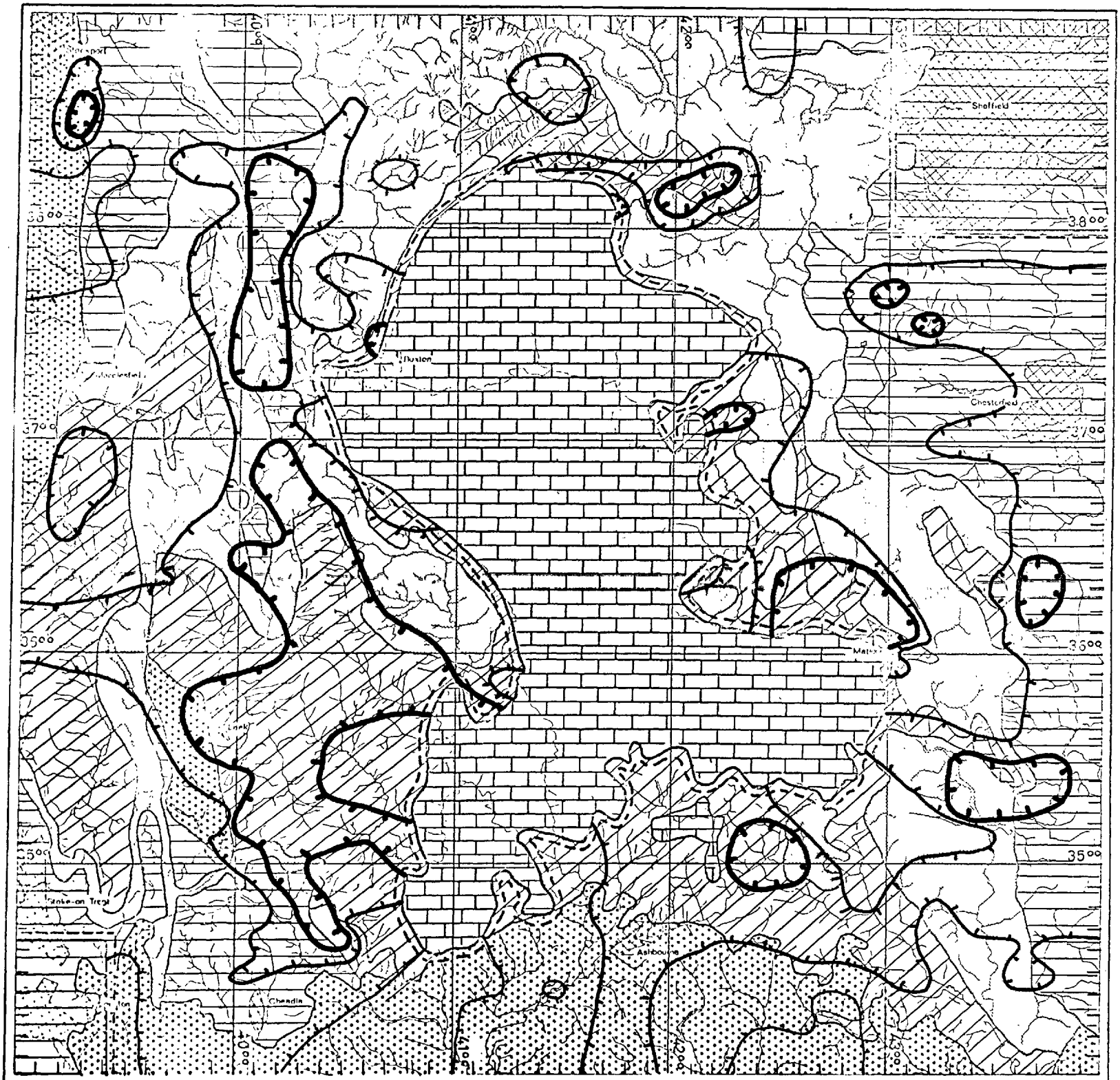
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

ARSENIC — VARIANCE RATIO
(variance units)

- >2·0
- 1·0 — 1·9

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FIGURE 134



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

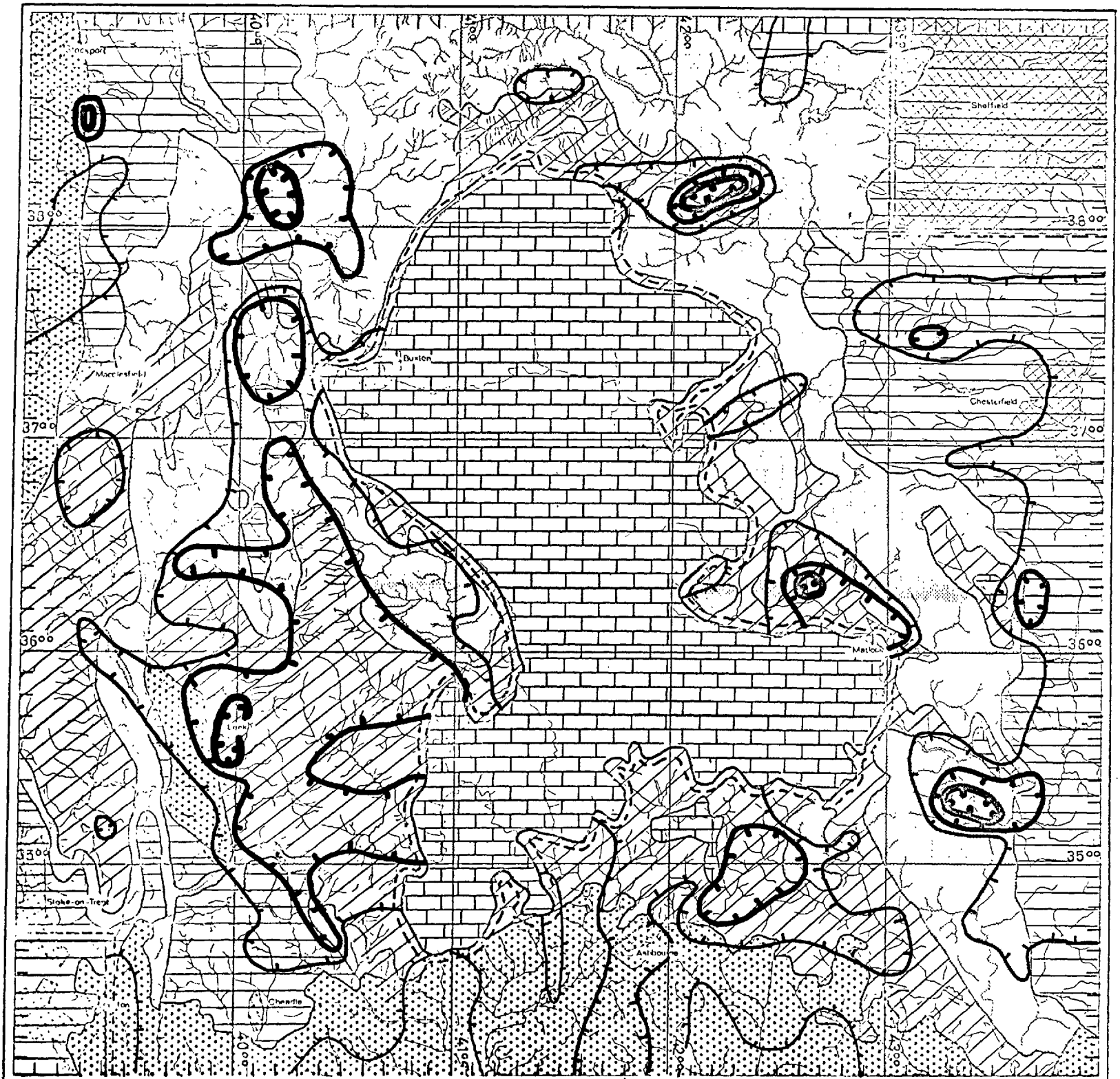
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

CHROMIUM — MOVING AVERAGE
(concentration in ppm)

- >70
- 50–69
- 30–49

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FIGURE 135



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

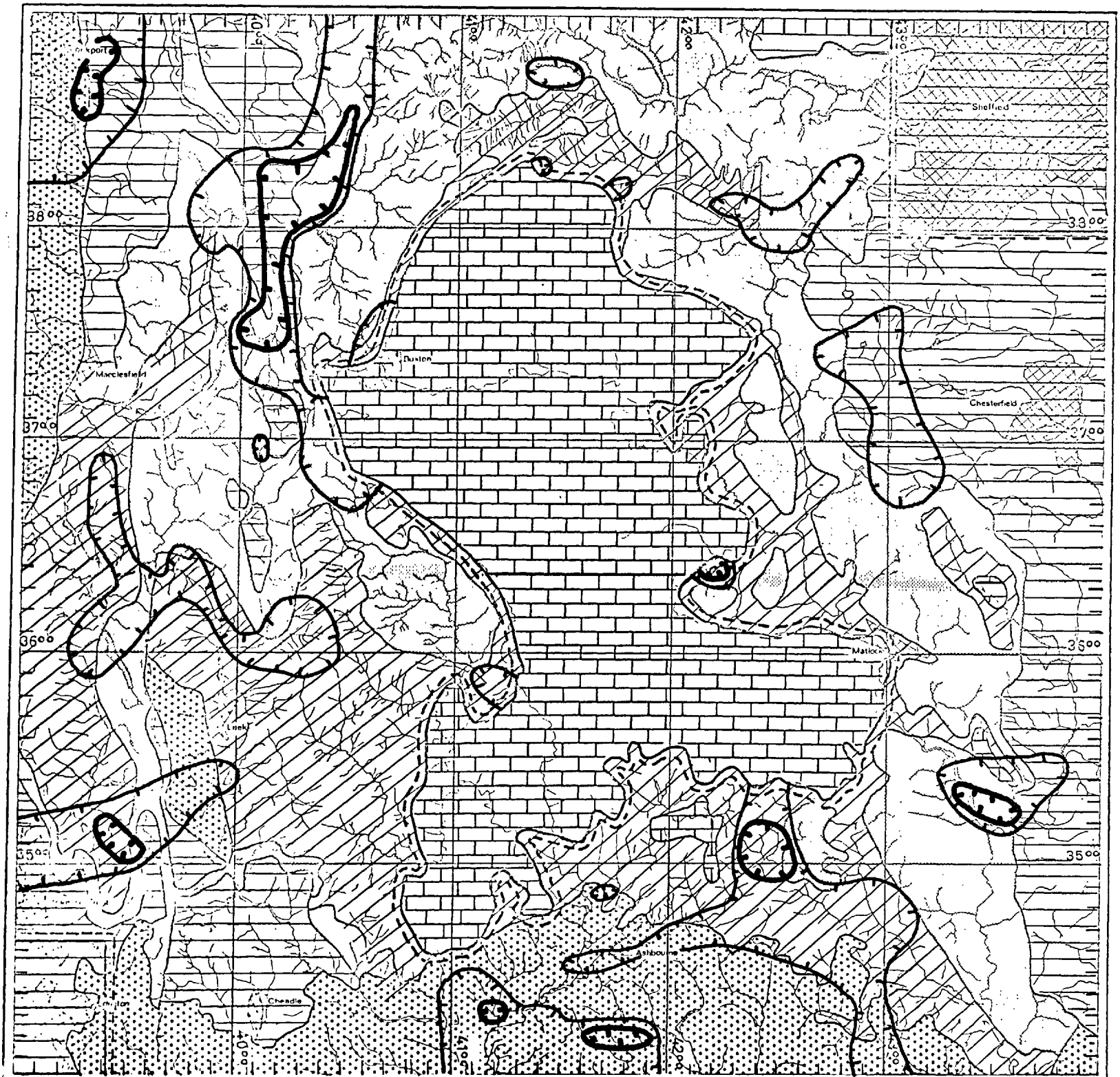
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

CHROMIUM — Z-VALUES (standard deviation units)

- >+1·0
- 0·0 to +0·4
- +0·5 to +0·9
- −1·0 to −0·1

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(Institute of Geological Sciences)

FIGURE 136



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

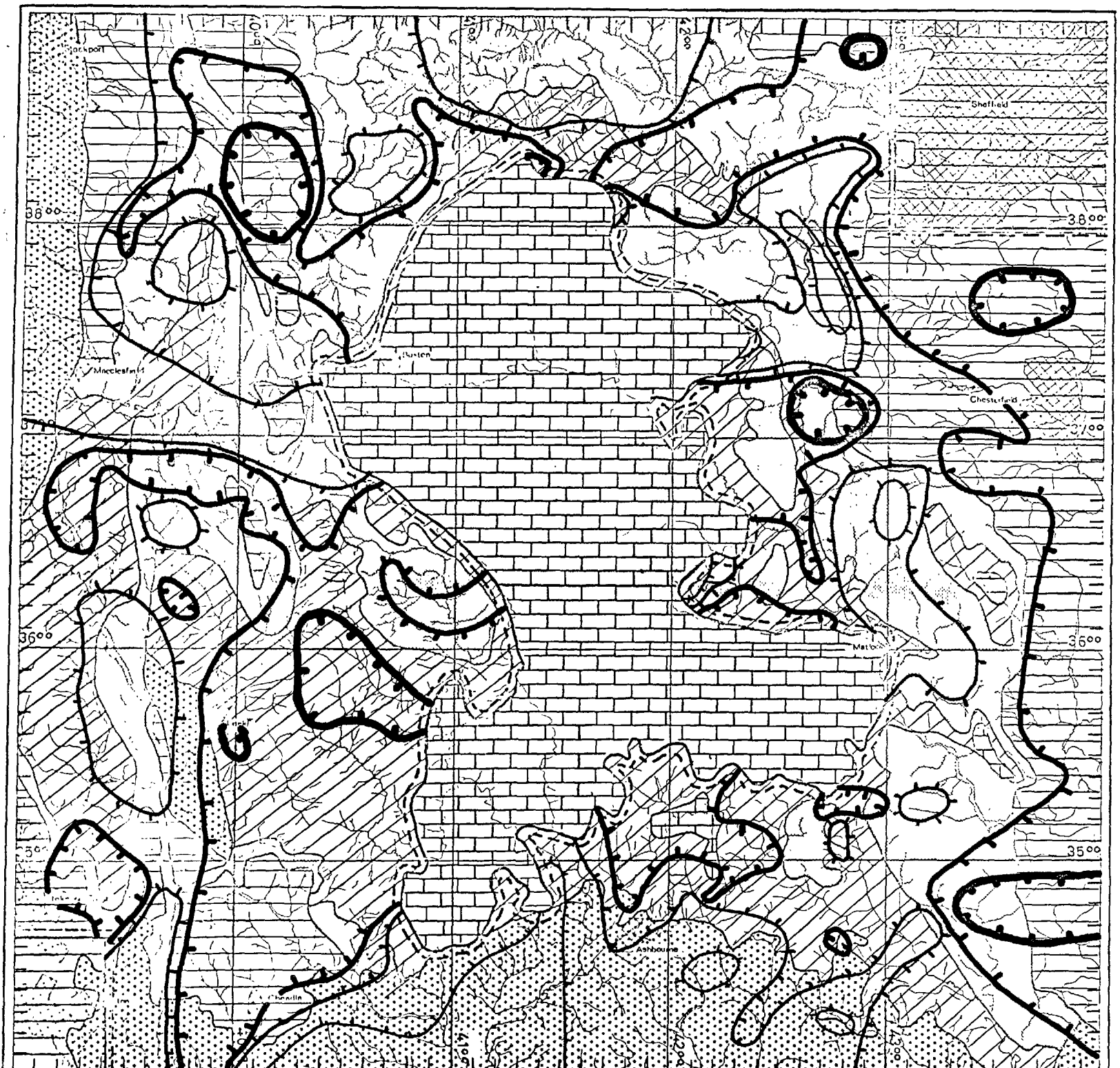
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

CHROMIUM – VARIANCE RATIO (variance units)

- > 2·0
- 1·0 – 1·9

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FIGURE 137



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY
DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

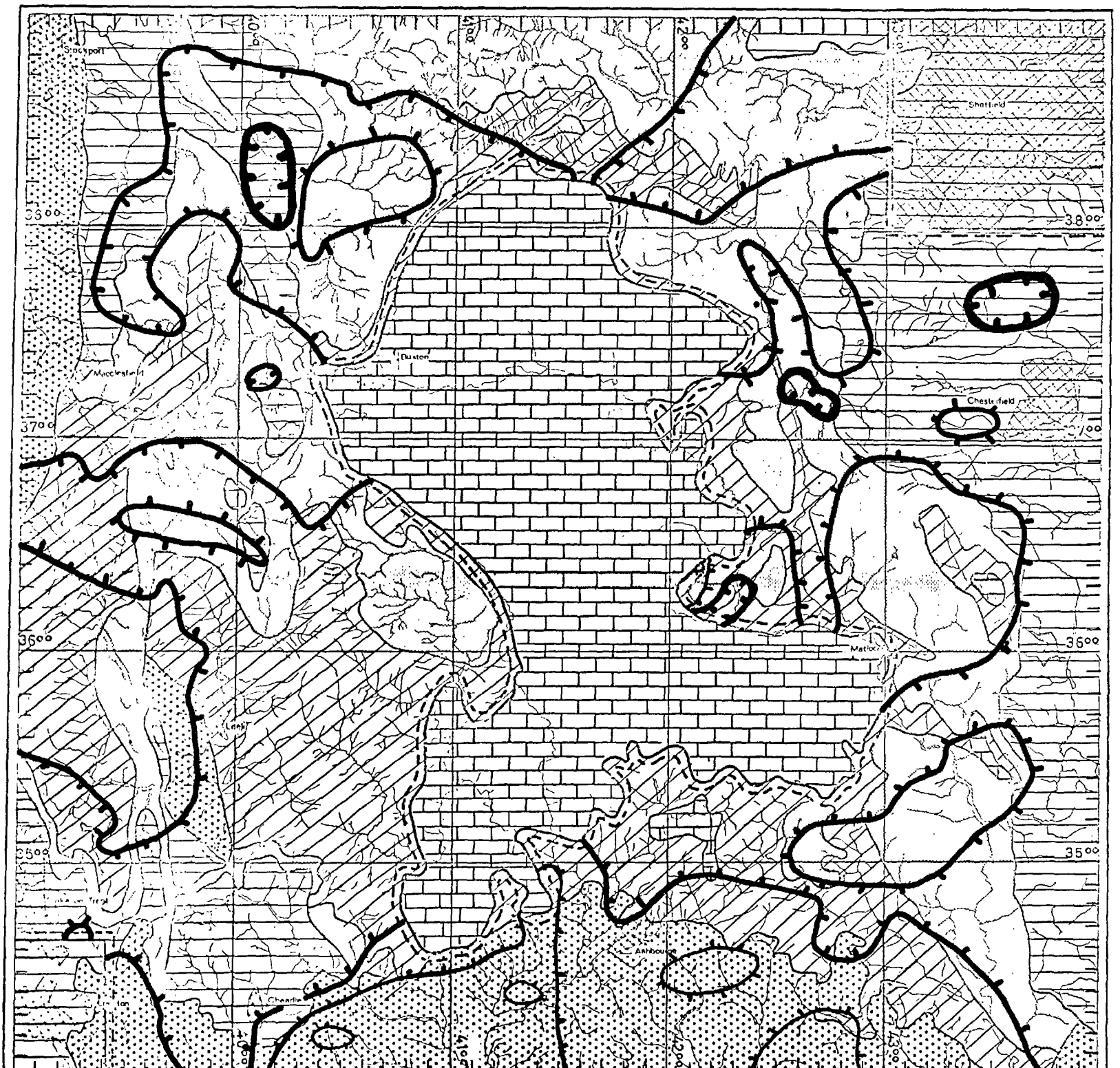
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

COBALT–MOVING AVERAGE
(concentration in ppm)

- >30
- 20–29
- 15–19
- 7–14

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FIGURE 138



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

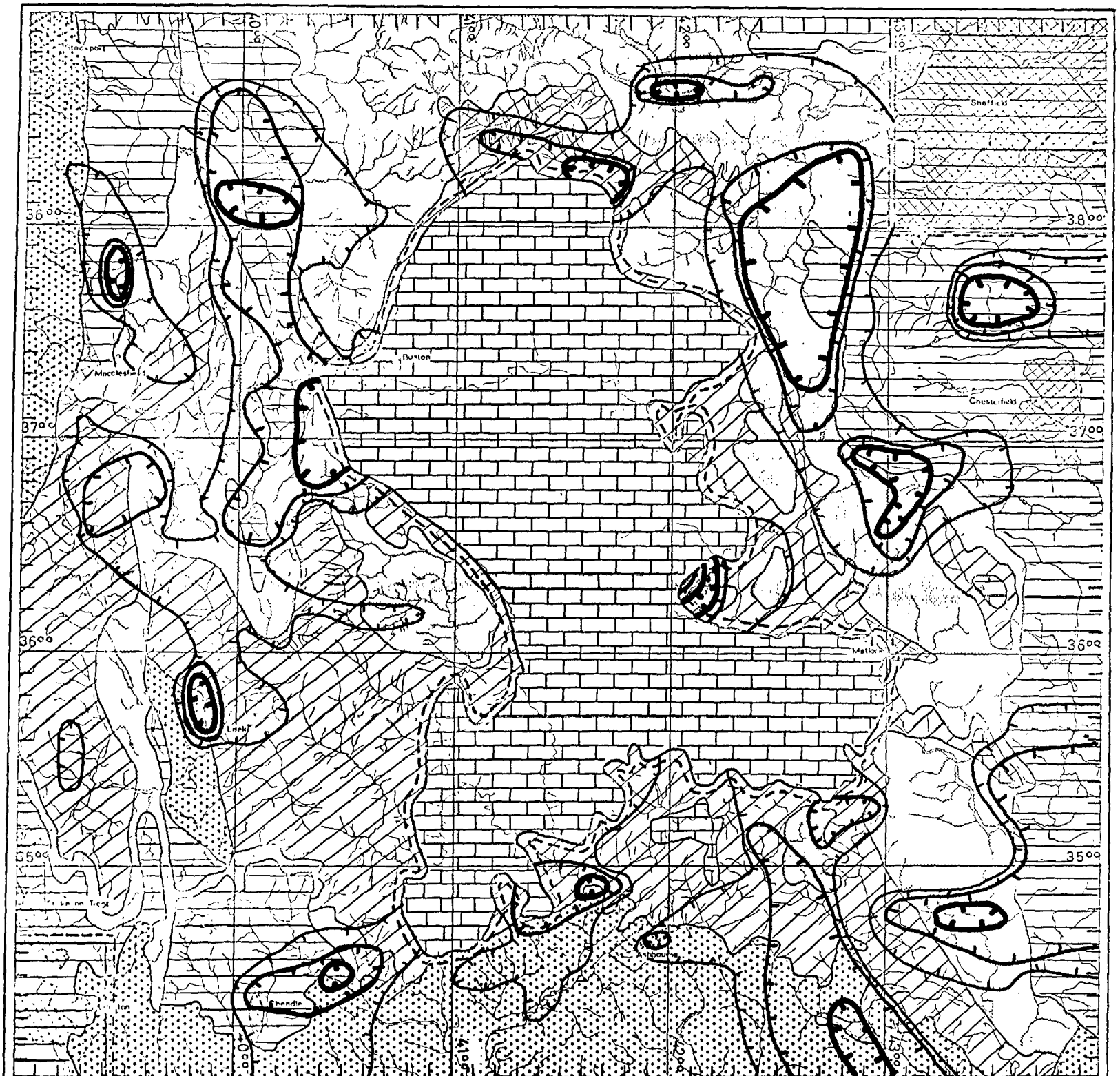
COBALT —Z-VALUES
(standard deviation units)

- > +1·0
- -1·0 to -0·1
- 0·0 to +0·9
- -2·0 to -1·1

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FIGURE 139



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

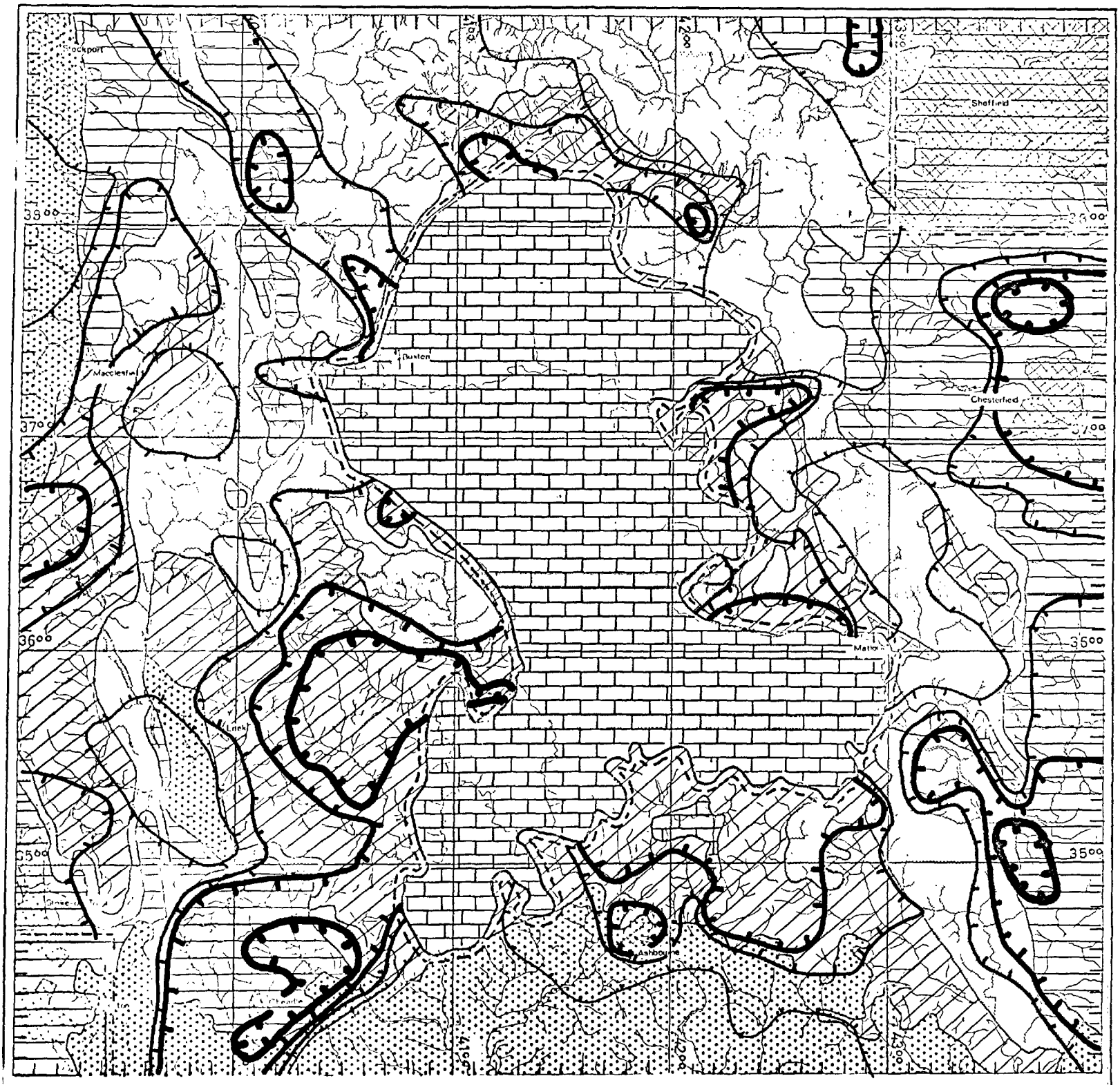
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

COBALT – VARIANCE RATIO
(variance units)

- >2·0
- 1·0 – 1·9
- 0·5 – 0·9

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FIGURE 140



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

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GEOLOGICAL KEY

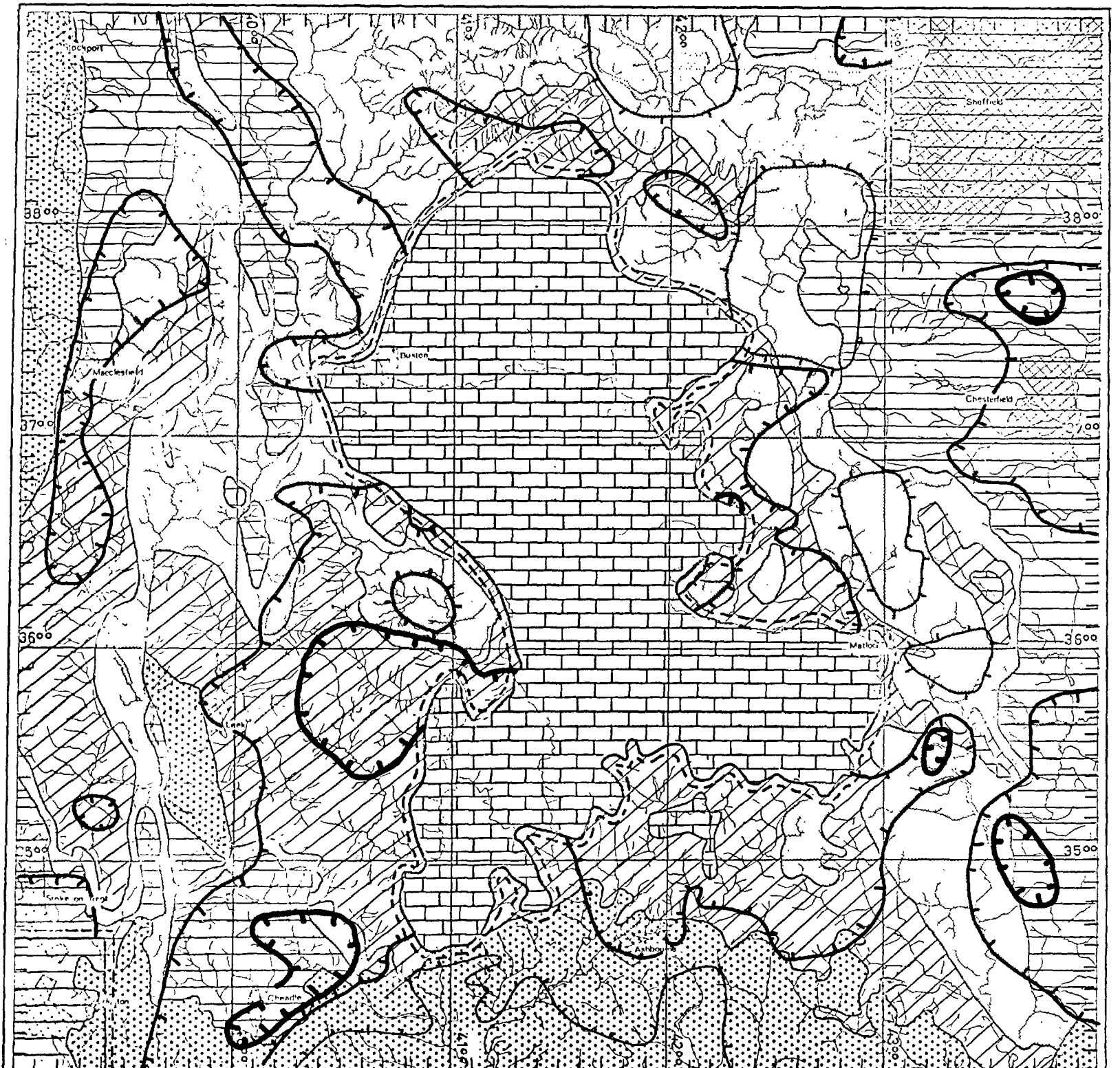
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

COPPER—MOVING AVERAGE
(concentration in ppm)

- >70
- 50–69
- 40–49
- 30–39

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FIGURE 141



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

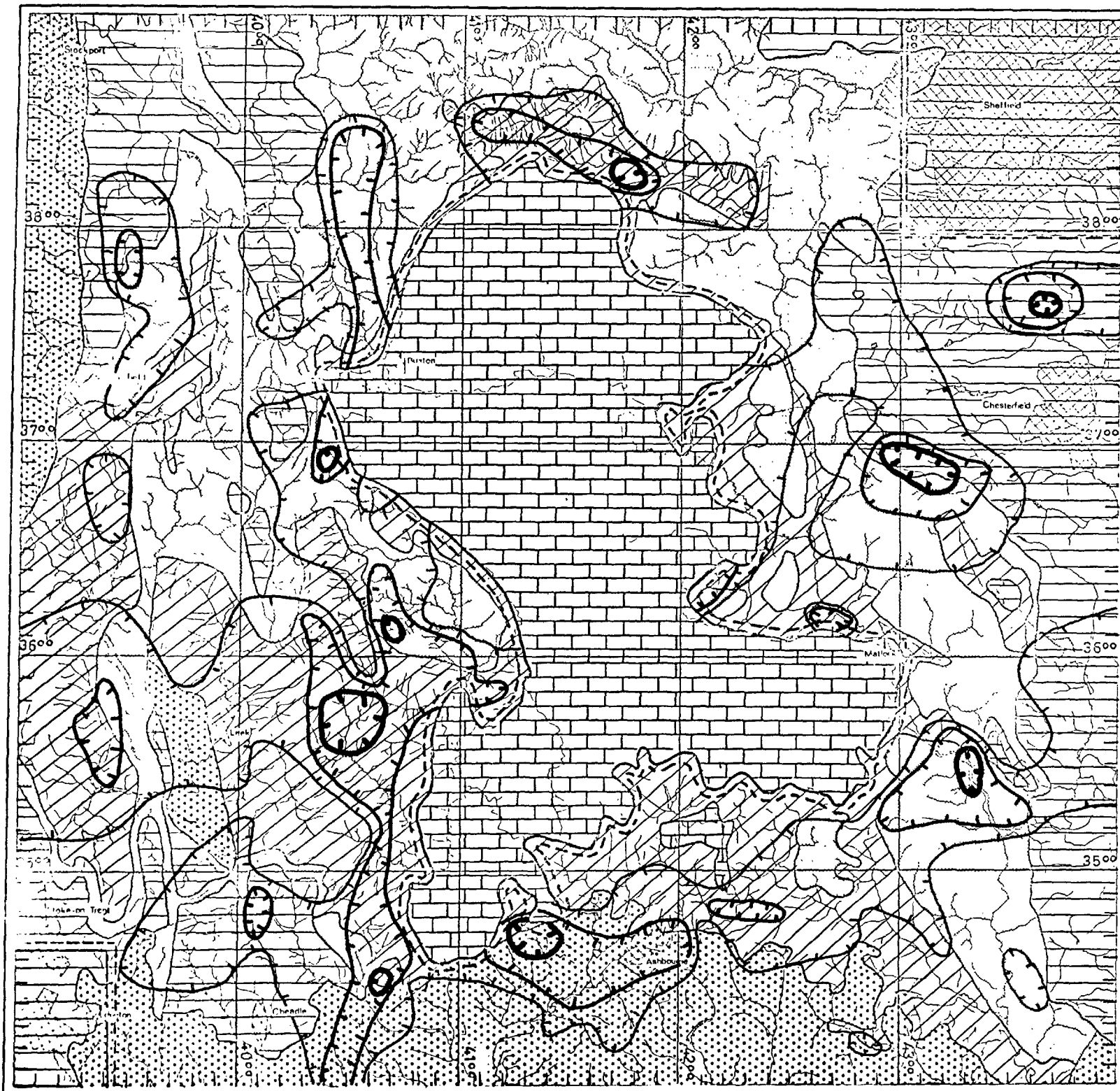
COPPER — Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9
- -1·0 to -0·1

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FIGURE 142



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

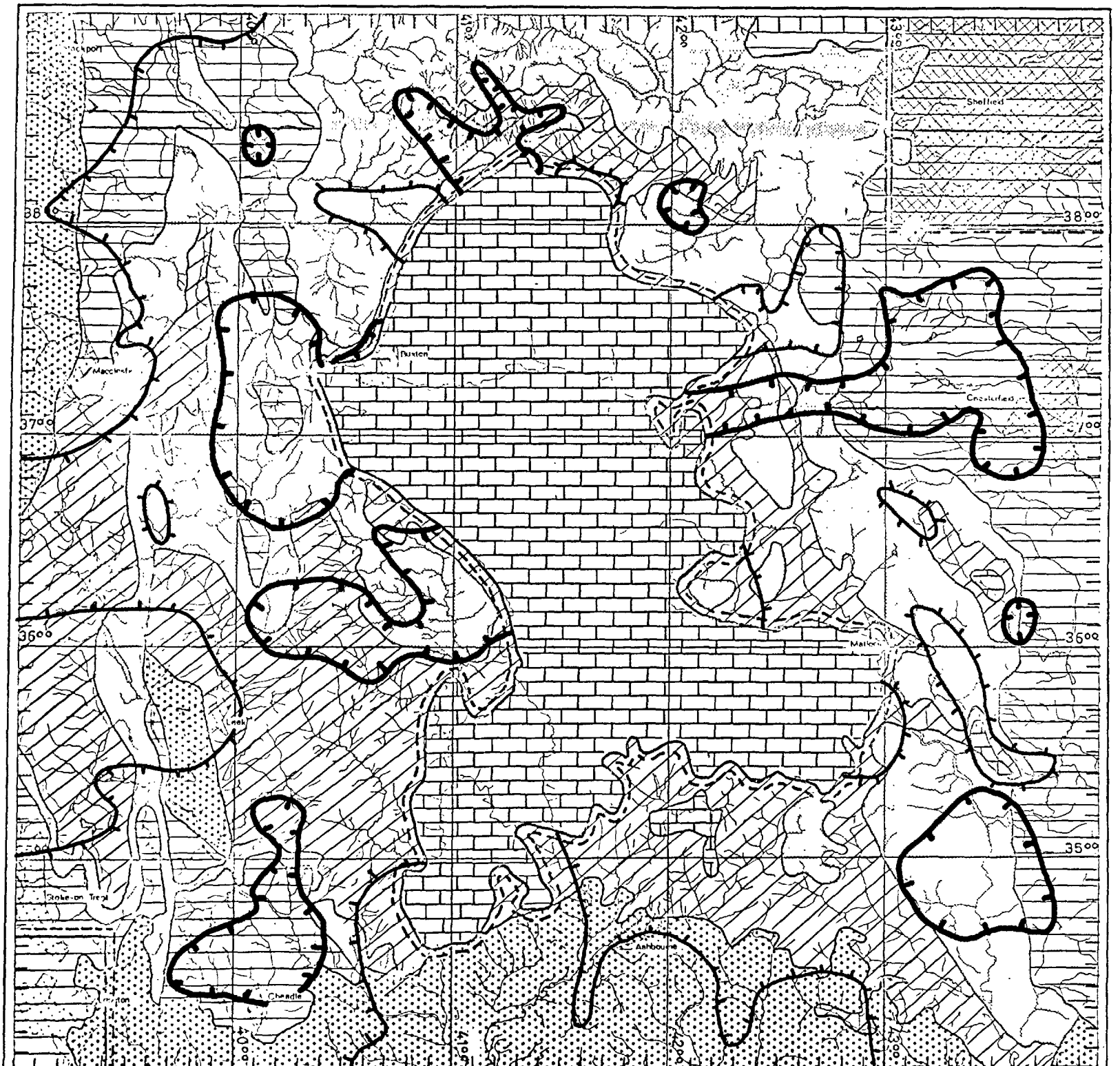
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

COPPER—VARIANCE RATIO (variance units)

- >2·0
- 1·0—1·9
- 0·5—0·9

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FIGURE 143



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

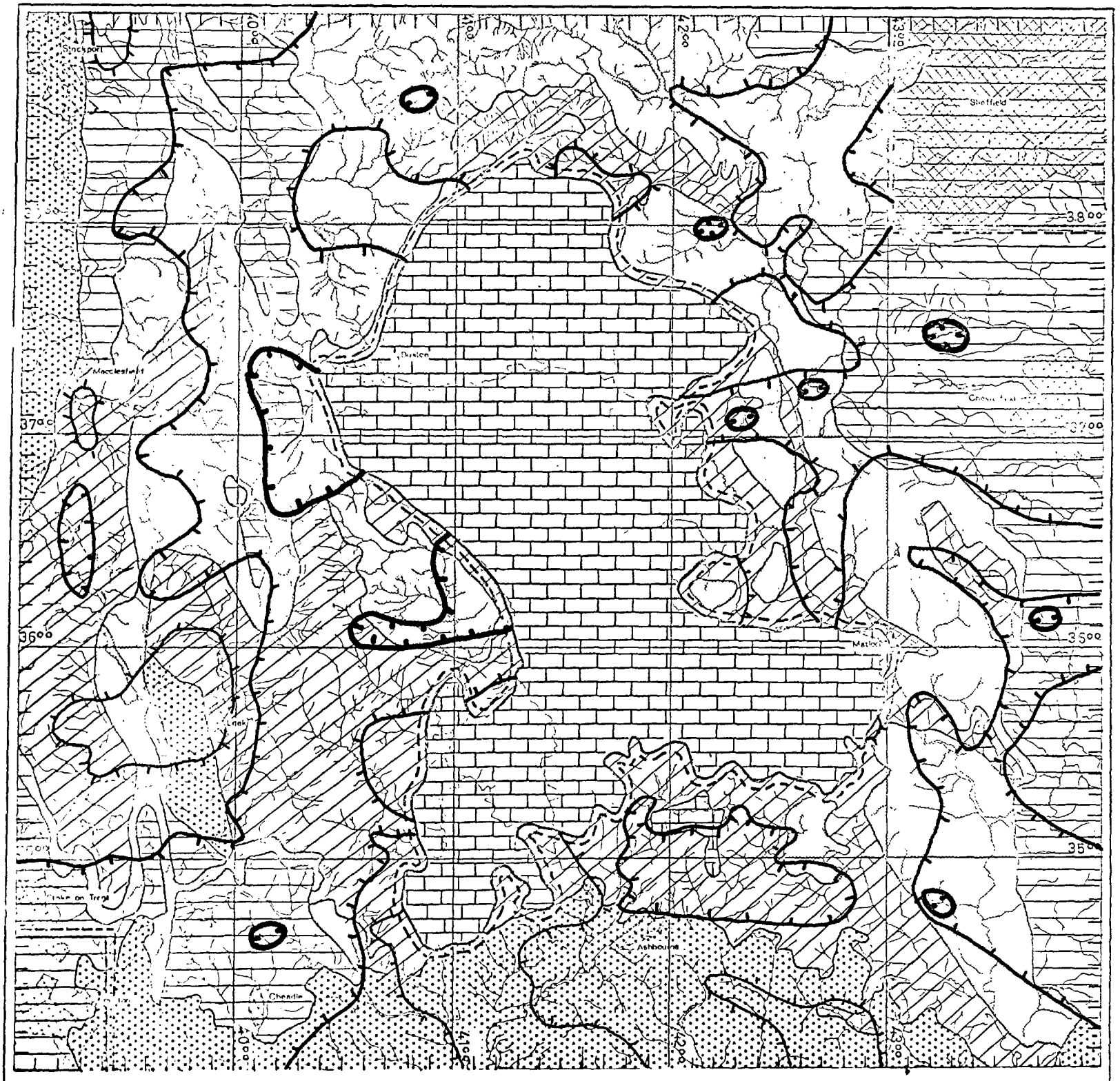
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

GALLIUM — MOVING AVERAGE
(concentration in ppm)

- >15
- 7 – 14

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FIGURE 144



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

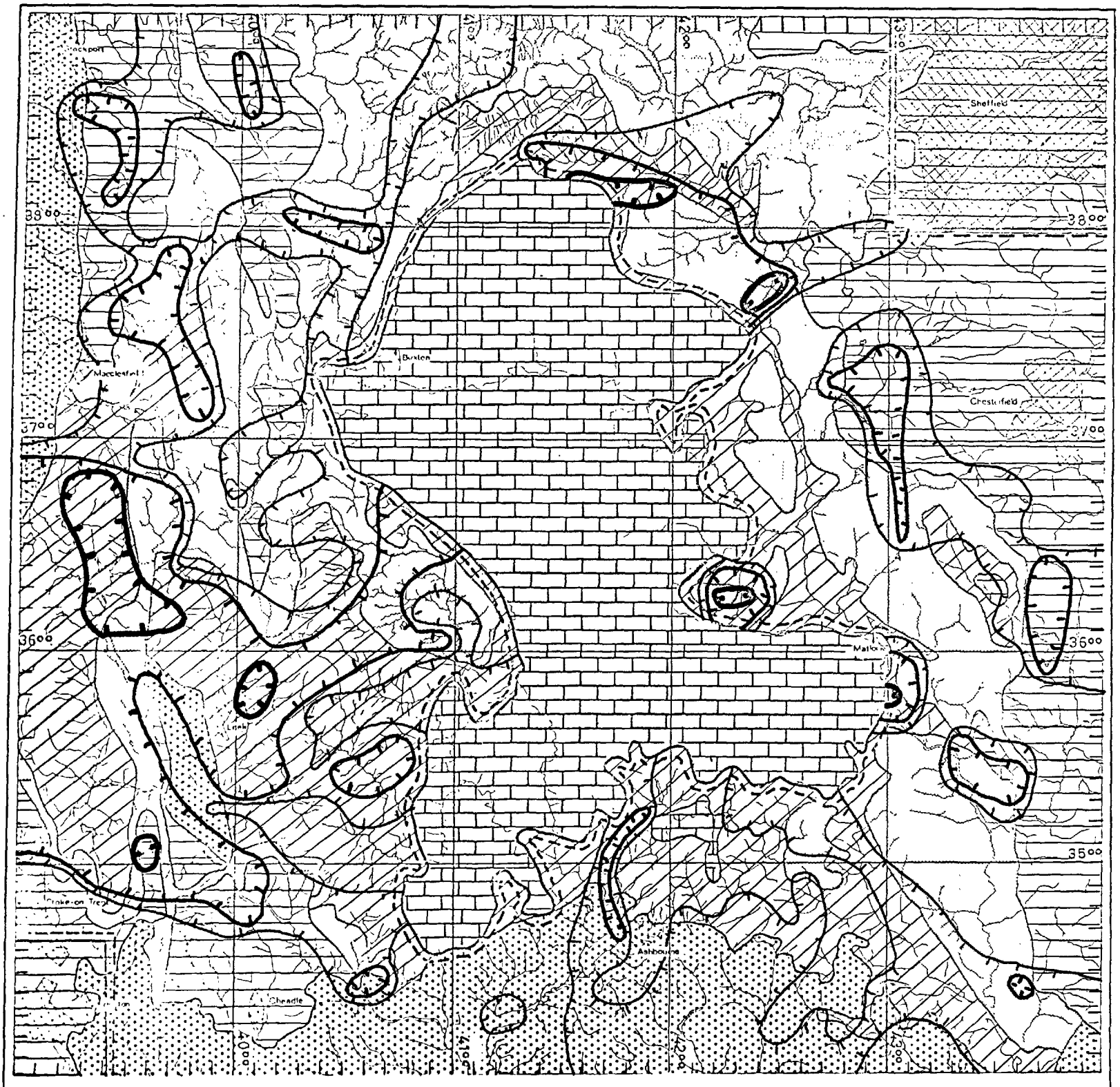
GALLIUM — Z-VALUES
(standard deviation units)

- > +1·0
- 0·0 to +0·9
- −1·0 to −0·1

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FIGURE 145



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

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GEOLOGICAL KEY

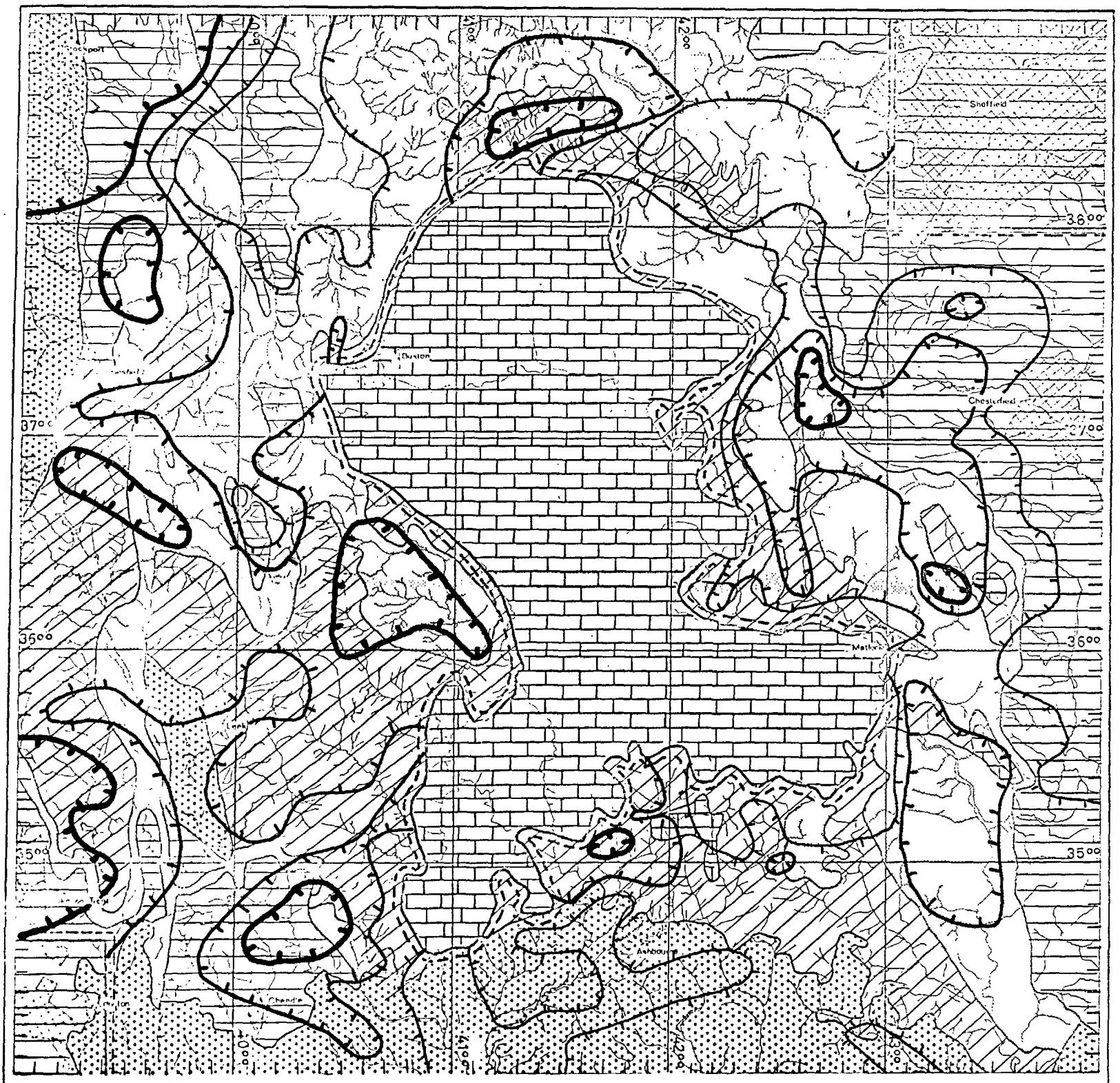
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

GALLIUM – VARIANCE RATIO
(variance units)

- >2·0
- 1·0 – 1·9
- 0·5 – 0·9

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FIGURE 146



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

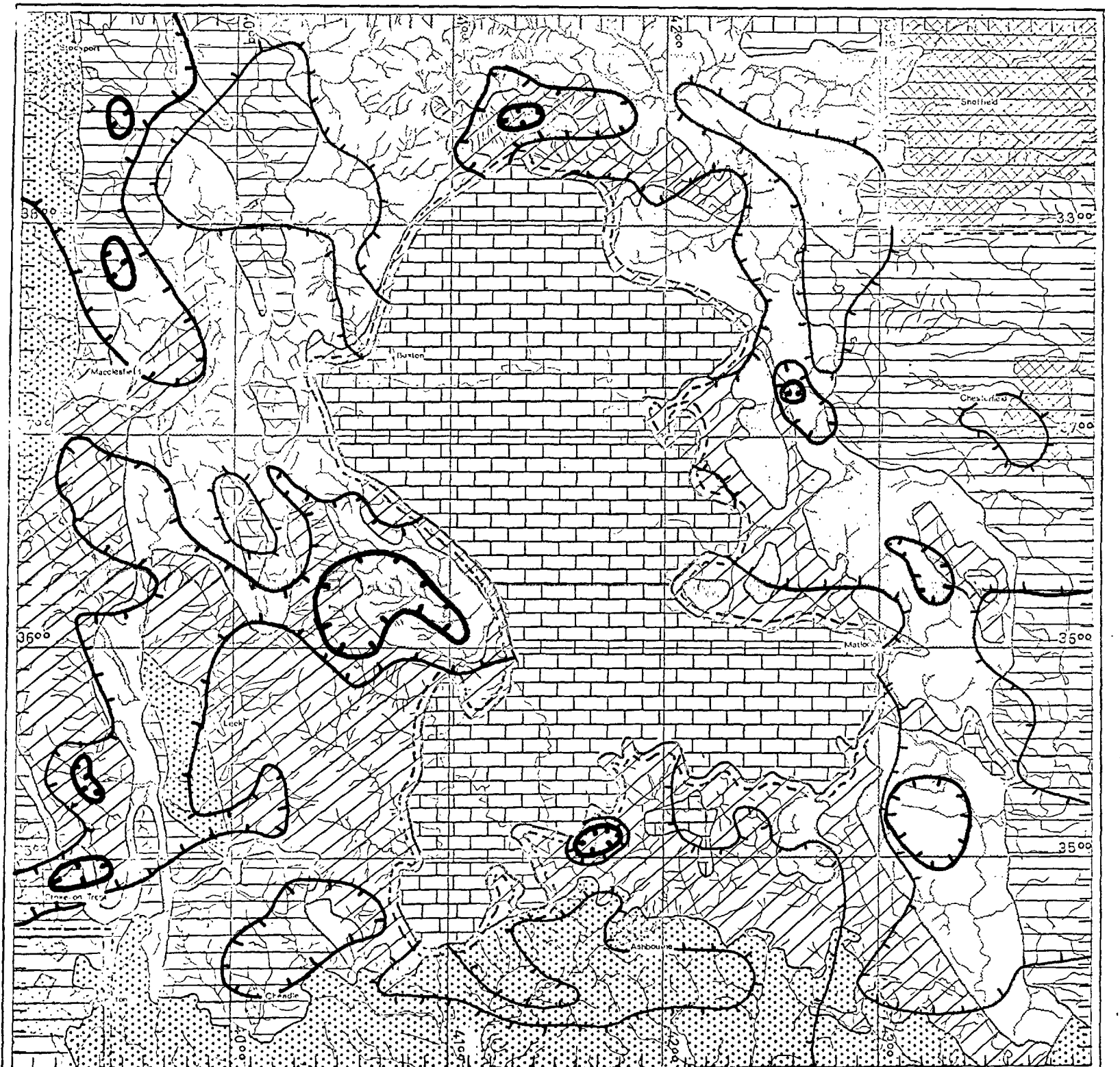
GERMANIUM – MOVING AVERAGE
(concentration in ppm)

- >450
- 400–449
- 350–399

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FIGURE 147



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

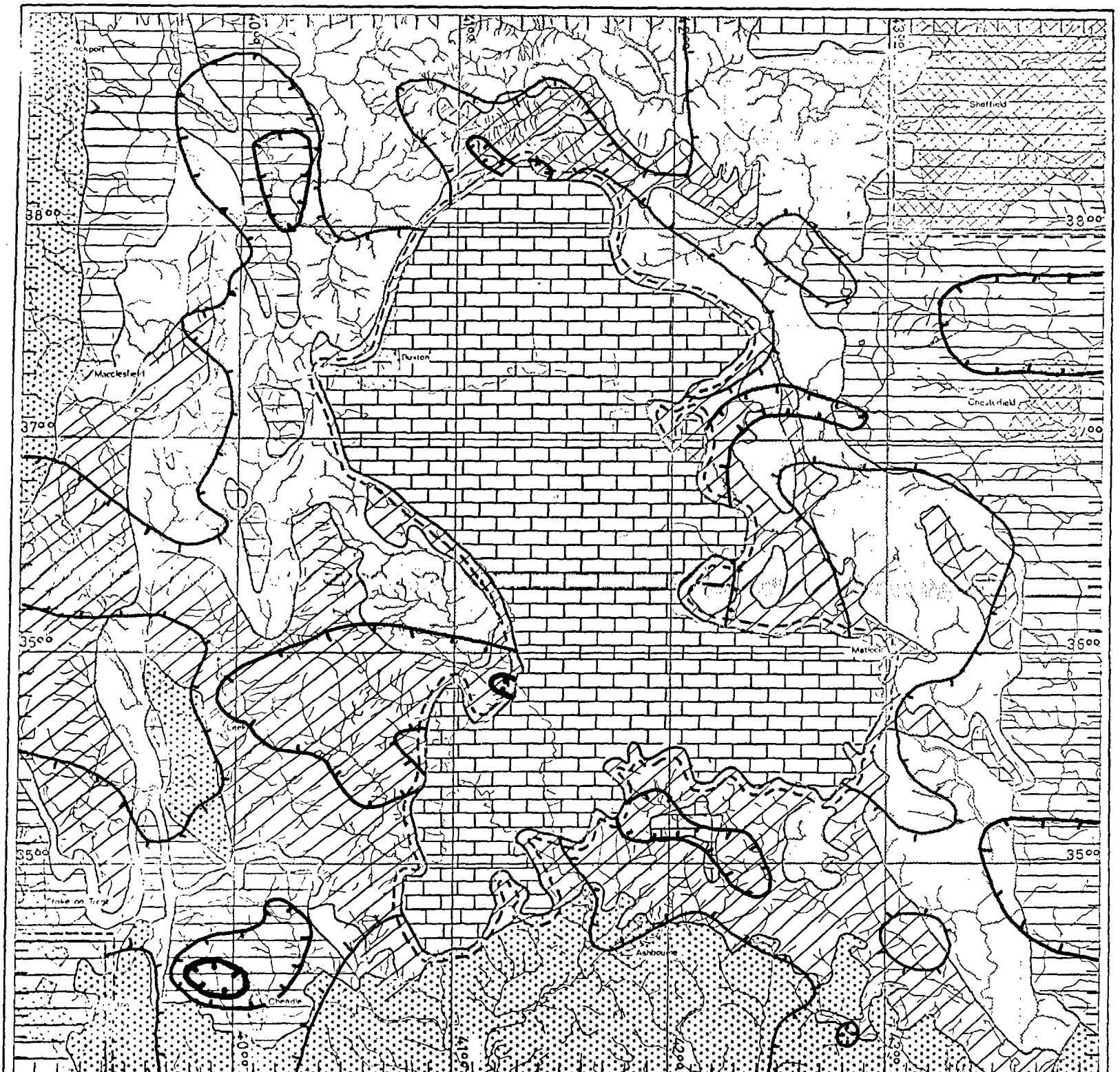
GERMANIUM — Z-VALUES
(standard deviation units)

- >+1·0
- +0·5 to +0·9
- −0·5 to +0·4

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FIGURE 148



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

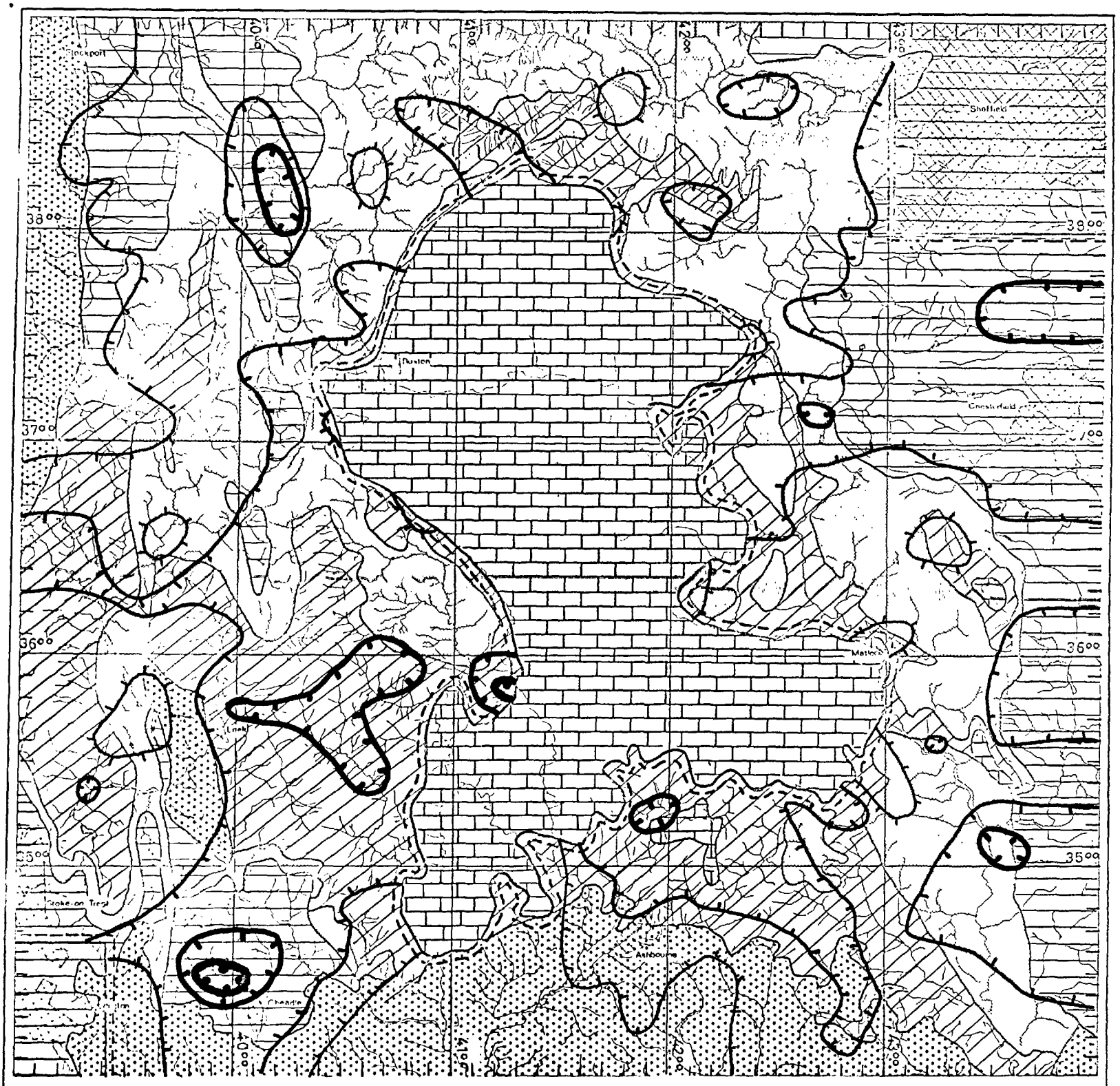
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

IRON – MOVING AVERAGE
(concentration in %)

- >7·0
- 3·0–6·9
- 1·5–2·9

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(Institute of Geological Sciences)

FIGURE 149



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

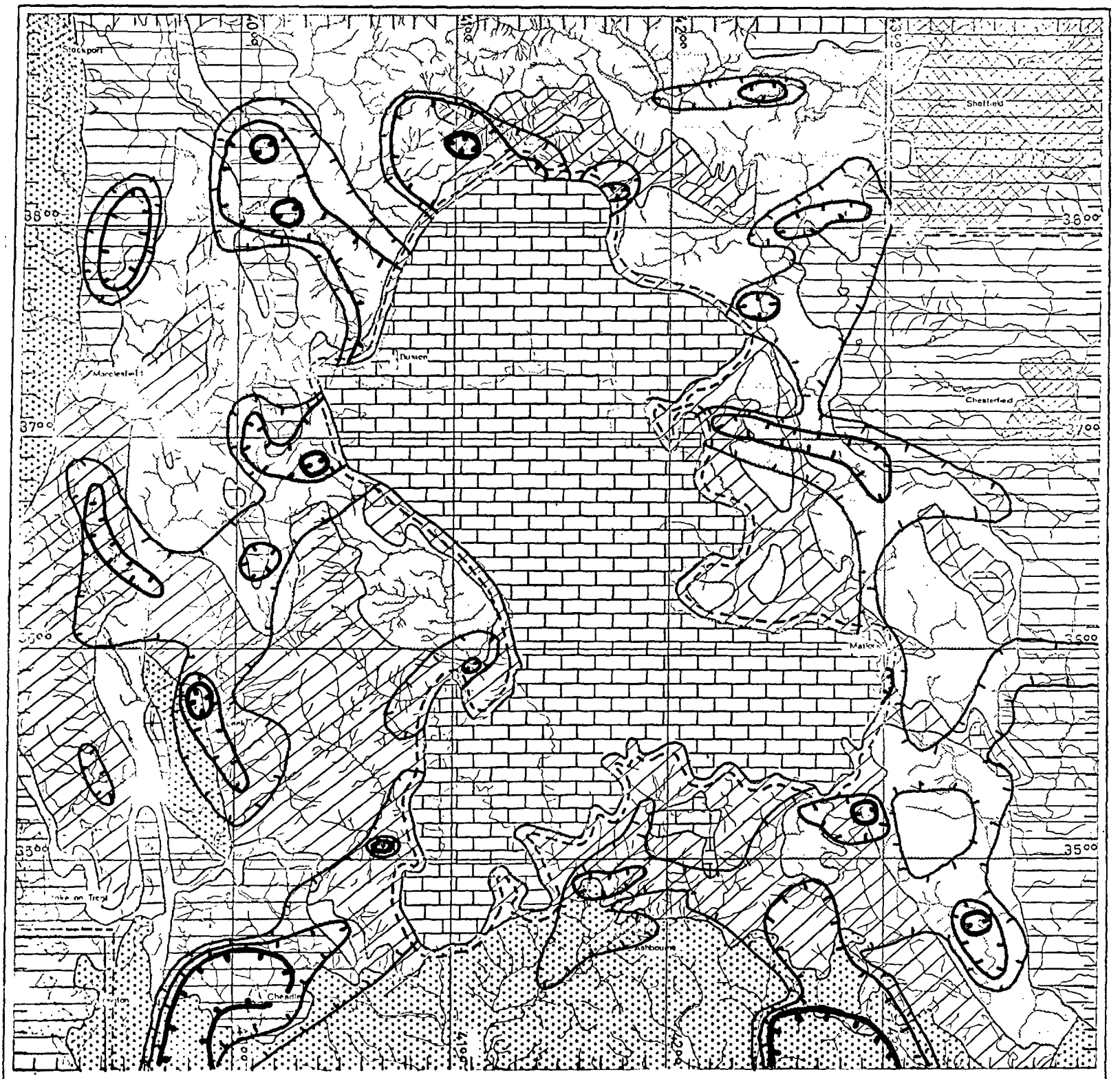
IRON — Z-VALUES
(standard deviation units)

- >+2·0
- 0·0 to +0·9
- +1·0 to +1·9
- −1·0 to −0·1

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FIGURE 150



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

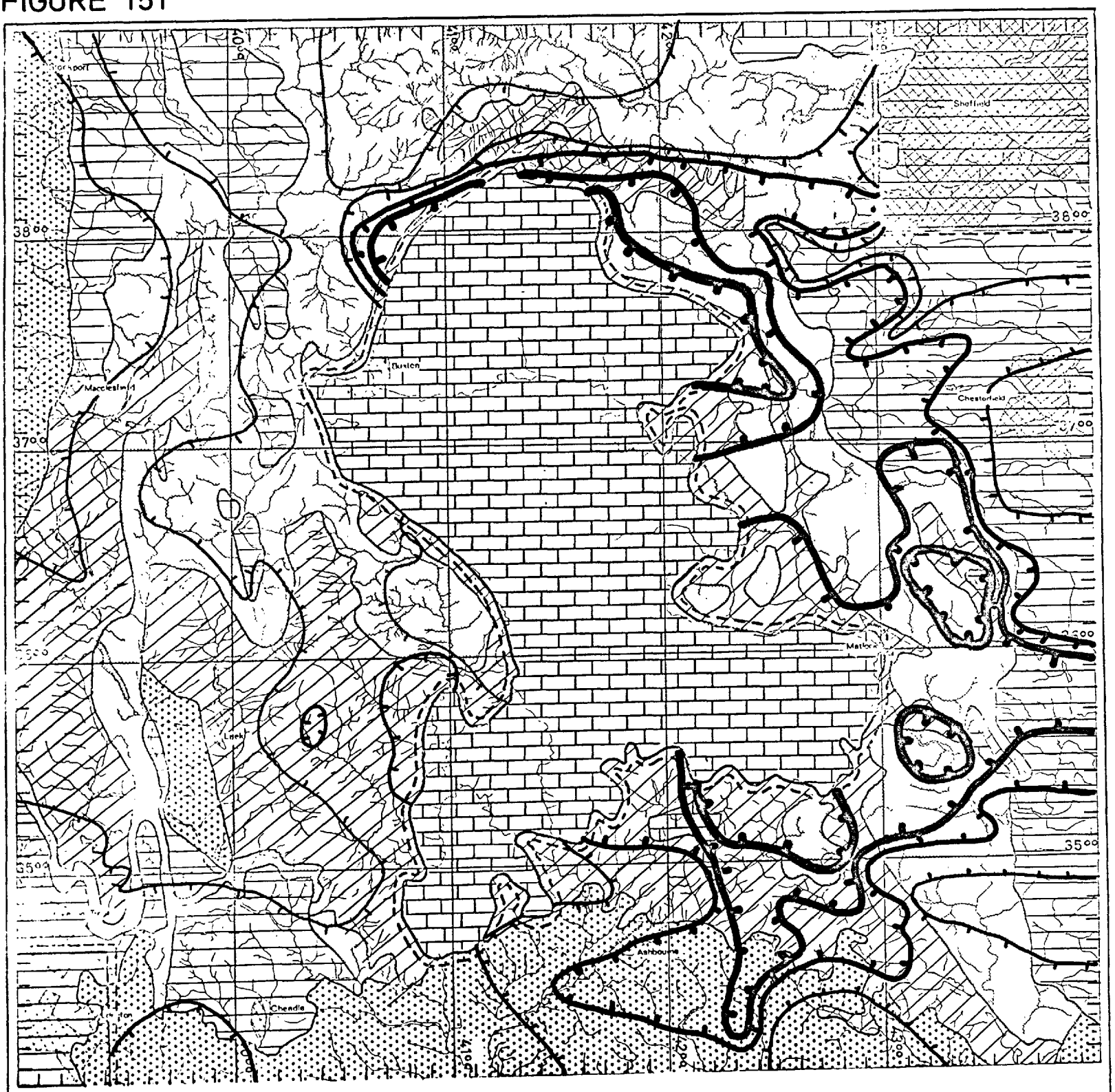
IRON—VARIANCE RATIO (variance units)

- >2·0
- 1·0—1·9
- 0·5—0·9

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FIGURE 151



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

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GEOLOGICAL KEY

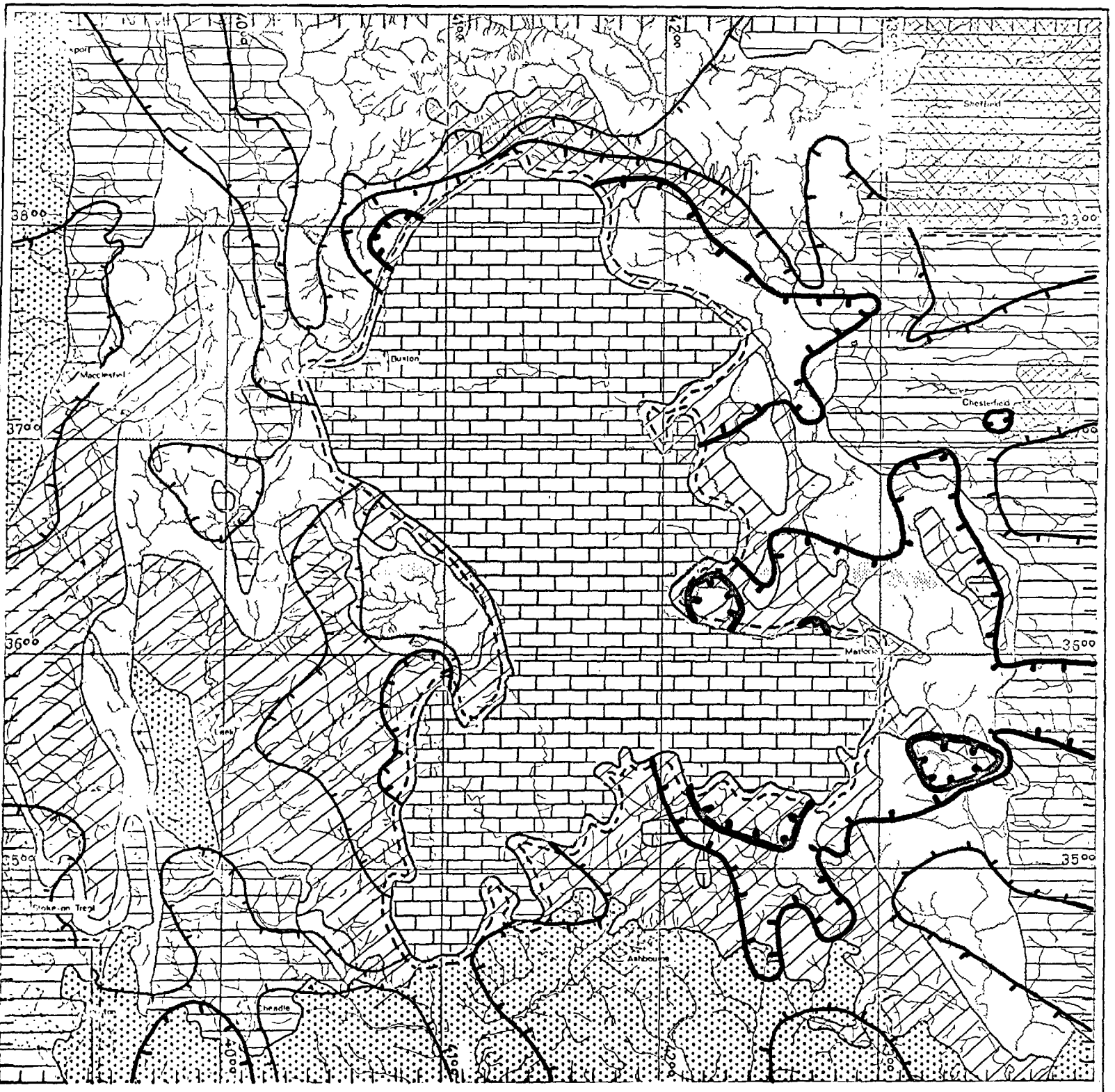
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

LEAD – MOVING AVERAGE
(concentration in ppm)

- >700
- 300–699
- 150–299
- 70–149
- 30–69

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FIGURE 152



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

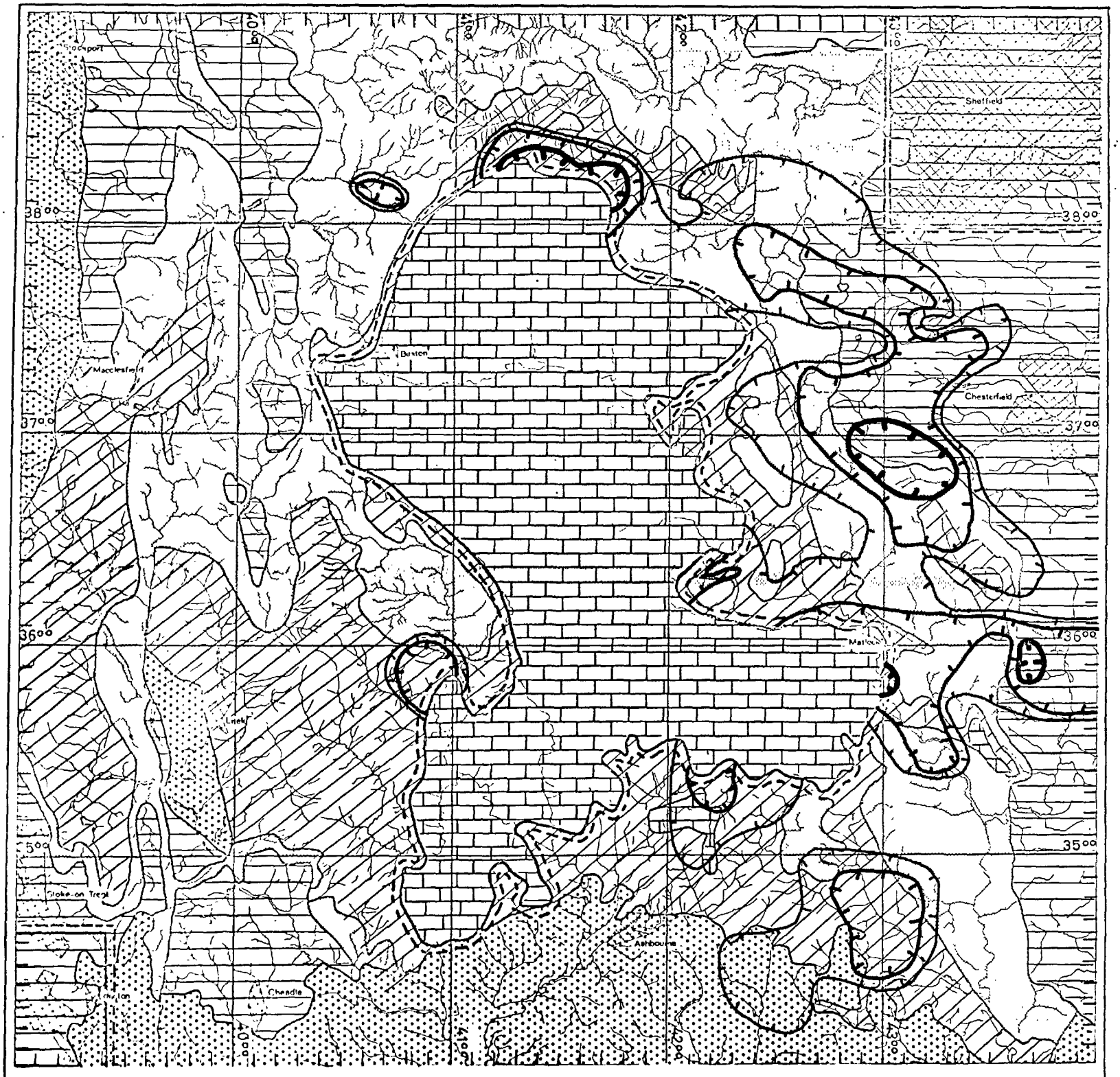
LEAD — Z-VALUES (standard deviation units)

- >+2·0
- 0·0 to +0·9
- +1·0 to +1·9
- -0·5 to -0·1

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FIGURE 153



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

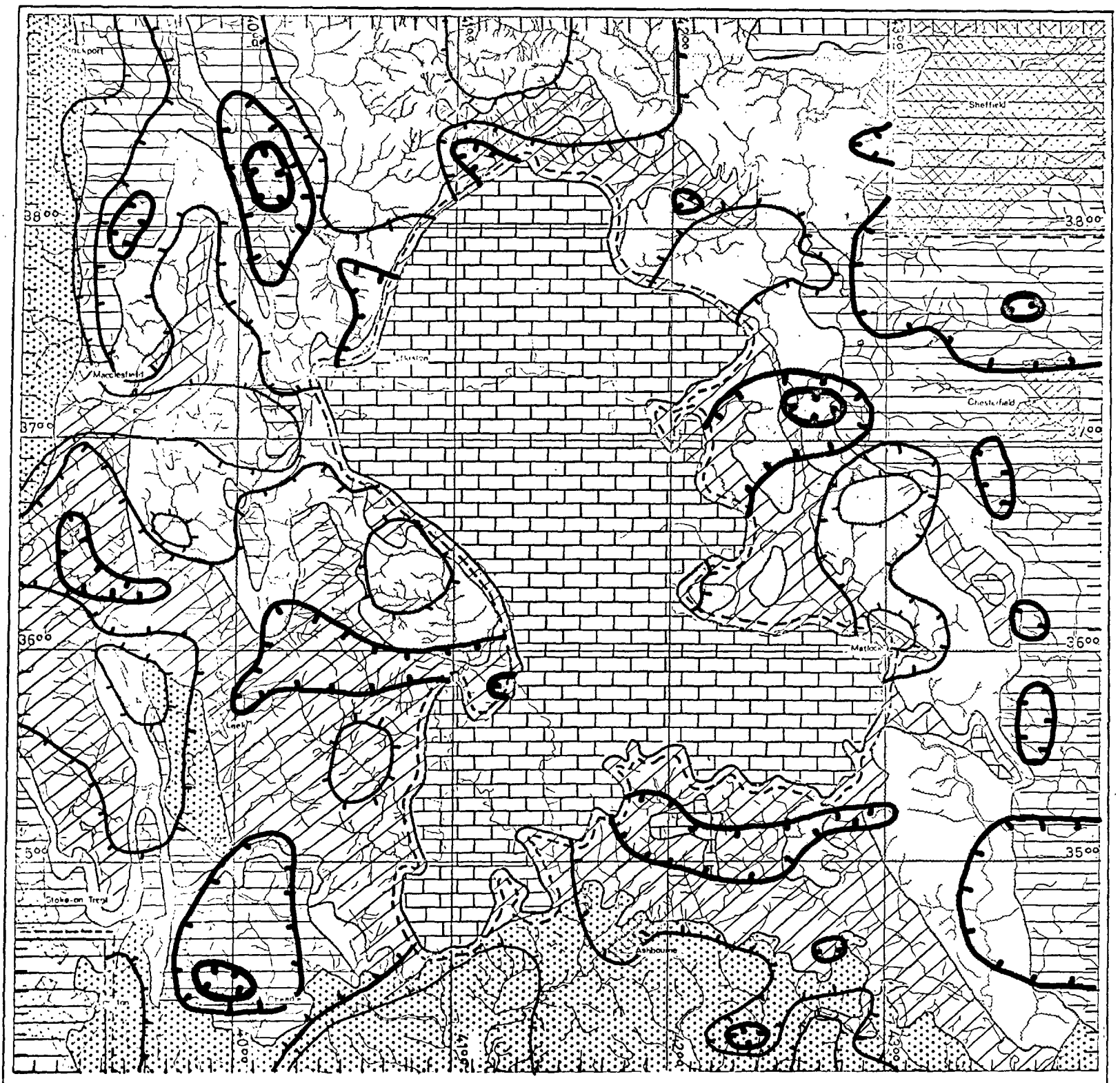
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

LEAD – VARIANCE RATIO (variance units)

- >2·0
- 1·0–1·9
- 0·5–0·9

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FIGURE 154



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

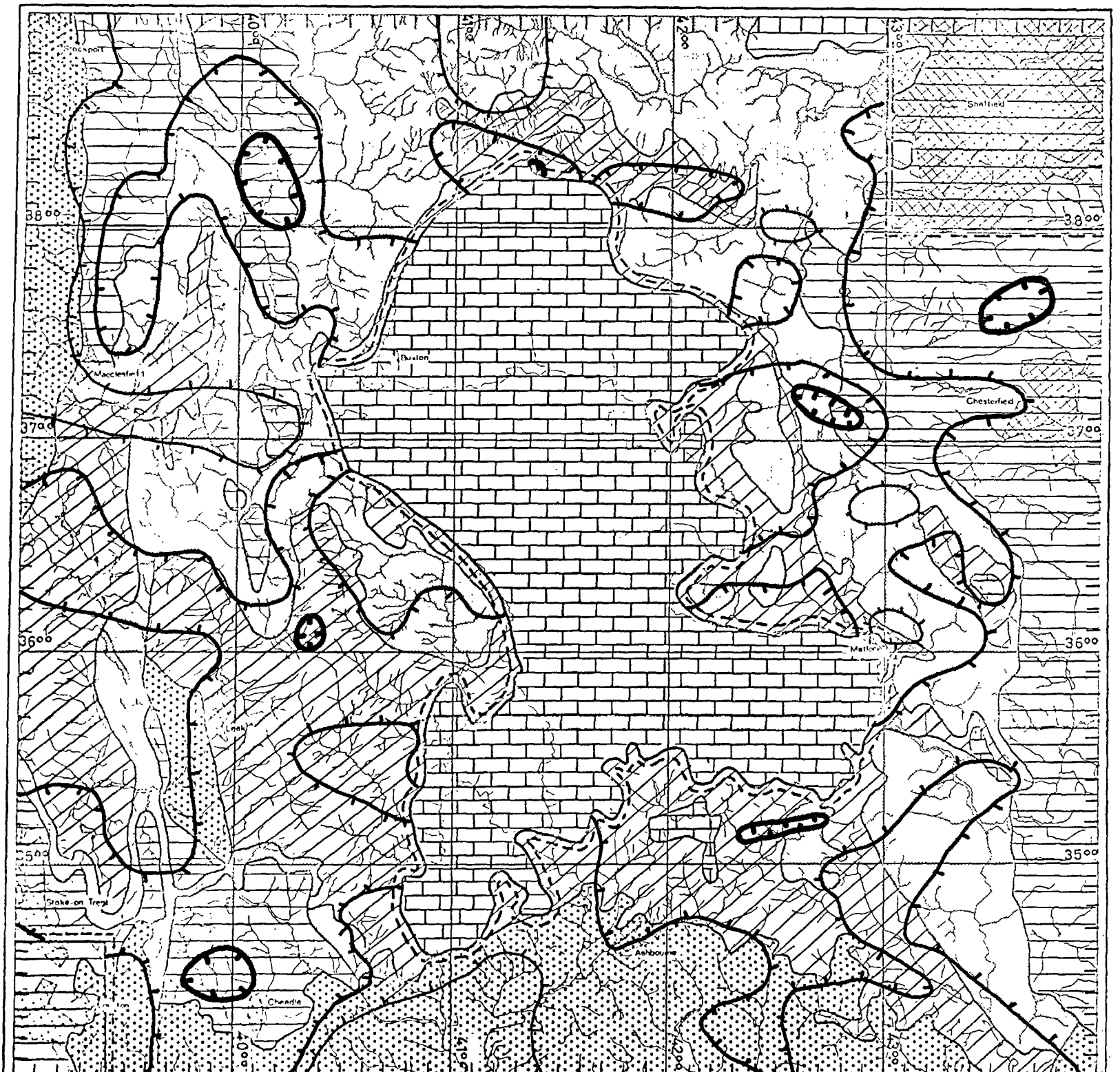
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

MANGANESE – MOVING AVERAGE (concentration in ppm)

- >1500
- 700–1499
- 300–699
- 150–299

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FIGURE 155



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

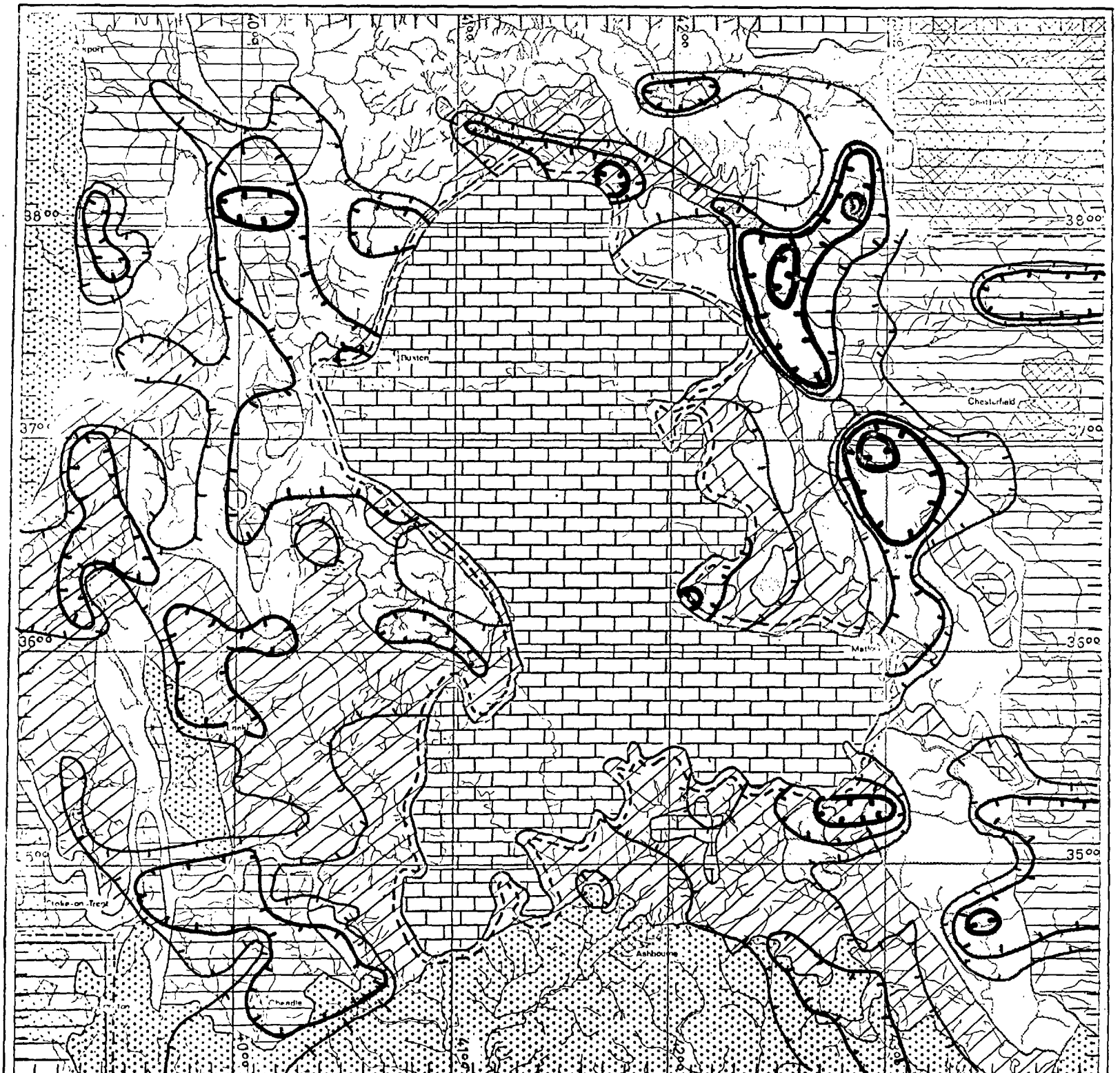
MANGANESE—Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9
- −1·0 to −0·1

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FIGURE 156



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

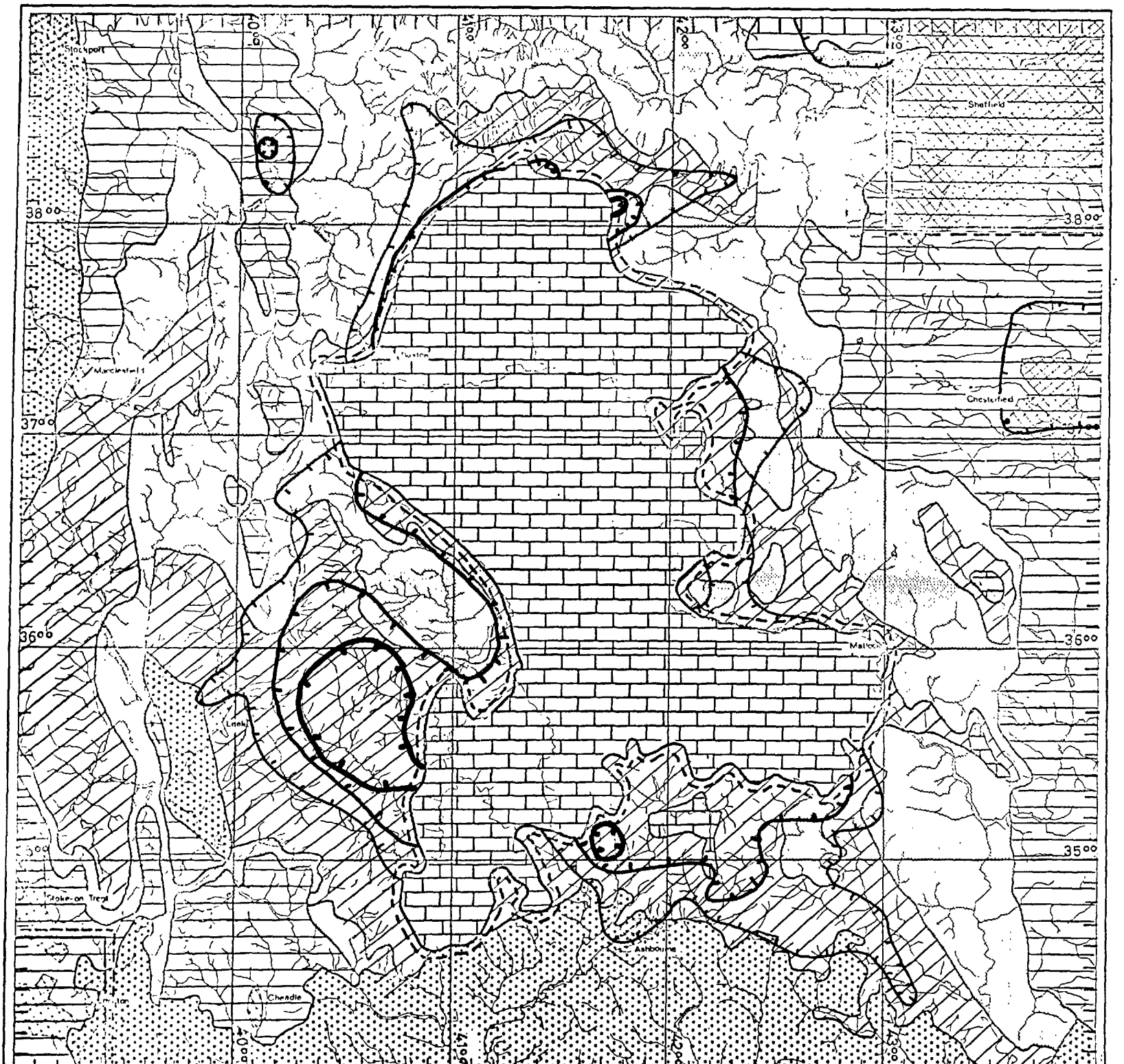
MANGANESE-VARIANCE RATIO
(variance units)

- >4·0
- 2·0–3·9
- 1·0–1·9
- 0·5–0·9

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FIGURE 157



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

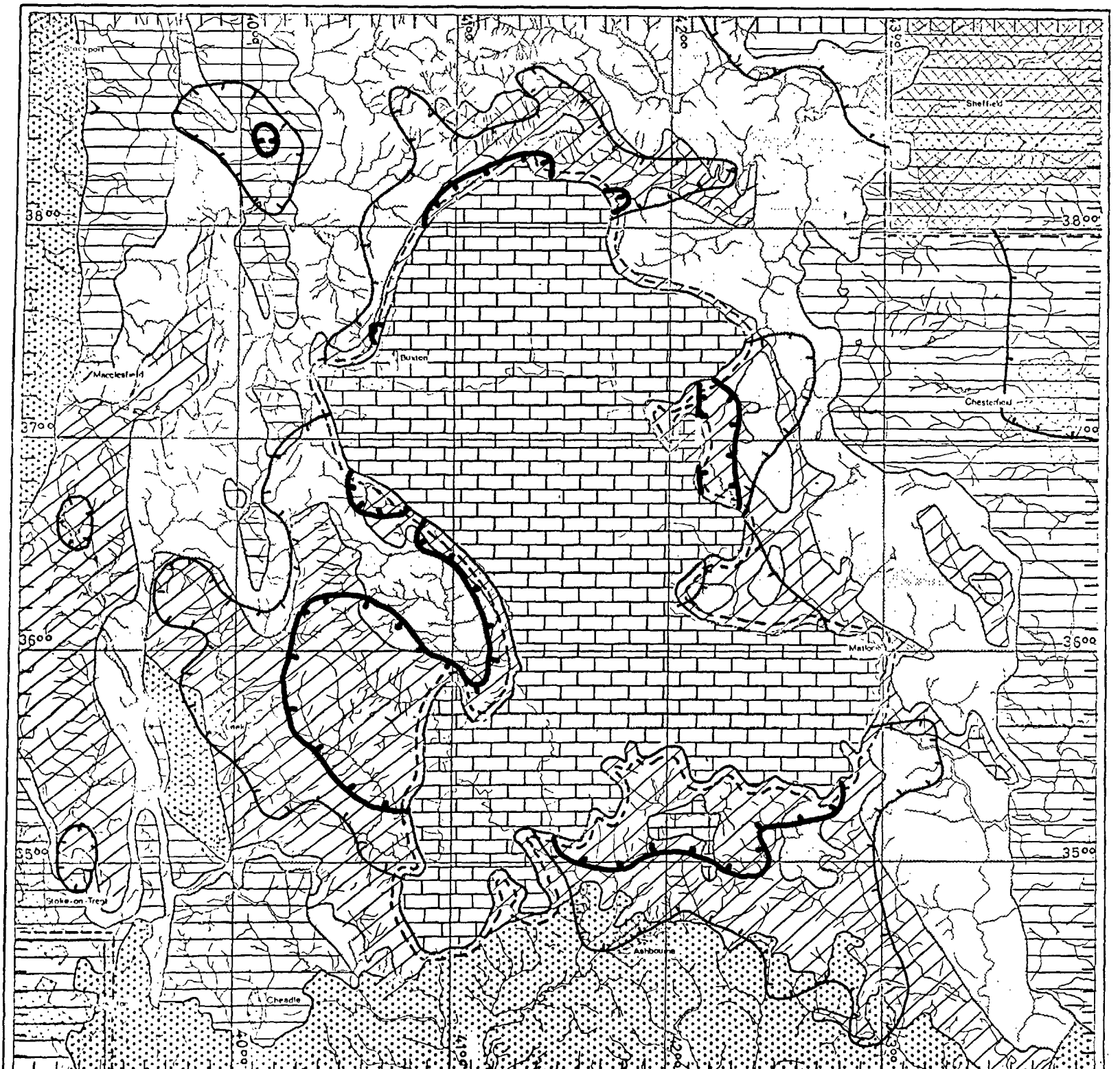
MOLYBDENUM–MOVING AVERAGE
(concentration in ppm)

- >15
- 7–14
- 3–6

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FIGURE 158



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

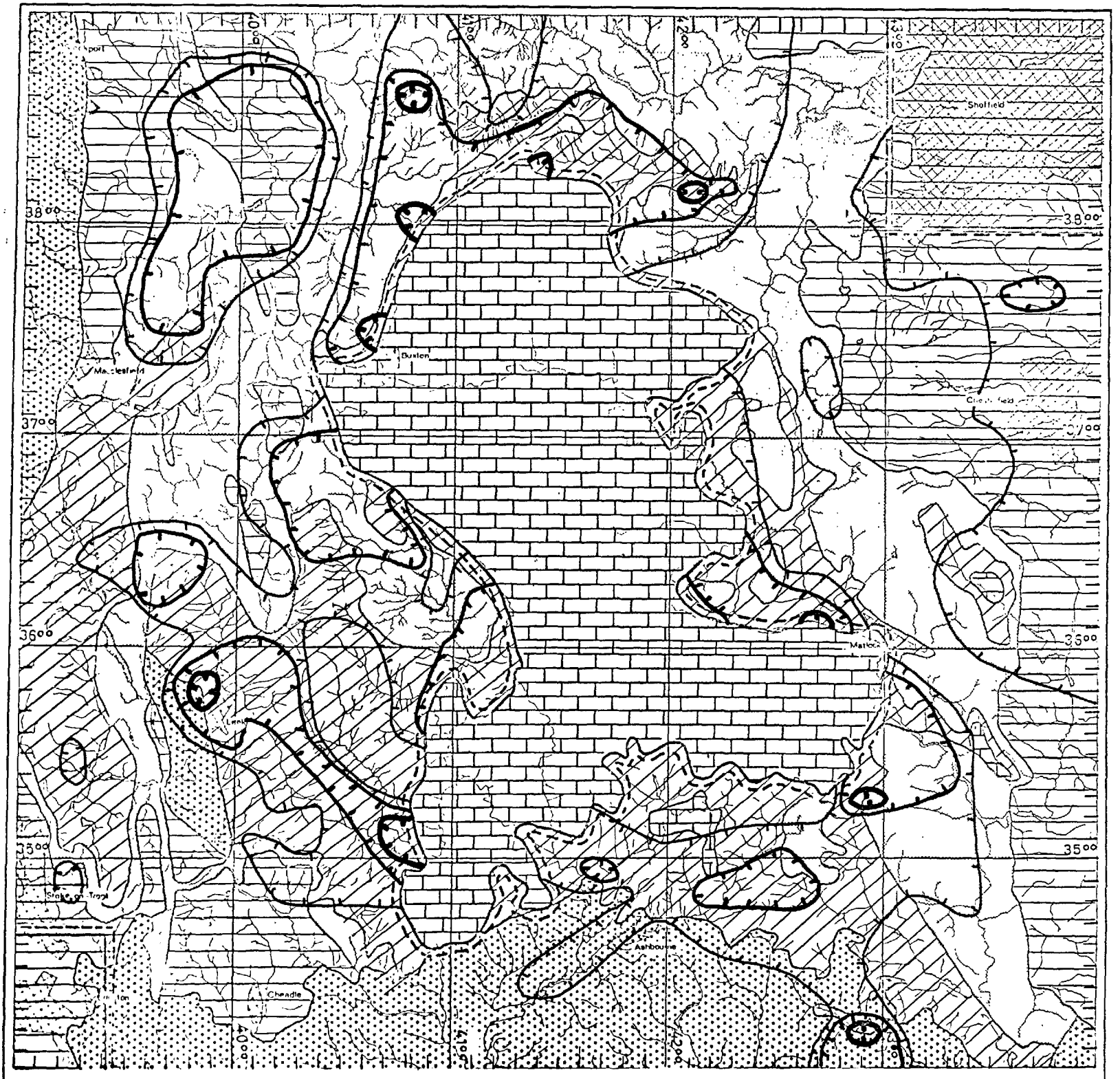
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

MOLYBDENUM–Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·9

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FIGURE 159



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

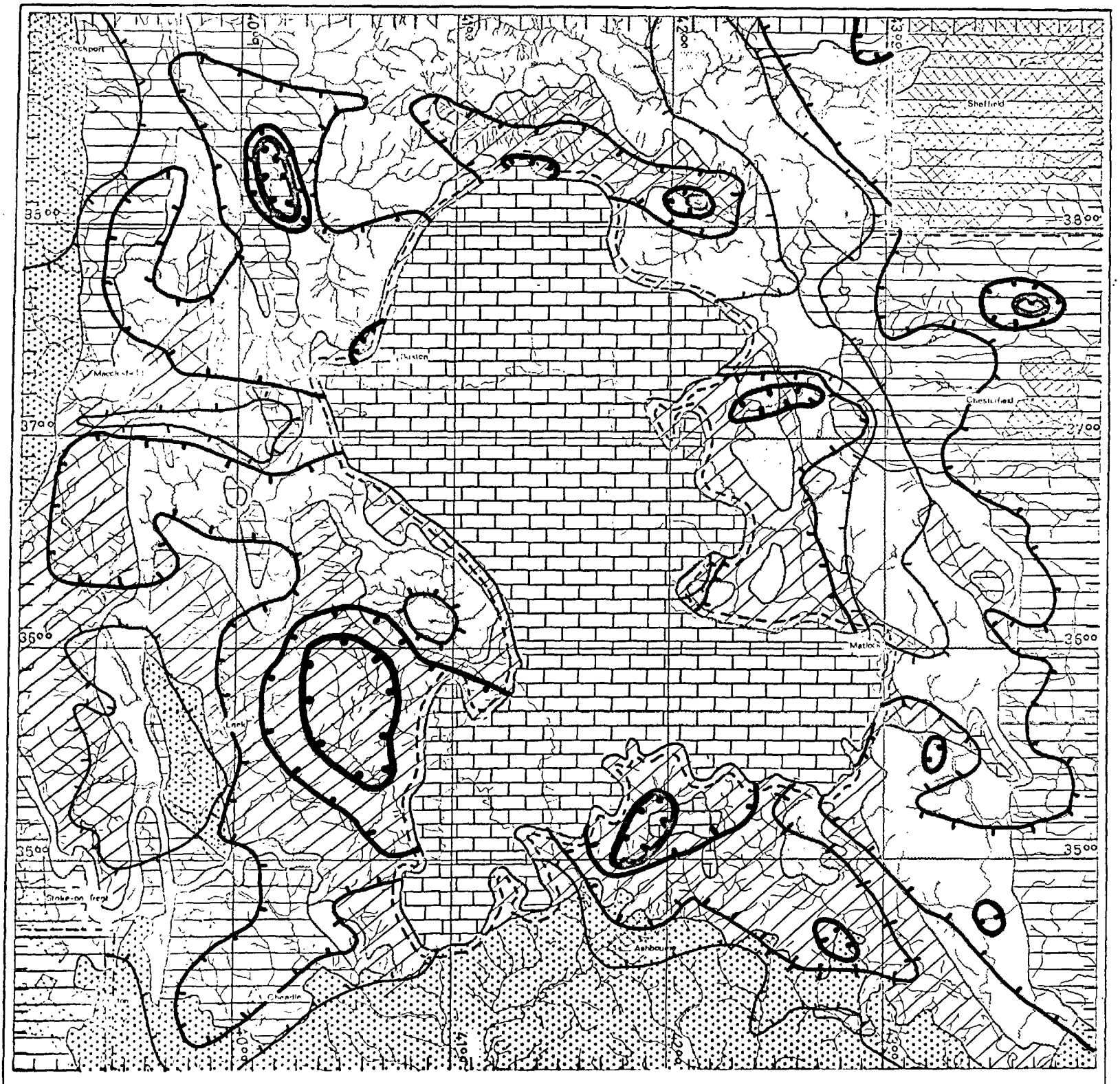
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

MOLYBDENUM – VARIANCE RATIO (variance units)

- >2·0
- 1·0 – 1·9
- 0·5 – 0·9

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FIGURE 160



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

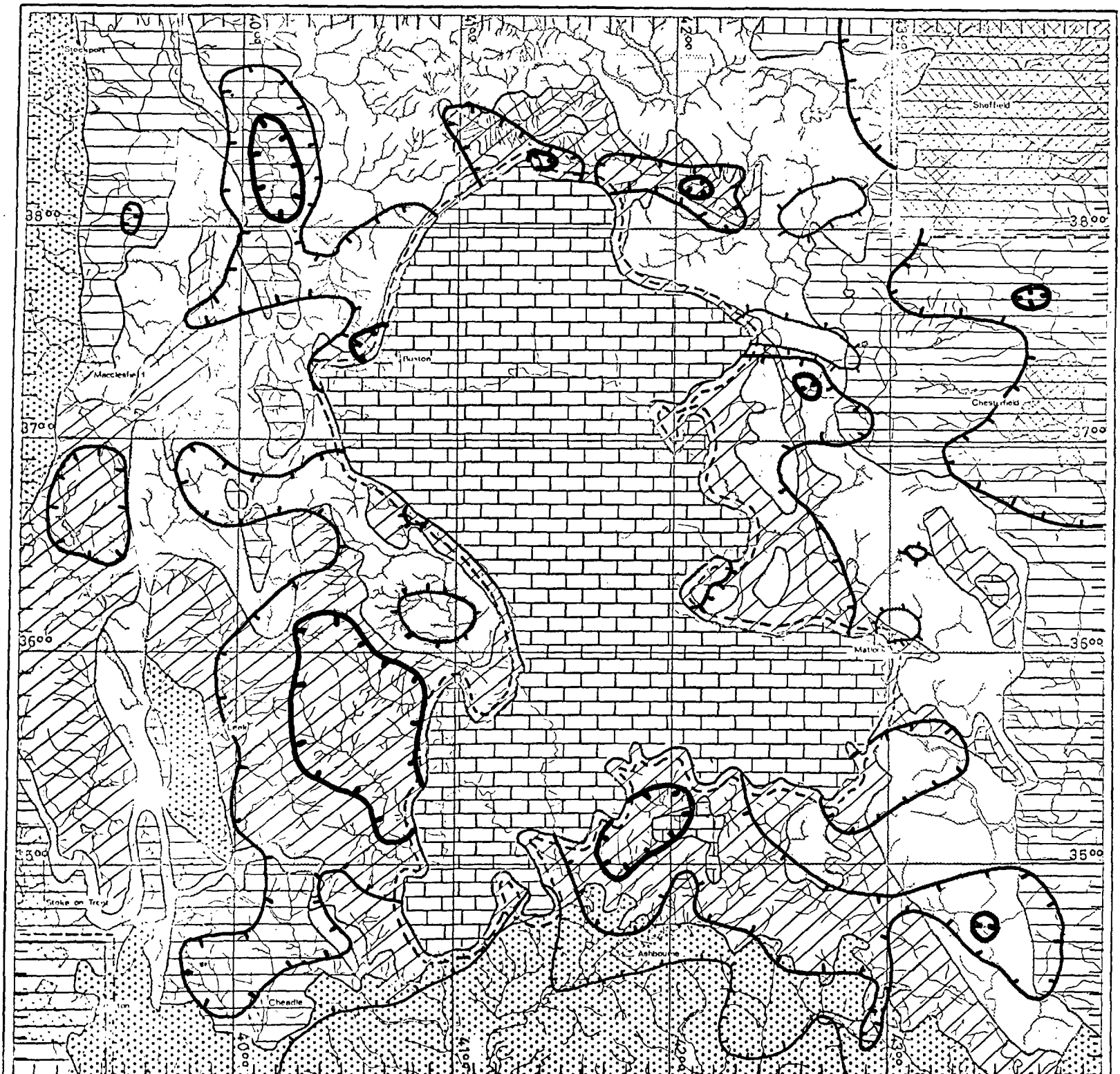
NICKEL – MOVING AVERAGE
(concentration in ppm)

- >100
- 70–99
- 40–49
- 30–39

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FIGURE 161



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

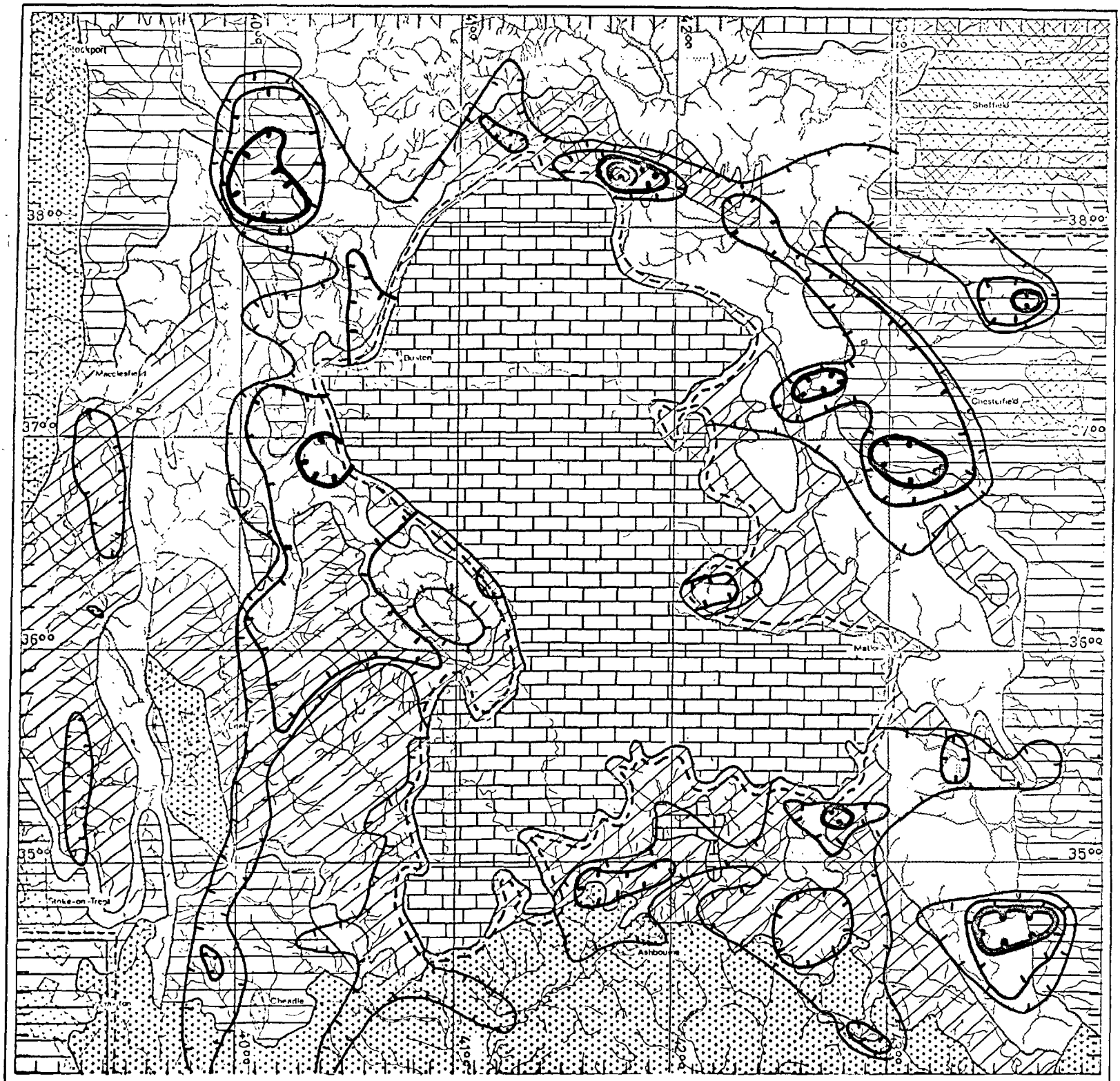
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

NICKEL —Z-VALUES
(standard deviation units)

- > +1·0
- 0·0 to +0·9
- −1·0 to −0·1

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FIGURE 162



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY
DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

NICKEL — VARIANCE RATIO
(variance units)

- >4·0
- 2·0–3·9
- 1·0–1·9
- 0·5–0·9

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FIGURE 163



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

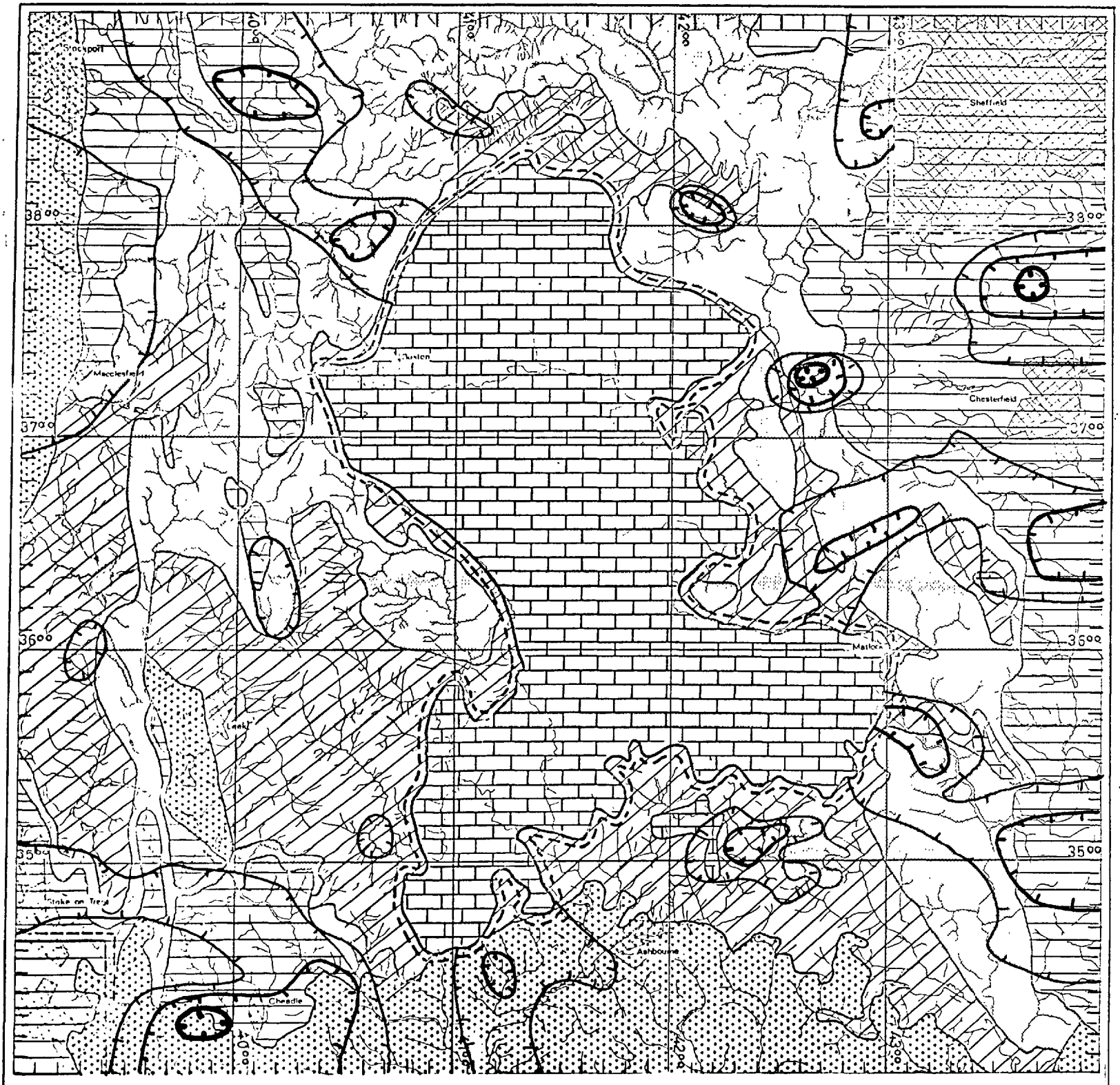
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

TIN — MOVING AVERAGE (concentration in ppm)

- >30
- 15—29
- 6—14

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FIGURE 164



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

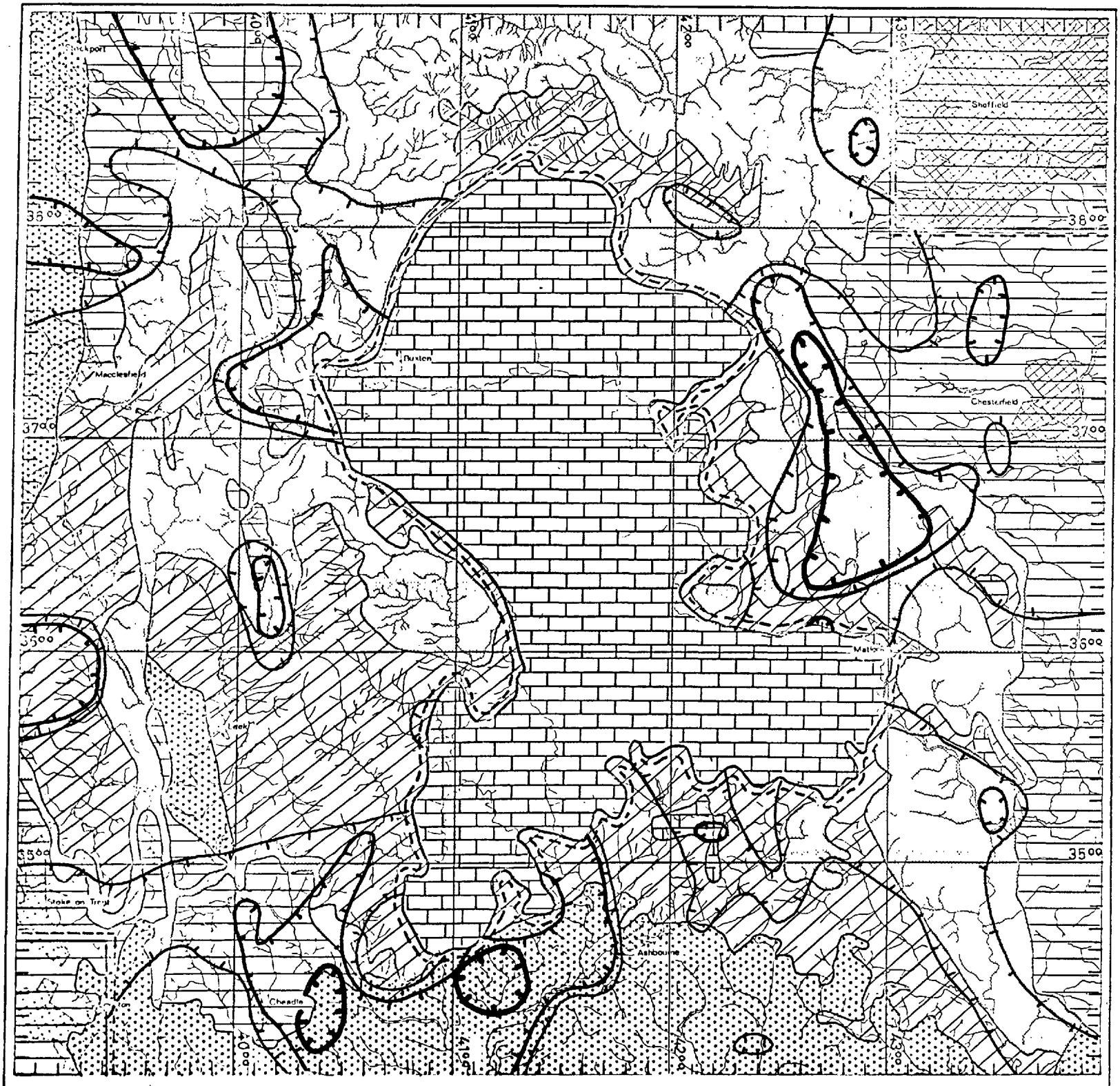
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

TIN—Z-VALUES (standard deviation units)

- > +2·0
- +1·0 to +1·9
- 0·0 to +0·9

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FIGURE 165



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

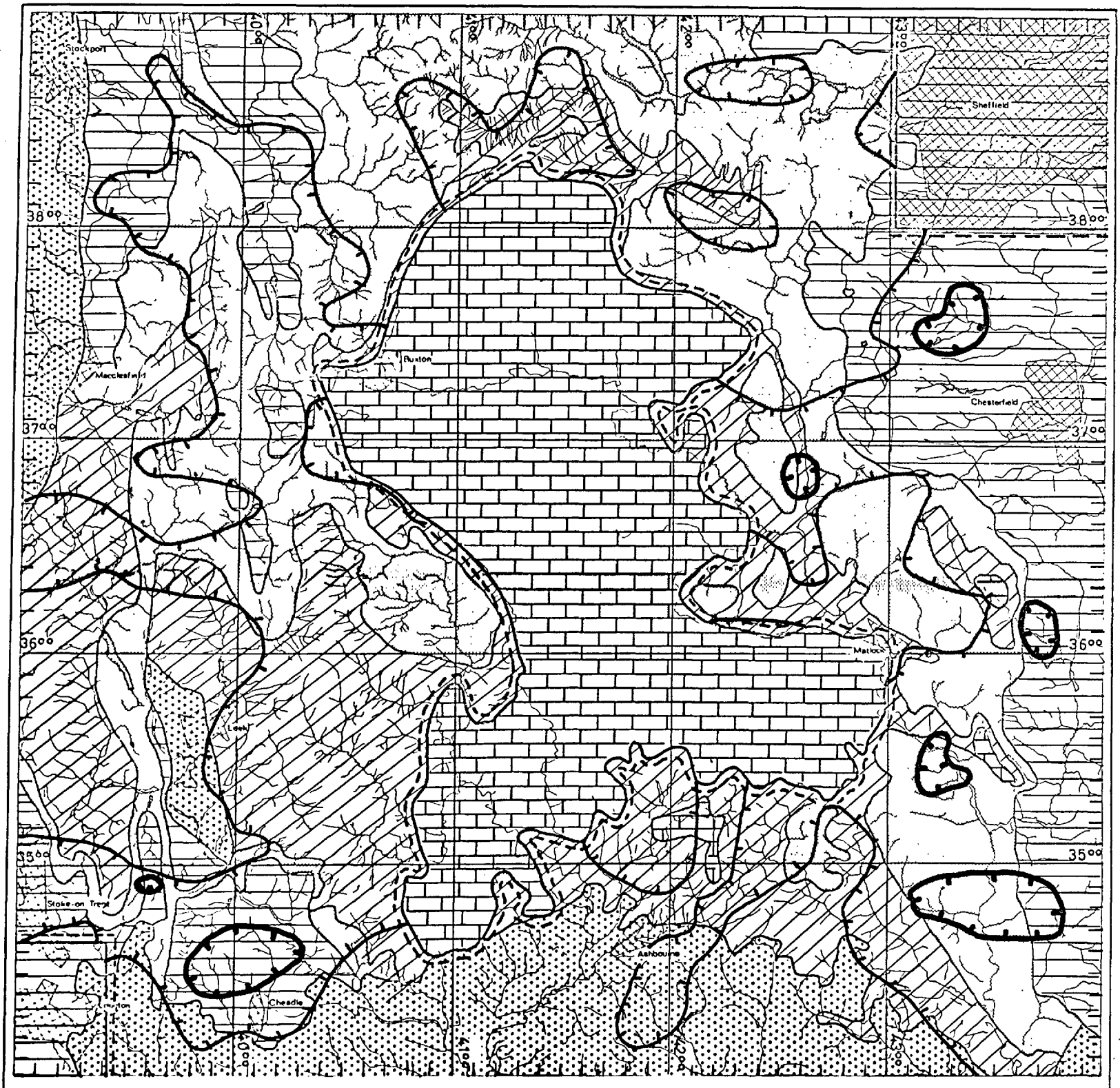
TIN—VARIANCE RATIO
(variance units)

- >4·0
- 2·0—3·9
- 1·0—1·9

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FIGURE 166



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

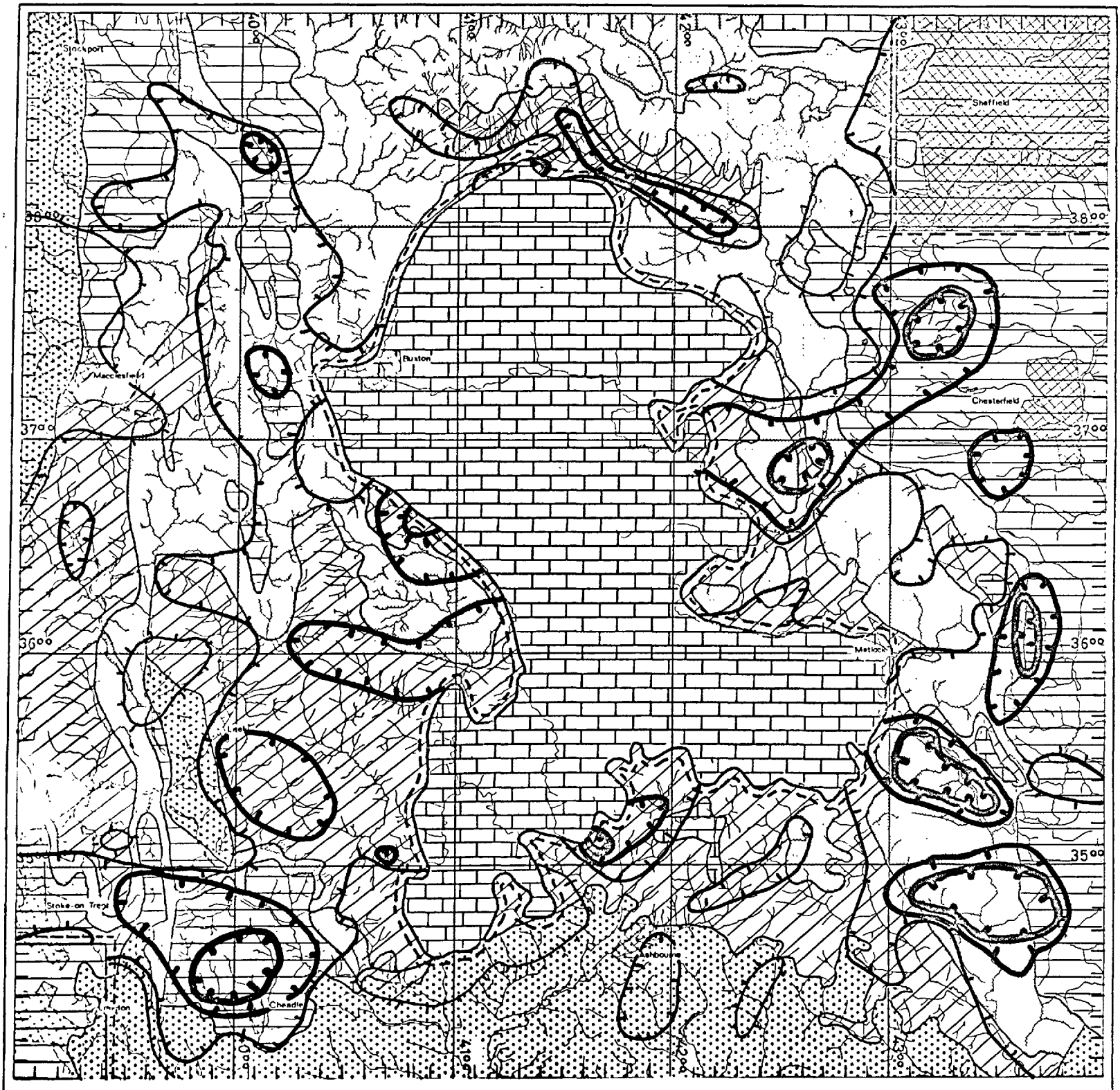
TITANIUM — MOVING AVERAGE (concentration in ppm)

- >3000
- 1500–2999

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FIGURE 167



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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N

0 1 2 3 4
miles

GEOLOGICAL KEY

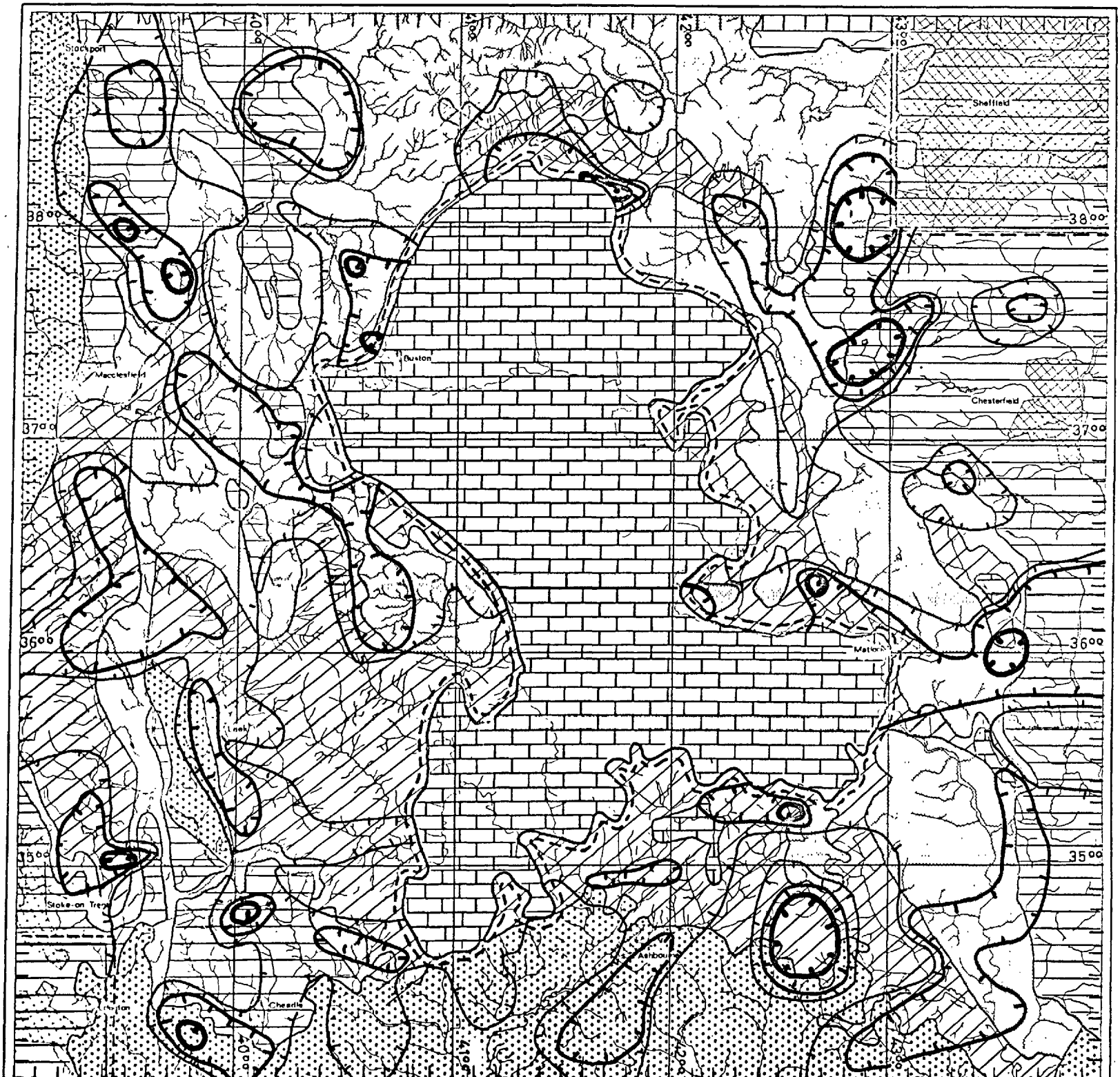
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

TITANIUM — Z-VALUES
(standard deviation units)

- >+1·0
- 0·0 to +0·4
- +0·5 to +0·9
- −1·0 to −0·1

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FIGURE 168



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

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GEOLOGICAL KEY

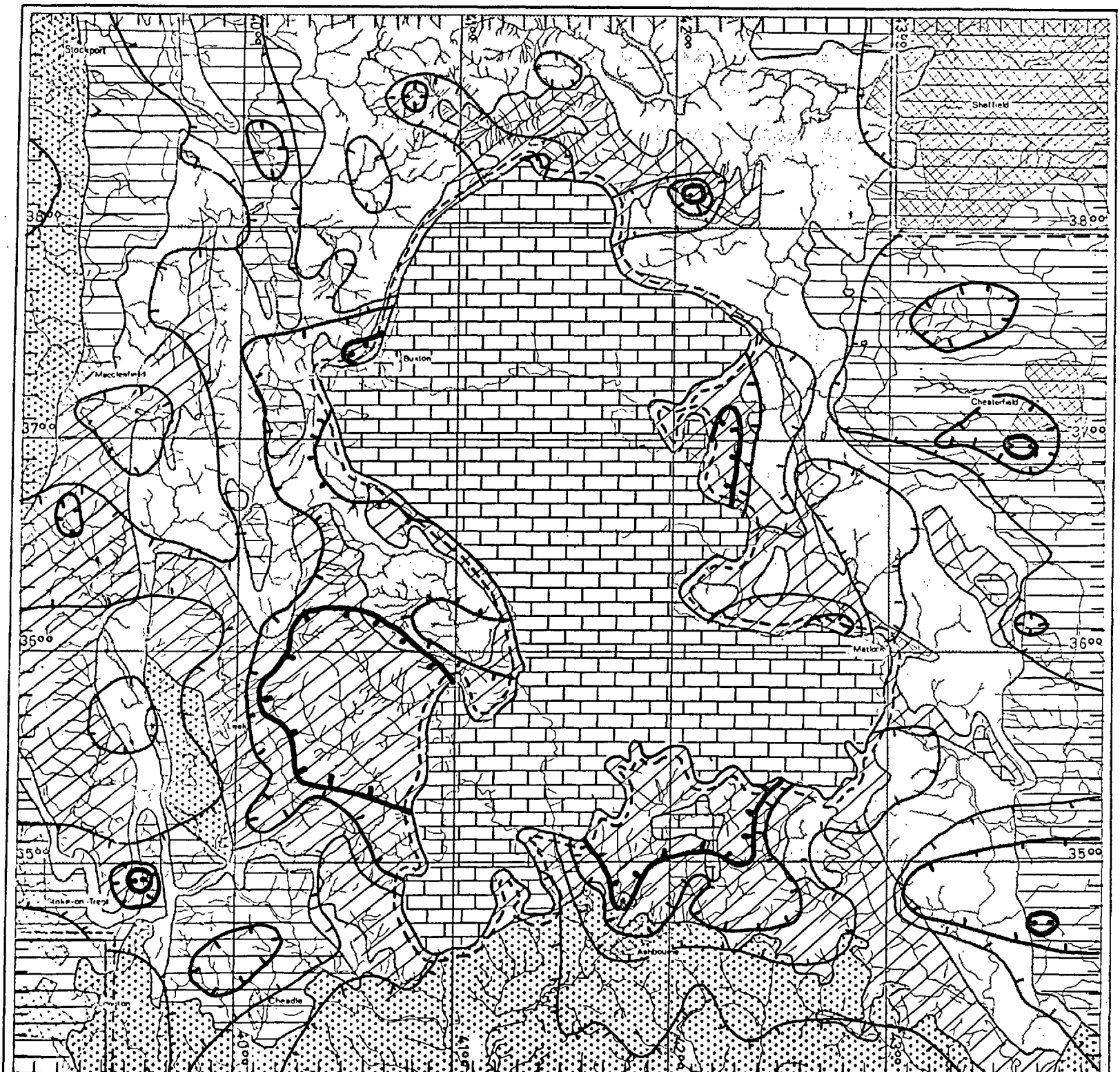
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

TITANIUM—VARIANCE RATIO (variance units)

- >2·0
- 1·0 – 1·9
- 0·5 – 0·9

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FIGURE 169



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

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GEOLOGICAL KEY

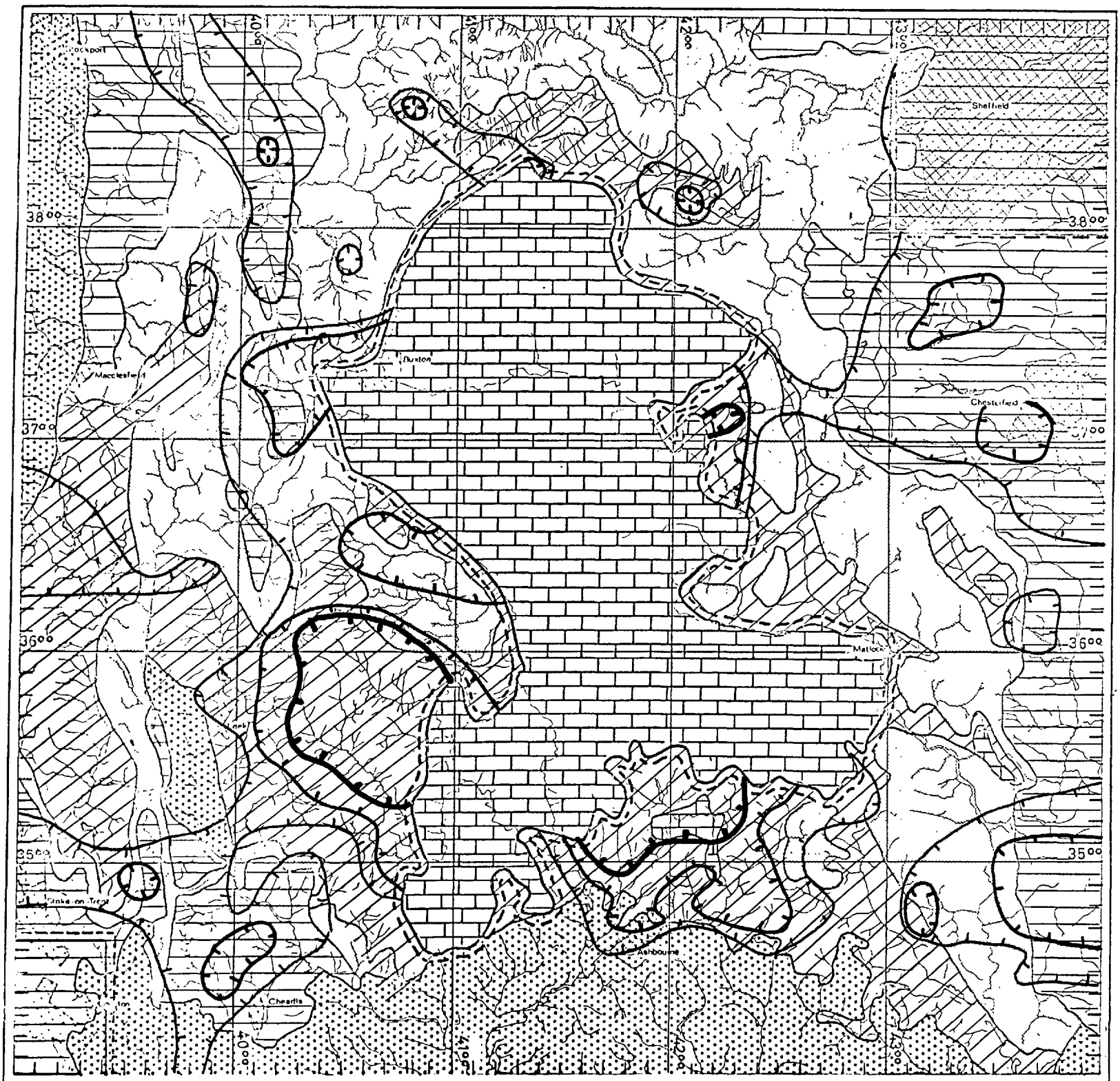
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

VANADIUM — MOVING AVERAGE (concentration in ppm)

- >90
- 70–89
- 50–69

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FIGURE 170



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

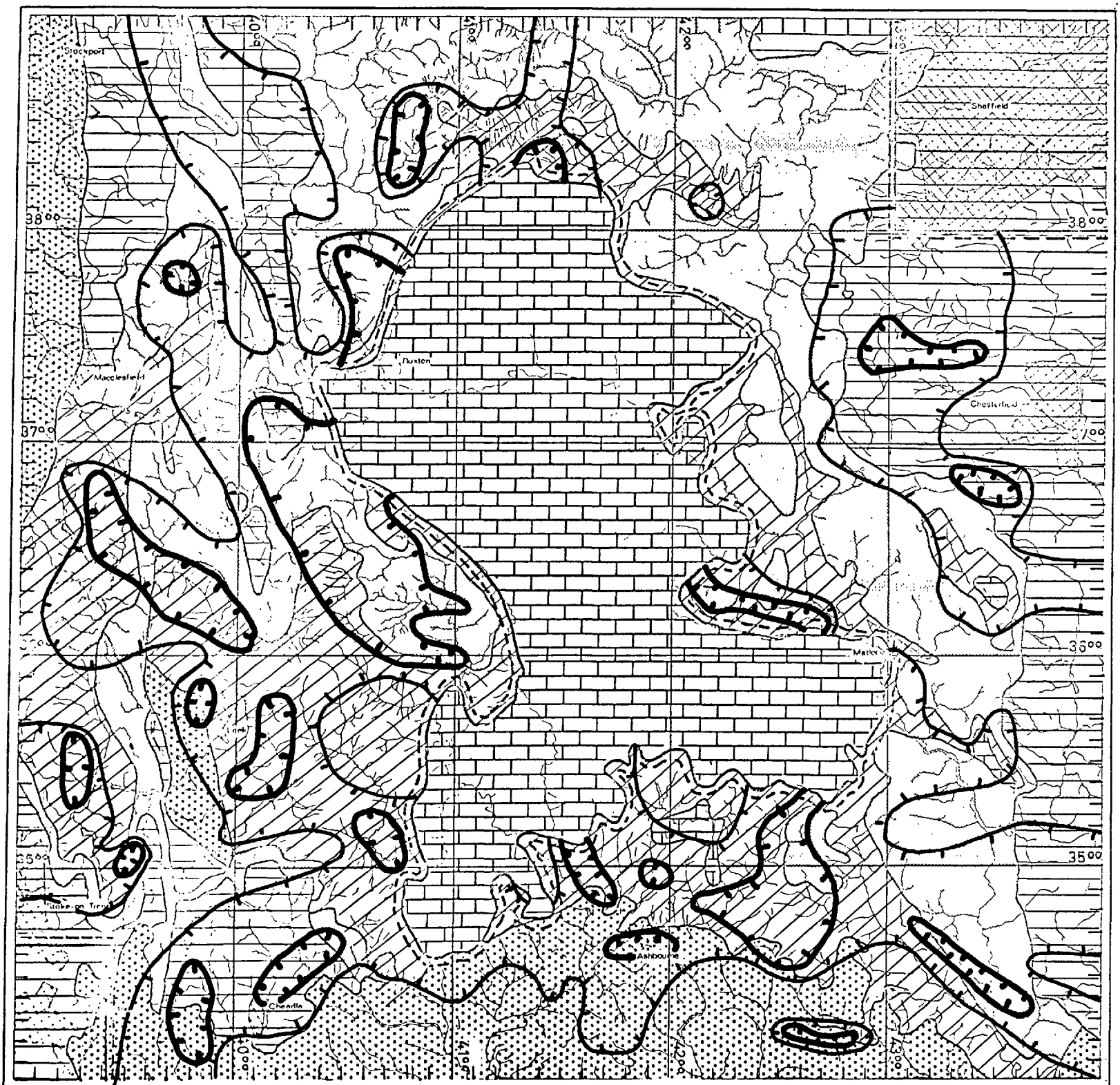
VANADIUM —Z-VALUES
(standard deviation units)

- >+1·0
- +0·5 to +0·9
- 0·0 to +0·4

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FIGURE 171



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

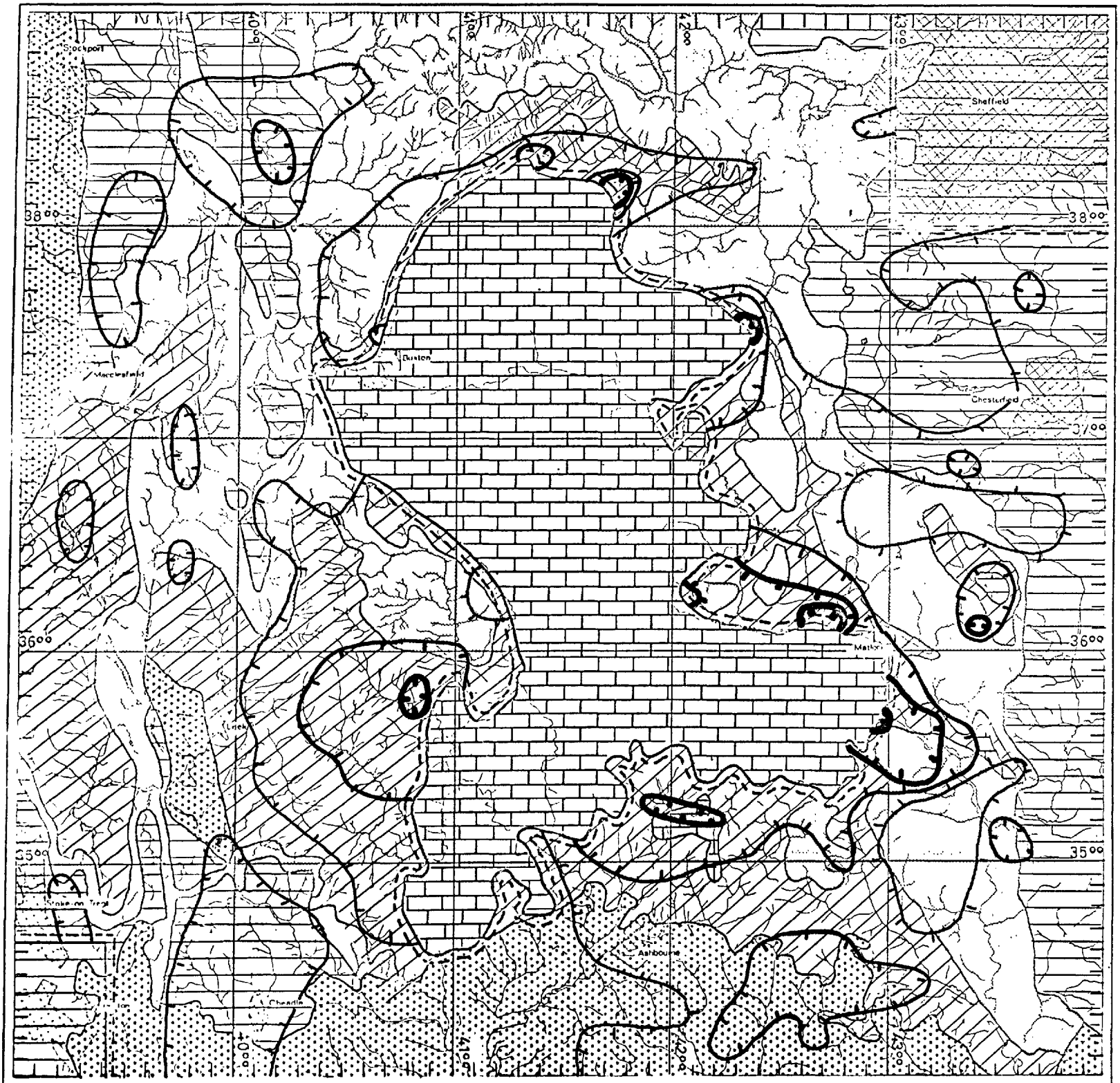
VANADIUM —VARIANCE RATIO
(variance units)

- >1·0
- 0·4—0·9

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FIGURE 172



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

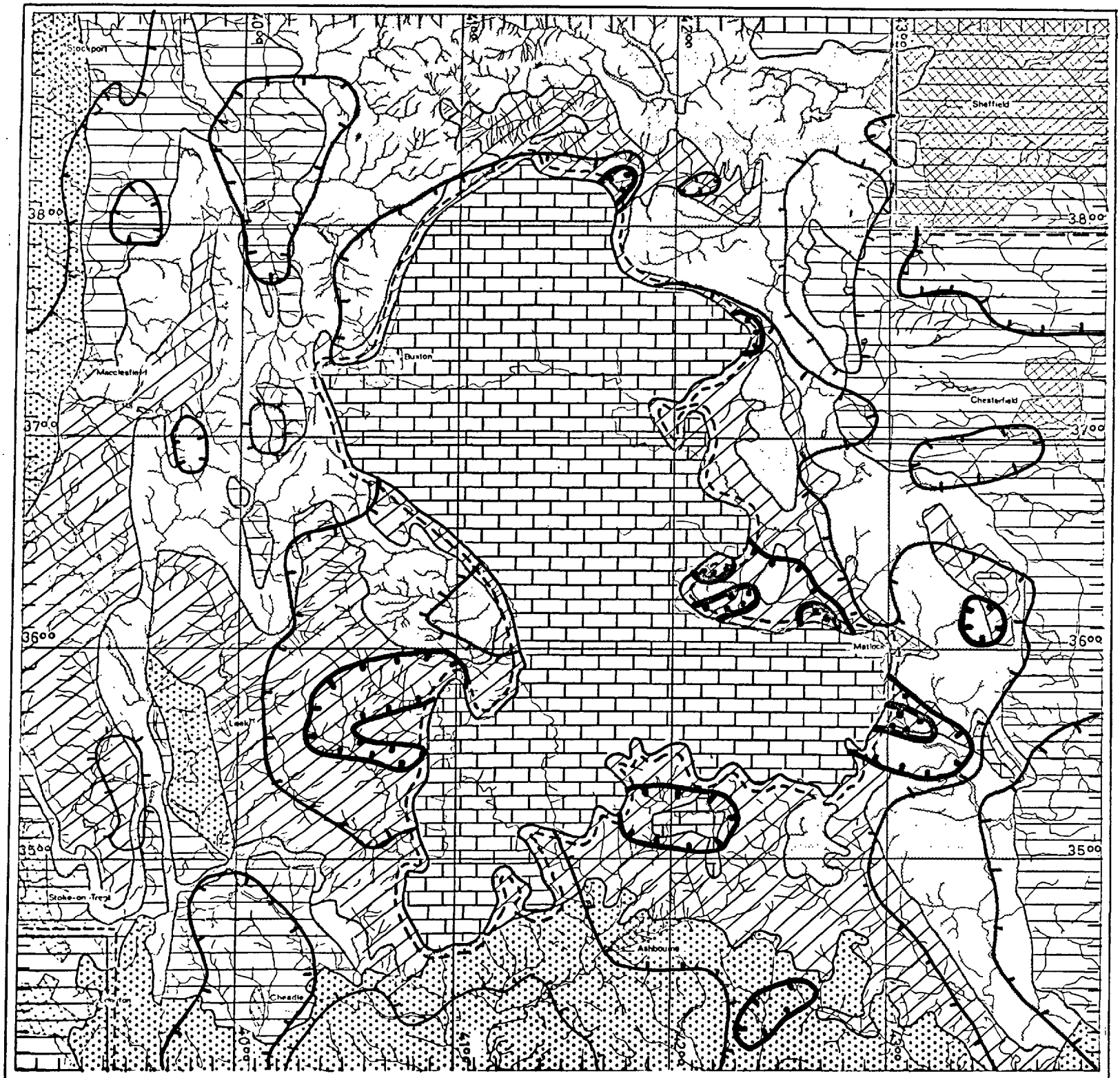
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

ZINC—MOVING AVERAGE (concentration in ppm)

- >1500
- 700–1499
- 300–699
- 150–299

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FIGURE 173



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

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GEOLOGICAL KEY

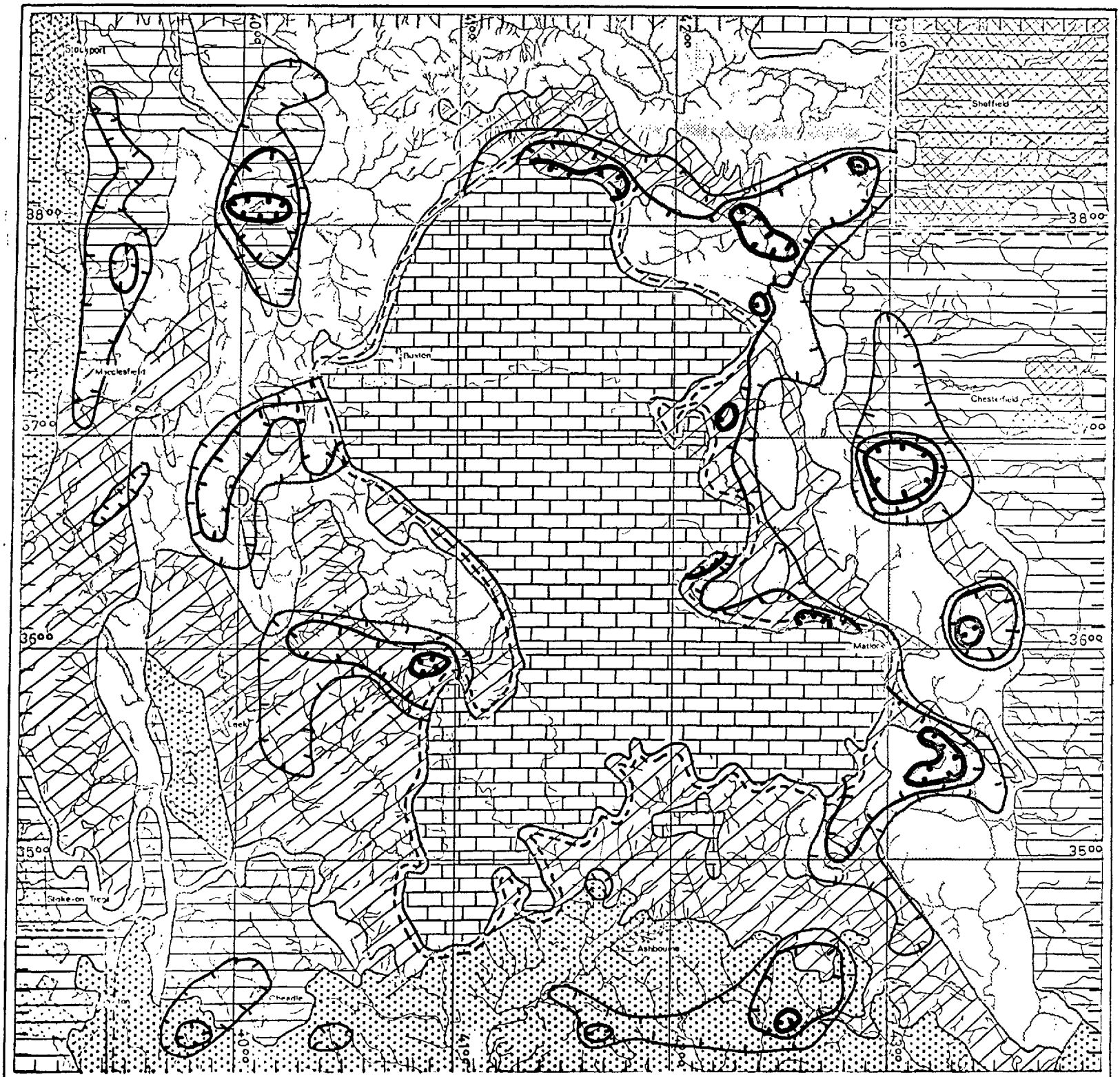
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

ZINC—Z-VALUES (standard deviation units)

- >+2·0
- 0·0 to +0·9
- +1·0 to +1·9
- −1·0 to −0·1

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FIGURE 174



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

ZINC—VARIANCE RATIO
(variance units)

- >2·0
- 1·0—1·9
- 0·5—0·9

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FIGURE 175

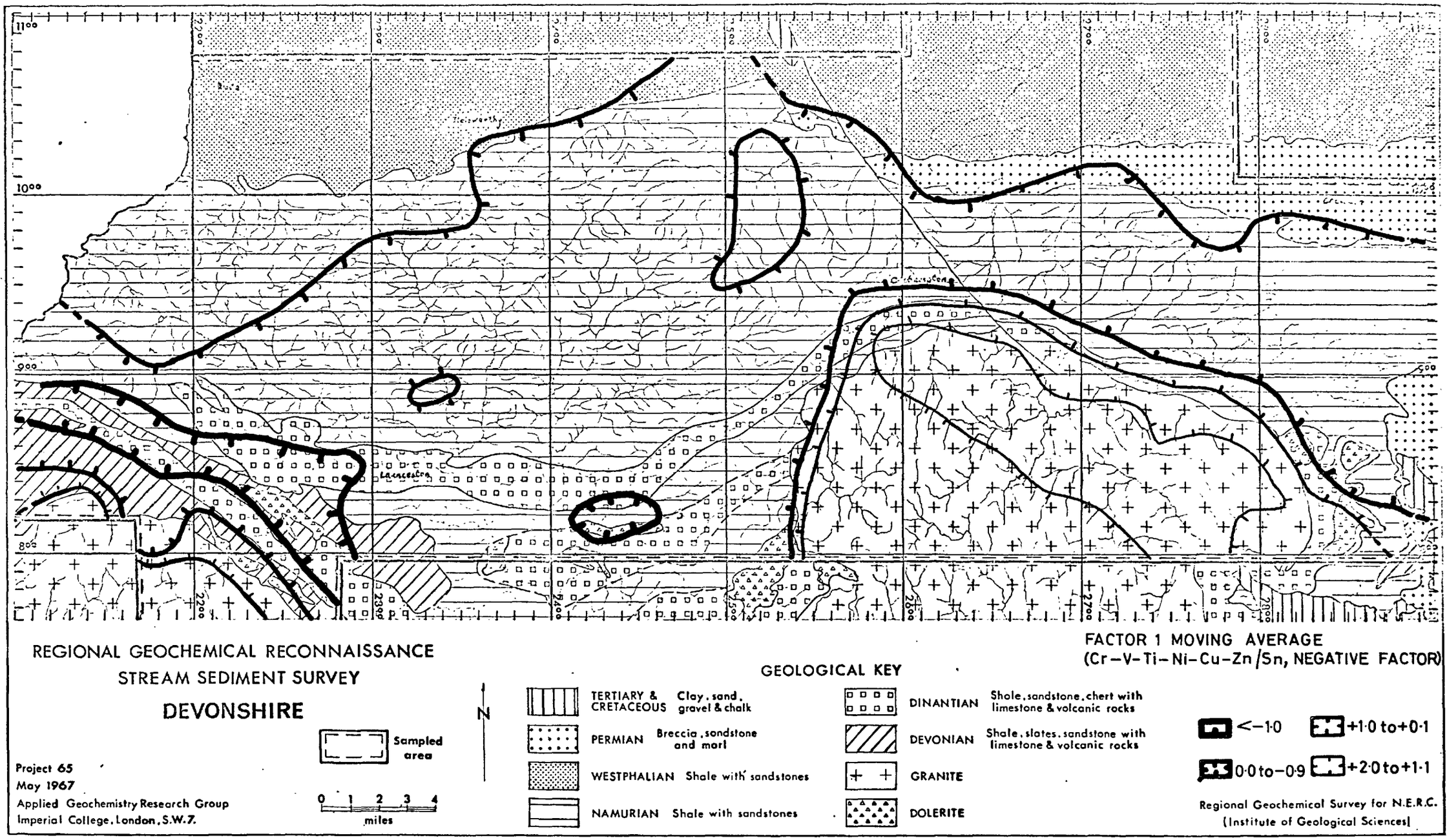
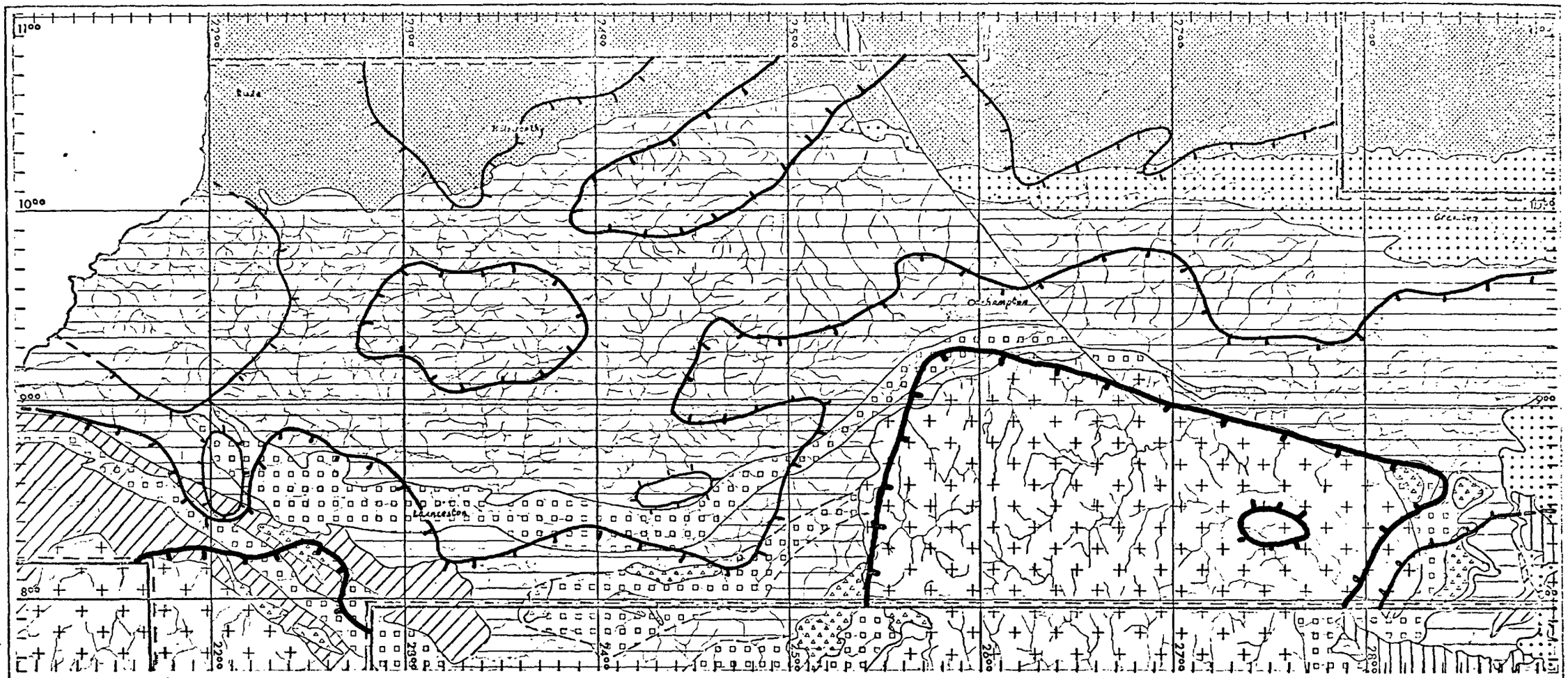

REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY
DEVONSHIRE
Sampled area
Project 65
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Imperial College, London, S.W.7.
0 1 2 3 4
miles
N
GEOLOGICAL KEY
TERTIARY & CRETACEOUS Clay, sand, gravel & chalk
PERMIAN Breccia, sandstone and marl
WESTPHALIAN Shale with sandstones
NAMURIAN Shale with sandstones
DINANTIAN Shale, sandstone, chert with limestone & volcanic rocks
DEVONIAN Shale, slates, sandstone with limestone & volcanic rocks
GRANITE
DOLERITE
FACTOR 1 MOVING AVERAGE
(Cr–V–Ti–Ni–Cu–Zn/Sn, NEGATIVE FACTOR)
<–1·0
+1·0 to +0·1
0·0 to –0·9
+2·0 to +1·1
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FIGURE 176



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

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N

GEOLOGICAL KEY

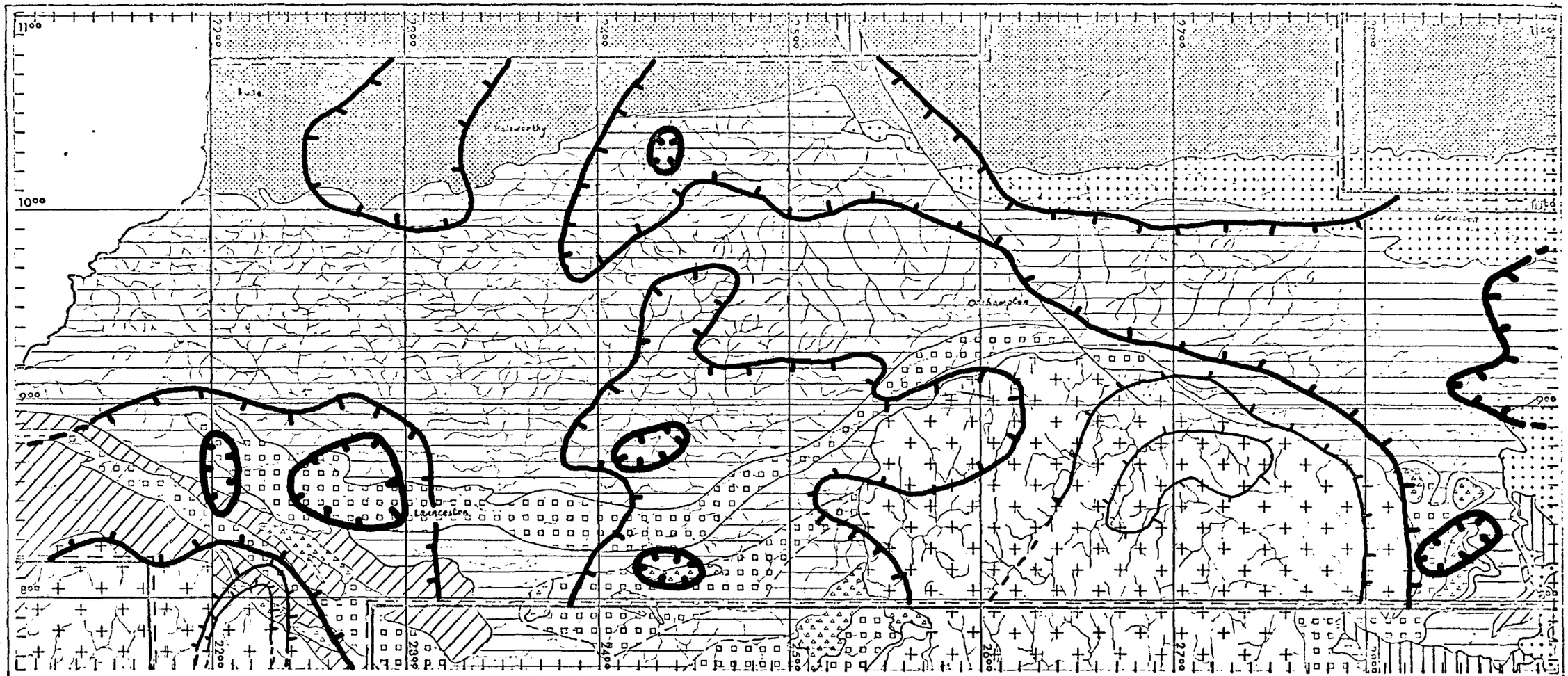
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

FACTOR 2 MOVING AVERAGE
(Ga–Sn–(Ti–Fe), POSITIVE FACTOR)

- >+1·0
- 0·0 to +0·9
- −1·0 to −0·1

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FIGURE 177



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

N

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

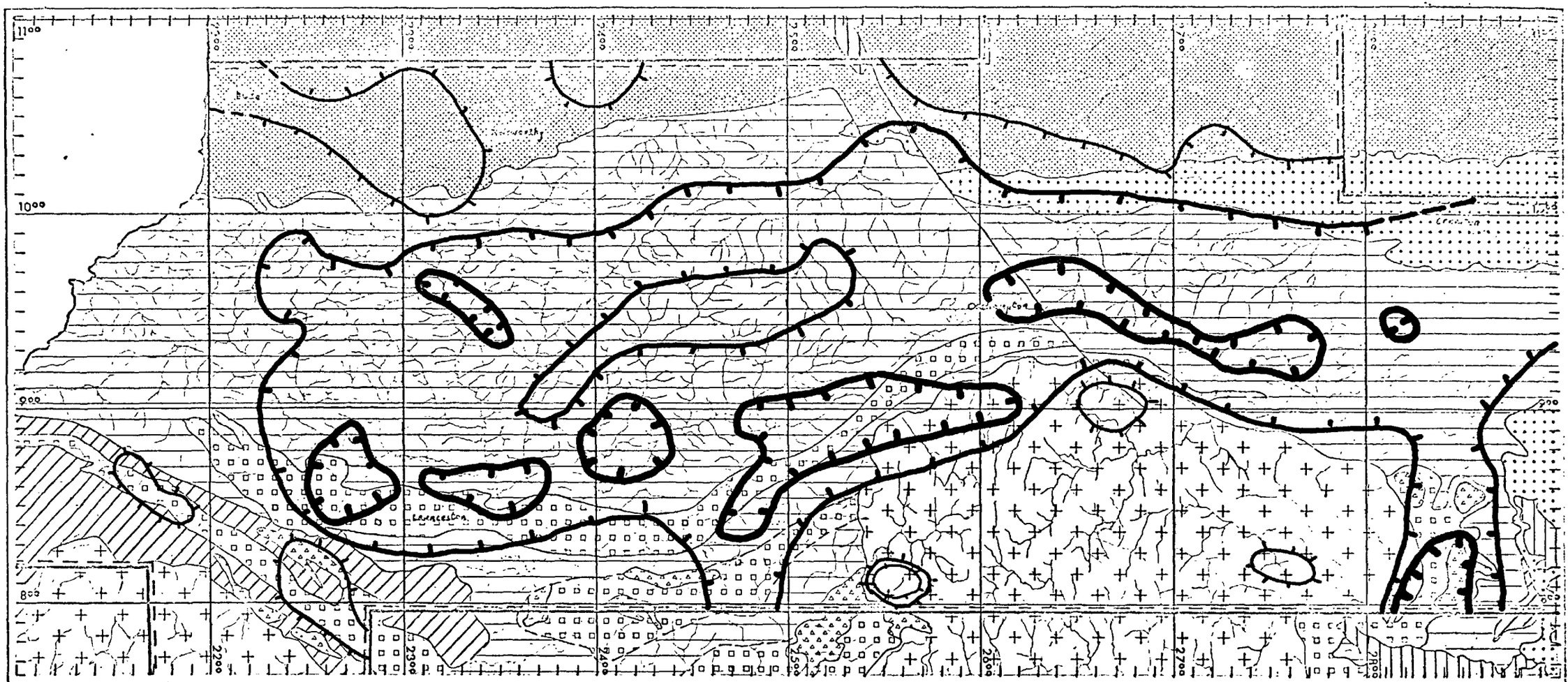
FACTOR 3 MOVING AVERAGE
(Co-Mn-Fe-Ni-(Zn), POSITIVE FACTOR)

- >+1·0
- +0·0 to +0·9
- −1·0 to −0·1
- −2·0 to −1·1

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FIGURE 178



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

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N

GEOLOGICAL KEY

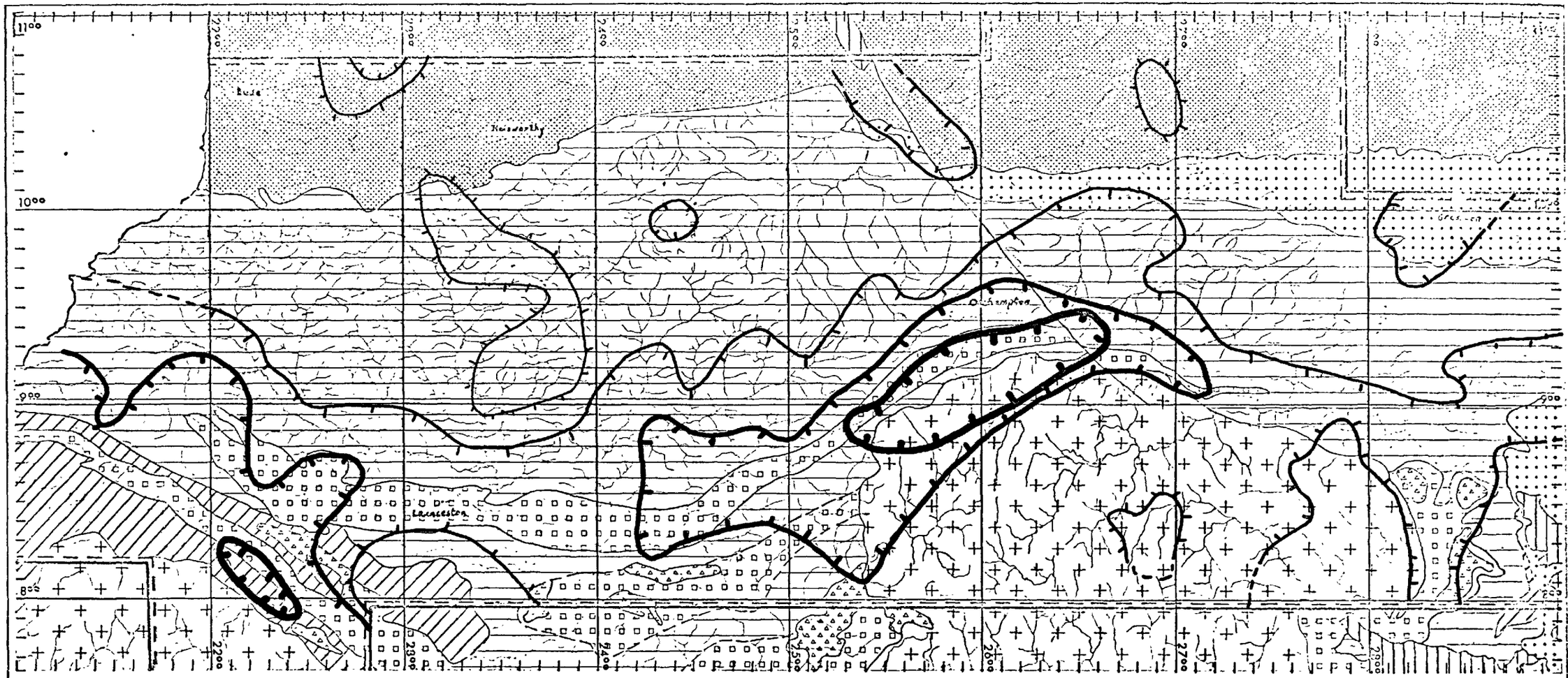
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

FACTOR 4 MOVING AVERAGE
(Mo-Cu-(Fe), POSITIVE FACTOR)

- >+1·0
- +0·0 to +0·9
- −1·0 to −0·1
- −2·0 to −1·1

Regional Geochemicol Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 179



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4
miles

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

GEOLOGICAL KEY

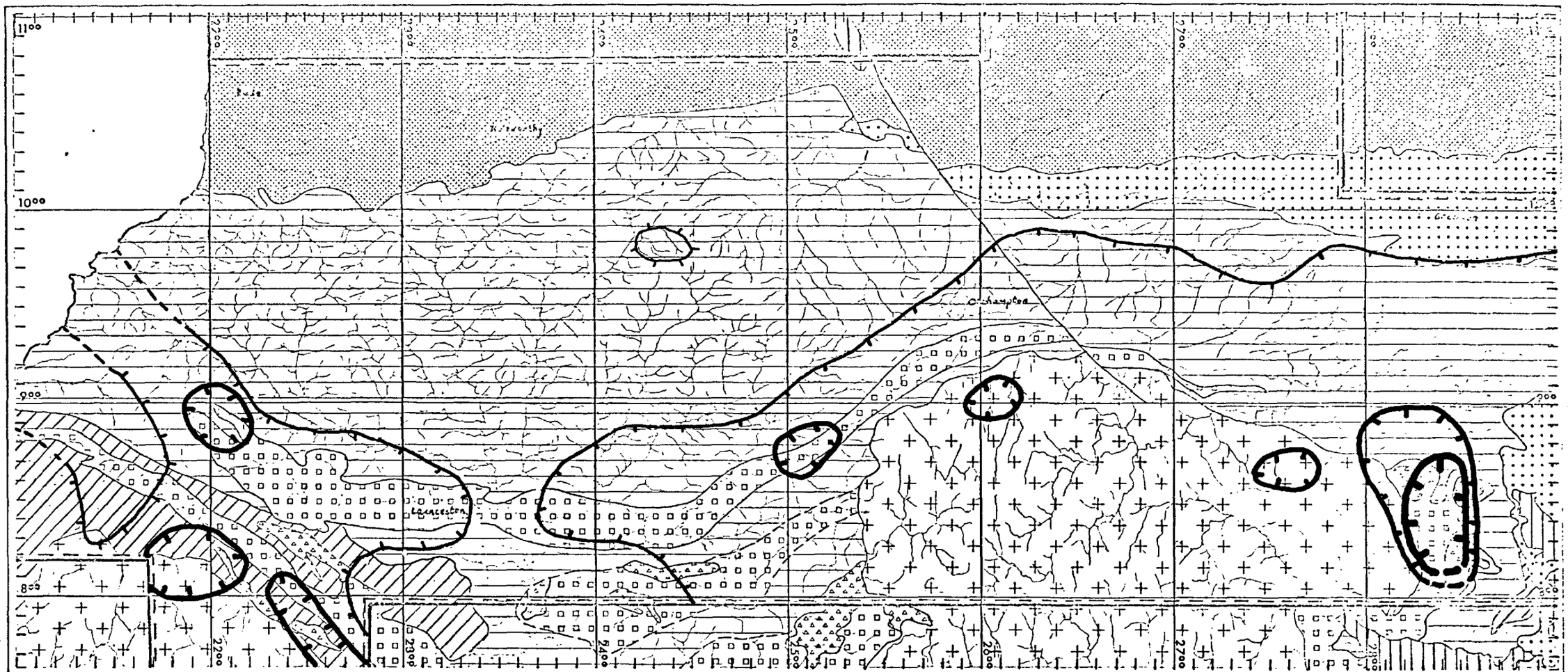
- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

FACTOR 5 MOVING AVERAGE
(As-Sn-(Cn), POSITIVE FACTOR)

- >+2·0
- 0·0 to +0·9
- +1·0 to +1·9
- -1·0 to -0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 180



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DEVONSHIRE

Sampled area

0 1 2 3 4 miles

N

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May 1967
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Imperial College, London, S.W.7.

GEOLOGICAL KEY

- TERTIARY & CRETACEOUS — Clay, sand, gravel & chalk
- PERMIAN — Breccia, sandstone and marl
- WESTPHALIAN — Shale with sandstones
- NAMURIAN — Shale with sandstones
- DINANTIAN — Shale, sandstone, chert with limestone & volcanic rocks
- DEVONIAN — Shale, slates, sandstone with limestone & volcanic rocks
- GRANITE
- DOLERITE

FACTOR 6 MOVING AVERAGE
(Pb-Zn-Cu-(Sn), POSITIVE FACTOR)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9
- -1·0 to -0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 181



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

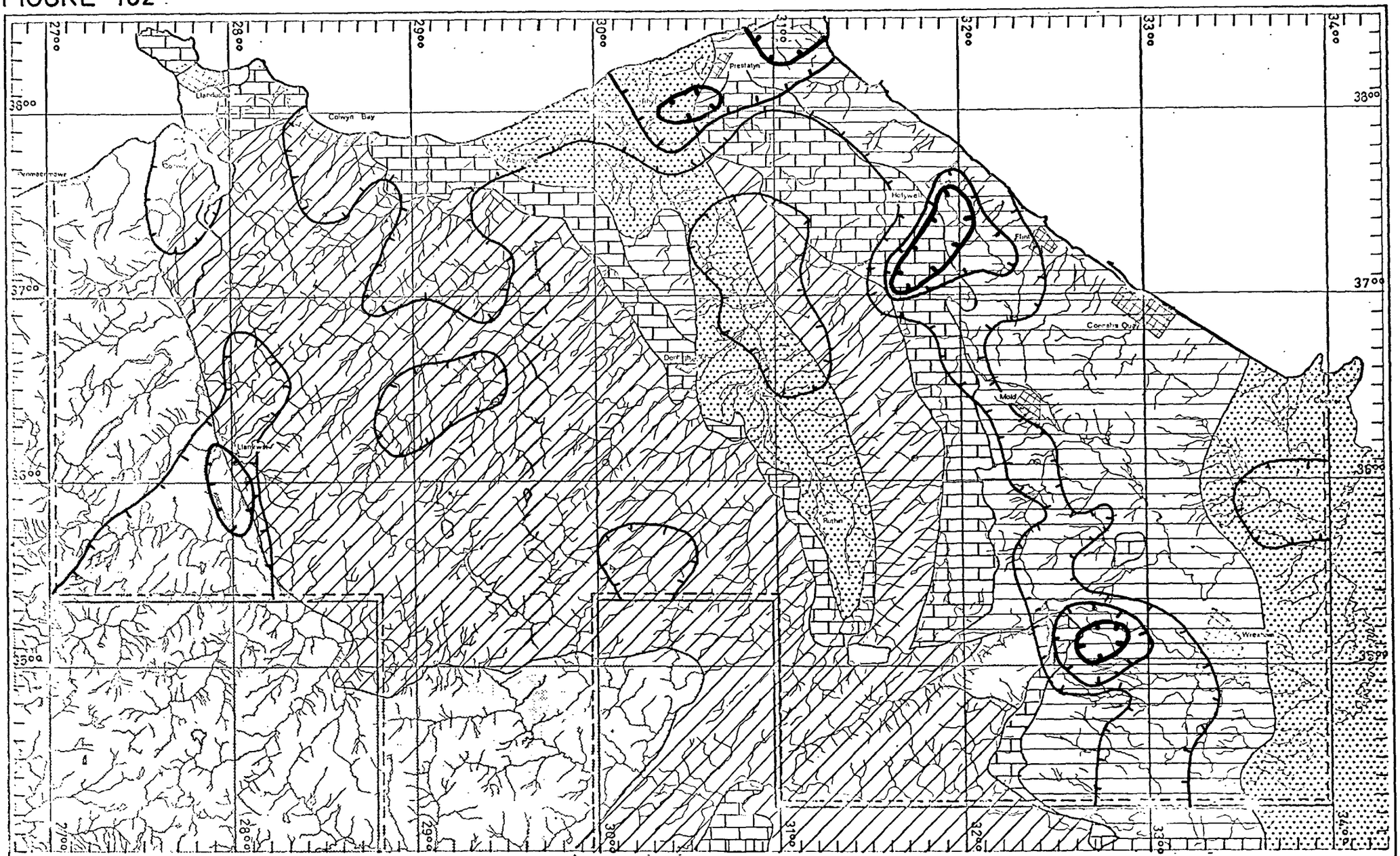
PERMO-TRIASSIC (Red sandstones with subordinate shales)
SILESIAN (Shales, sandstones, seat-clay and coal)
DINANTIAN (Limestones with subordinate shales and cherts)
SILURIAN (Soapy mudstones with subordinate sandstones)
ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 1 – MOVING AVERAGE
(untransformed data, Ga–V–Ti–Fe–(Ni), +ve)

>+1·0
0·0 to +0·6
+0·7 to +0·9
–1·0 to –0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 182



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

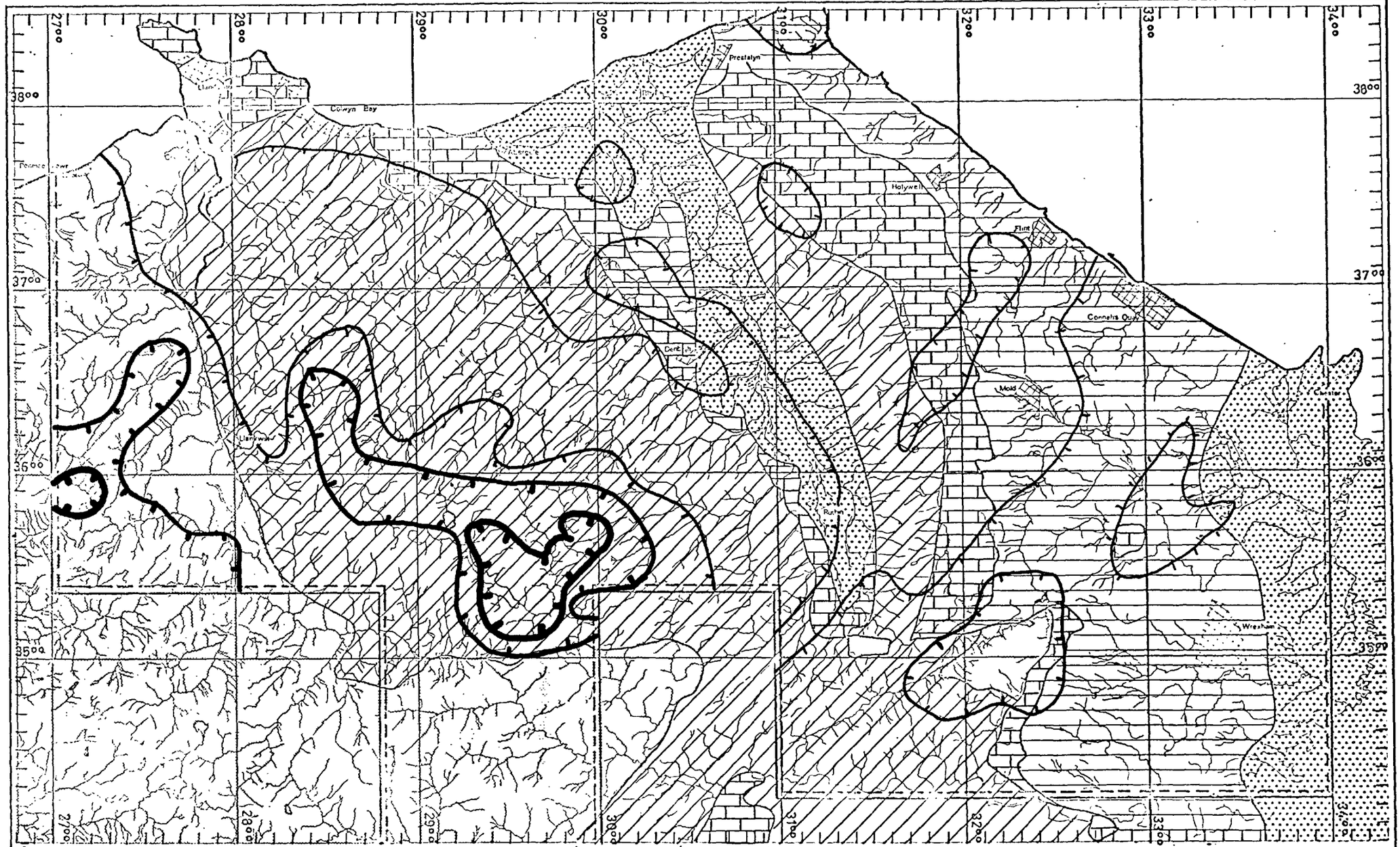
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN, (Limestones with subordinate shales and cherts)
- SILURIAN (Soopy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 2—MOVING AVERAGE
(untransformed data, Ag–Pb–Zn, +ve)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 183



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

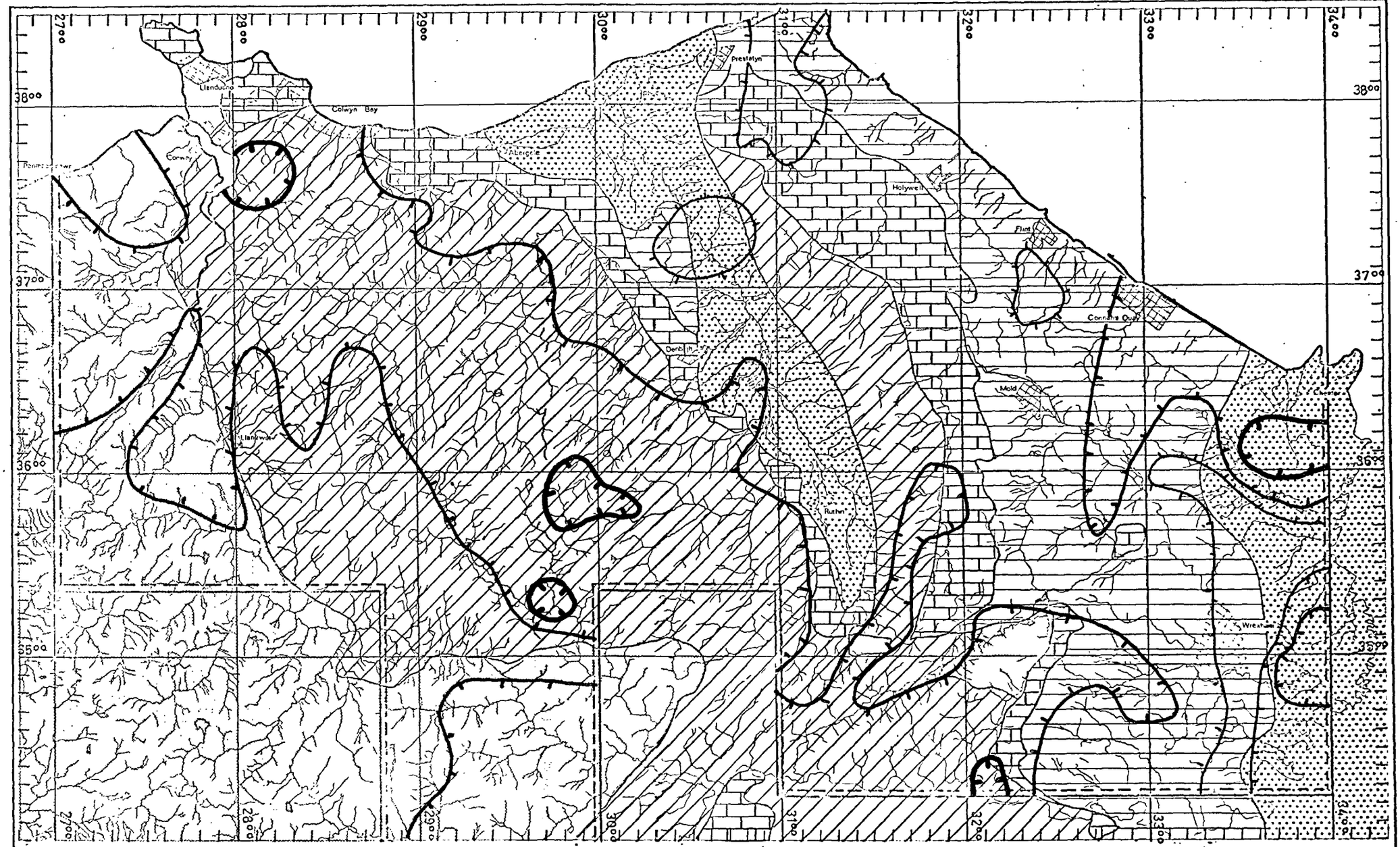
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 3 — MOVING AVERAGE
(untransformed data, Mn–Co–As–Fe–(Ni), +ve)

- > +2·0
- +1·0 to +1·9
- 0·0 to +0·9
- −0·3 to −0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 184



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

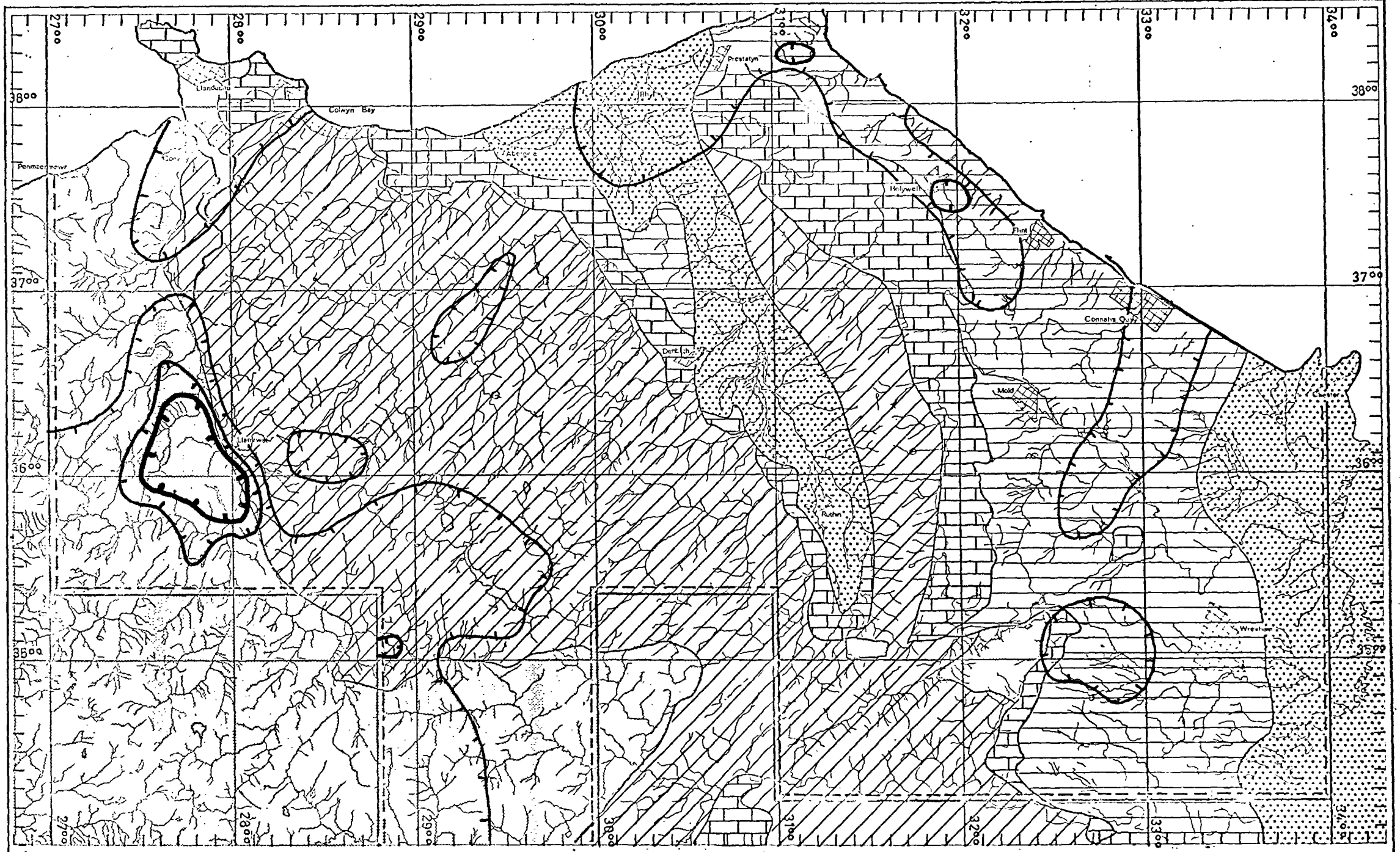
PERMO-TRIASSIC (Red sandstones with subordinate shales)
SILESIAN (Shales, sandstones, seat-clay and coal)
DINANTIAN (Limestones with subordinate shales and cherts)
SILURIAN (Soapy mudstones with subordinate sandstones)
ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 4 — MOVING AVERAGE
(untransformed data, Cr—Ni—Cu, +ve)

> +1·0
0·0 to +0·9
−0·5 to −0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 185



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

N

0 1 2 3 4
miles

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

GEOLOGICAL KEY

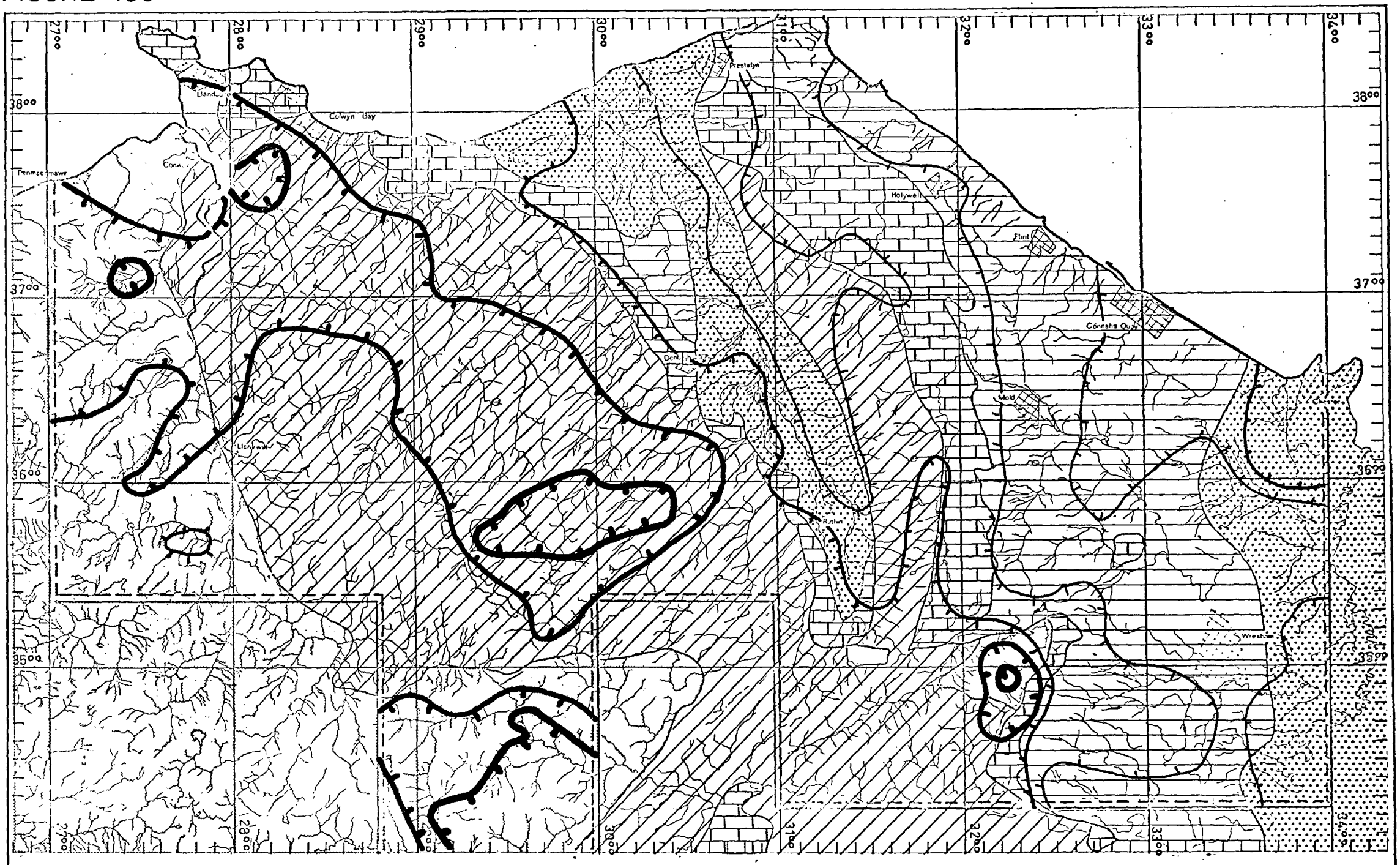
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seal-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 5 — MOVING AVERAGE
(untransformed data, Mo-As-Zn-Cu-Fe,+ve)

- > +2·0
- +1·0 to +1·9
- 0·0 to +0·9

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 186



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

N

0 1 2 3 4
miles

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

GEOLOGICAL KEY

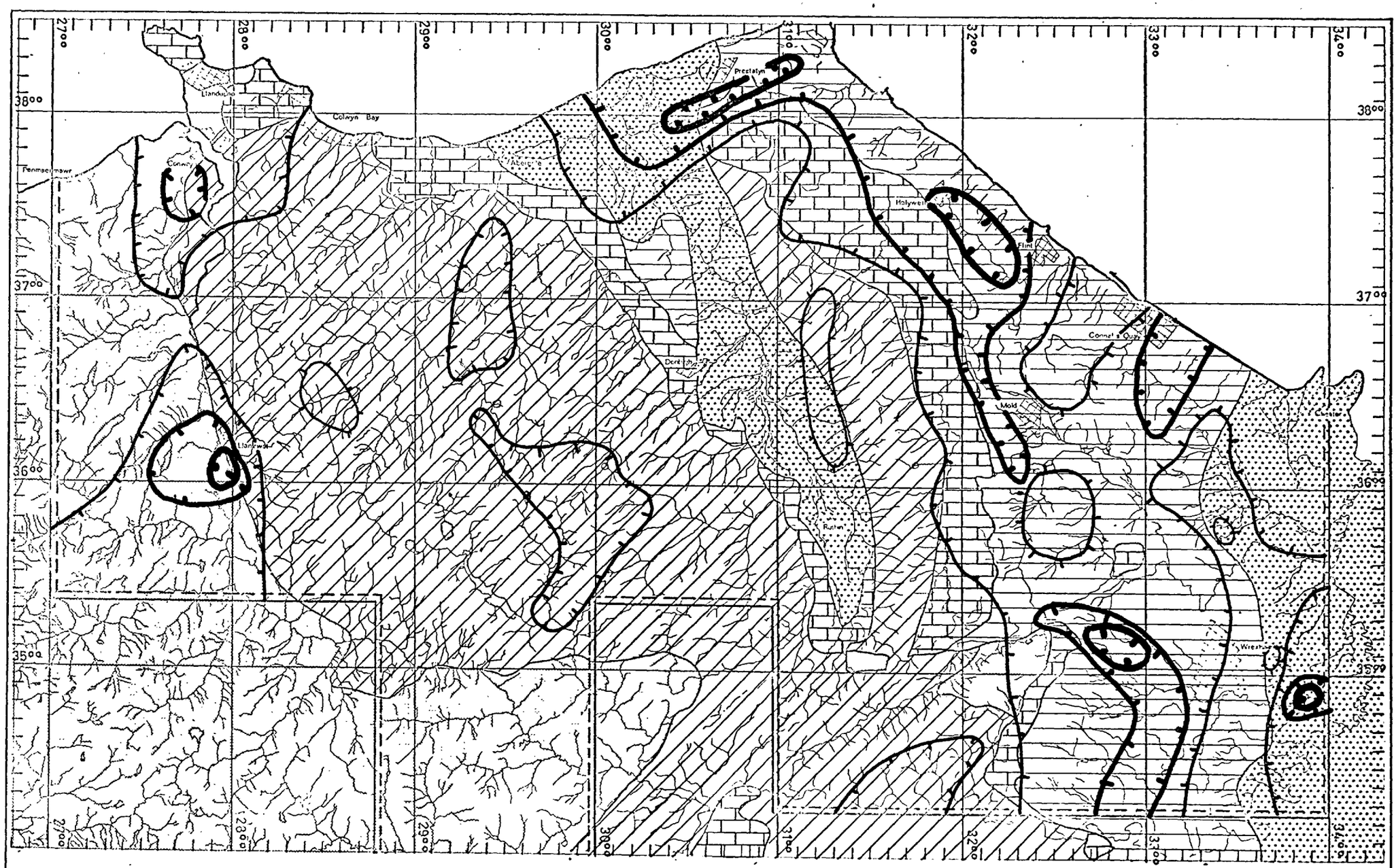
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 1—MOVING AVERAGE
(log-transformed data, V-Ga-Ti-Cr-Ni-Cu-Co, +ve)

- >+1·0
- 0·0 to +0·6
- +0·7 to +0·9
- −1·0 to −0·1

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(Institute of Geological Sciences)

FIGURE 187



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

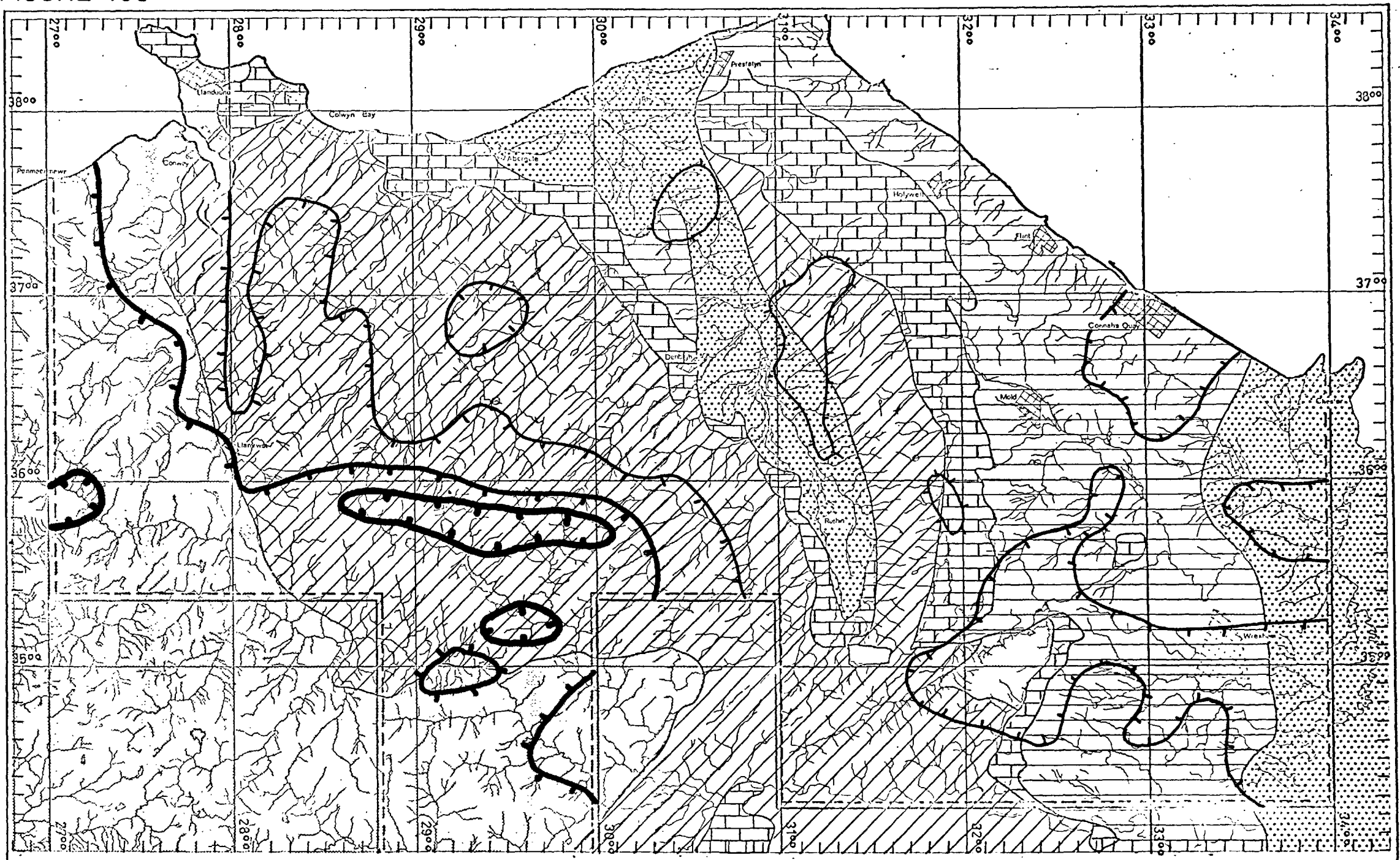
PERMO-TRIASSIC (Red sandstones with subordinate shales)
SILESIAN (Shales, sandstones, seat-clay and coal)
DINANTIAN (Limestones with subordinate shales and cherts)
SILURIAN (Soapy mudstones with subordinate sandstones)
ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 2—MOVING AVERAGE
(log-transformed data, Zn-Pb-Cu, +ve)

> +2·0
0·0 to +0·9
+1·0 to +1·9
-1·0 to -0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 188



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

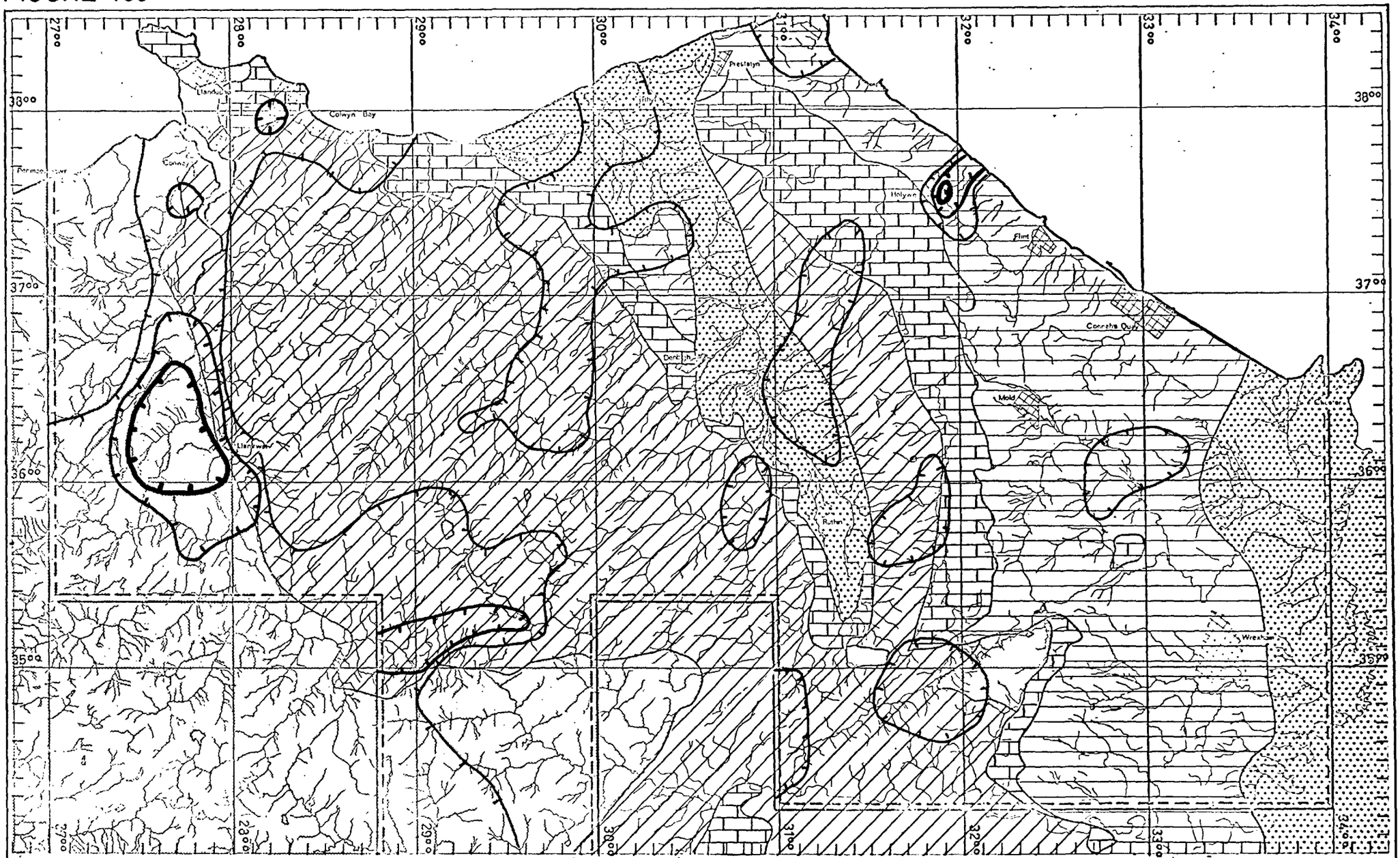
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subardinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 3 — MOVING AVERAGE
(log-transformed data, Mn-As-Co-Fe, +ve)

- > +2·0
- +1·0 to +1·9
- 0·0 to +0·9
- −1·0 to −0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 189



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DENBIGHSHIRE

Sampled area

N

0 1 2 3 4
miles

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

GEOLOGICAL KEY

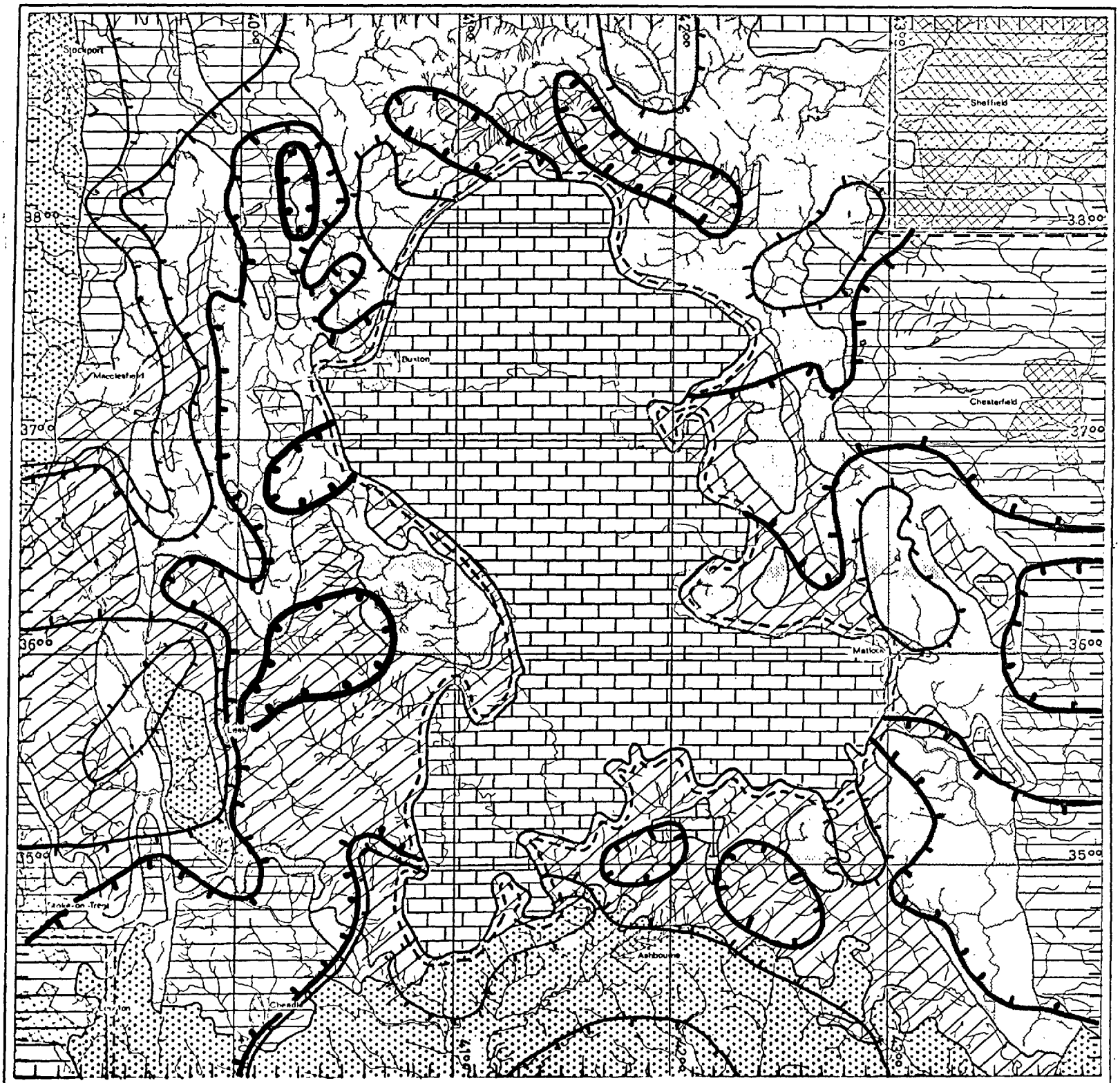
- PERMO-TRIASSIC (Red sandstones with subordinate shales)
- SILESIAN (Shales, sandstones, seat-clay and coal)
- DINANTIAN (Limestones with subordinate shales and cherts)
- SILURIAN (Soapy mudstones with subordinate sandstones)
- ORDOVICIAN (Slates and acid volcanics with subordinate dolerites)

FACTOR 5—MOVING AVERAGE
(log-transformed data, Mo–As, +ve)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9

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(Institute of Geological Sciences)

FIGURE 190



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

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May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7

N

0 1 2 3 4
miles

GEOLOGICAL KEY

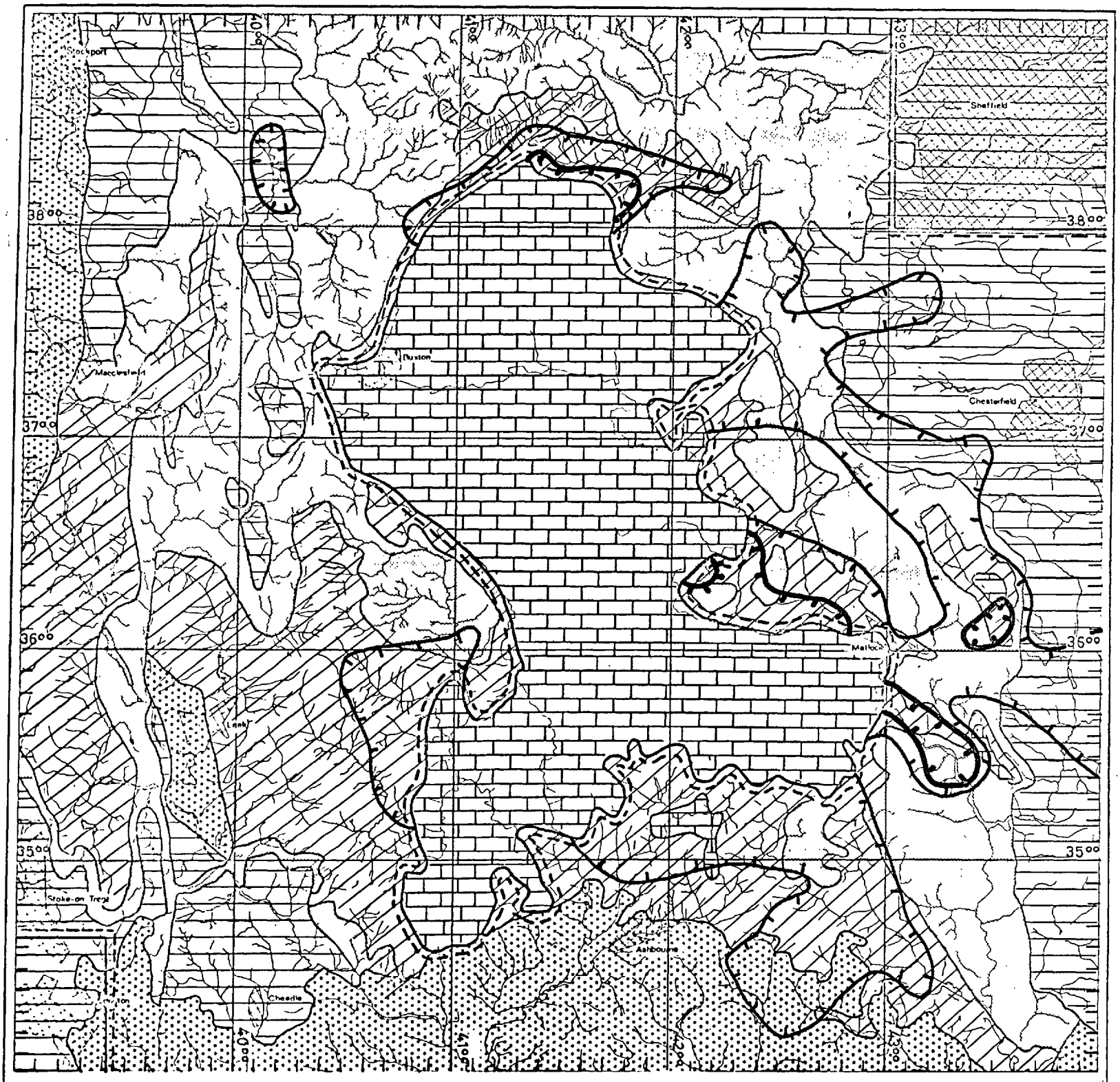
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

FACTOR 1—MOVING AVERAGE
(Ti–Ga–Cr–V–Fe, positive factor)

- >+1·0
- 0·0 to +0·9
- -0·5 to -0·1
- -1·0 to -0·6

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(Institute of Geological Sciences)

FIGURE 191



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY
DERBYSHIRE

Sampled area

N

0 1 2 3 4
miles

GEOLOGICAL KEY

- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

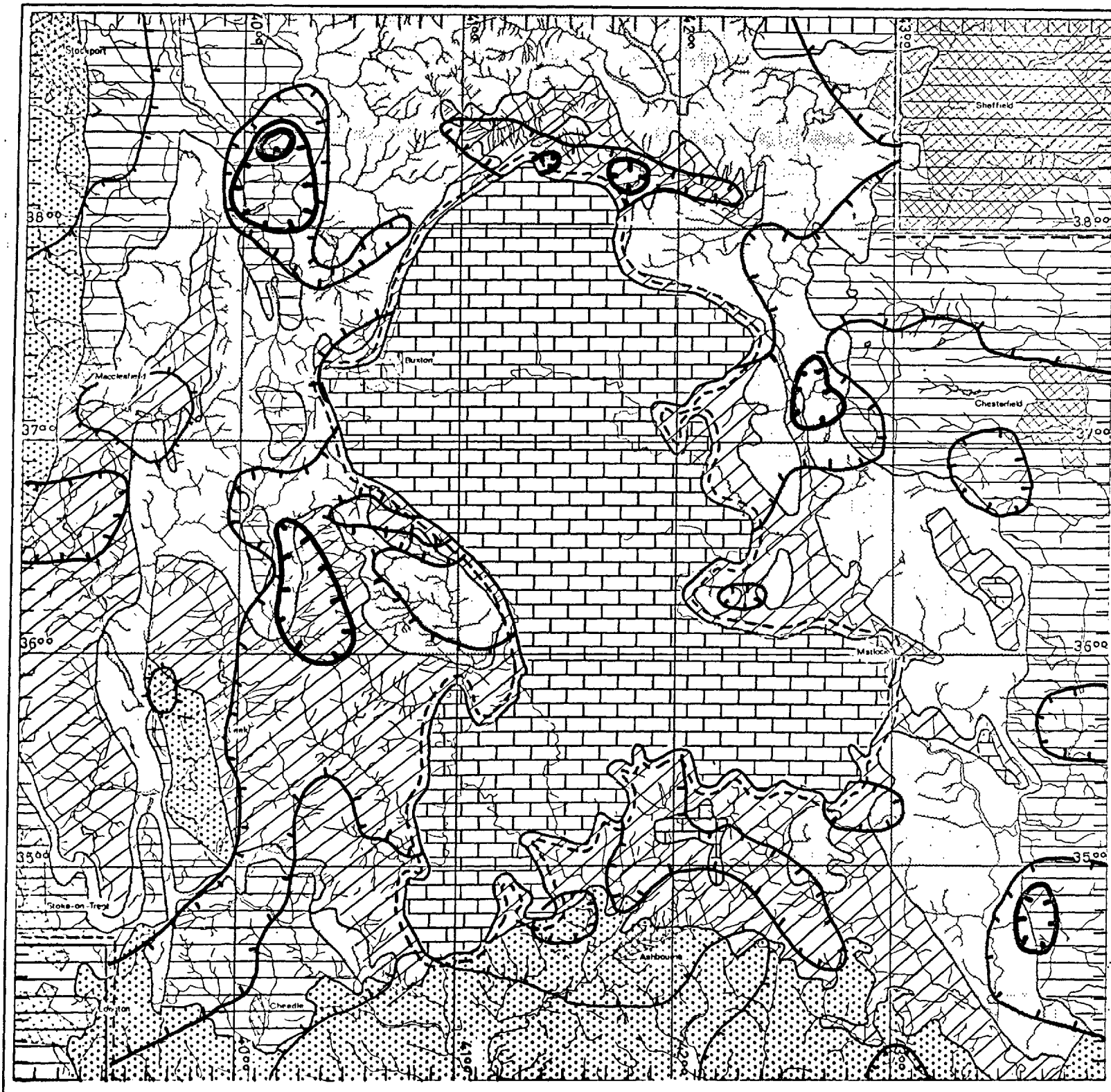
FACTOR 2—MOVING AVERAGE
(Pb–Zn, positive factor)

- >+1·0
- 0·0 to +0·9

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(Institute of Geological Sciences)

FIGURE 192



REGIONAL GEOCHEMICAL RECONNAISSANCE
STREAM SEDIMENT SURVEY
DERBYSHIRE

Sampled area

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

N

0 1 2 3 4
miles

GEOLOGICAL KEY

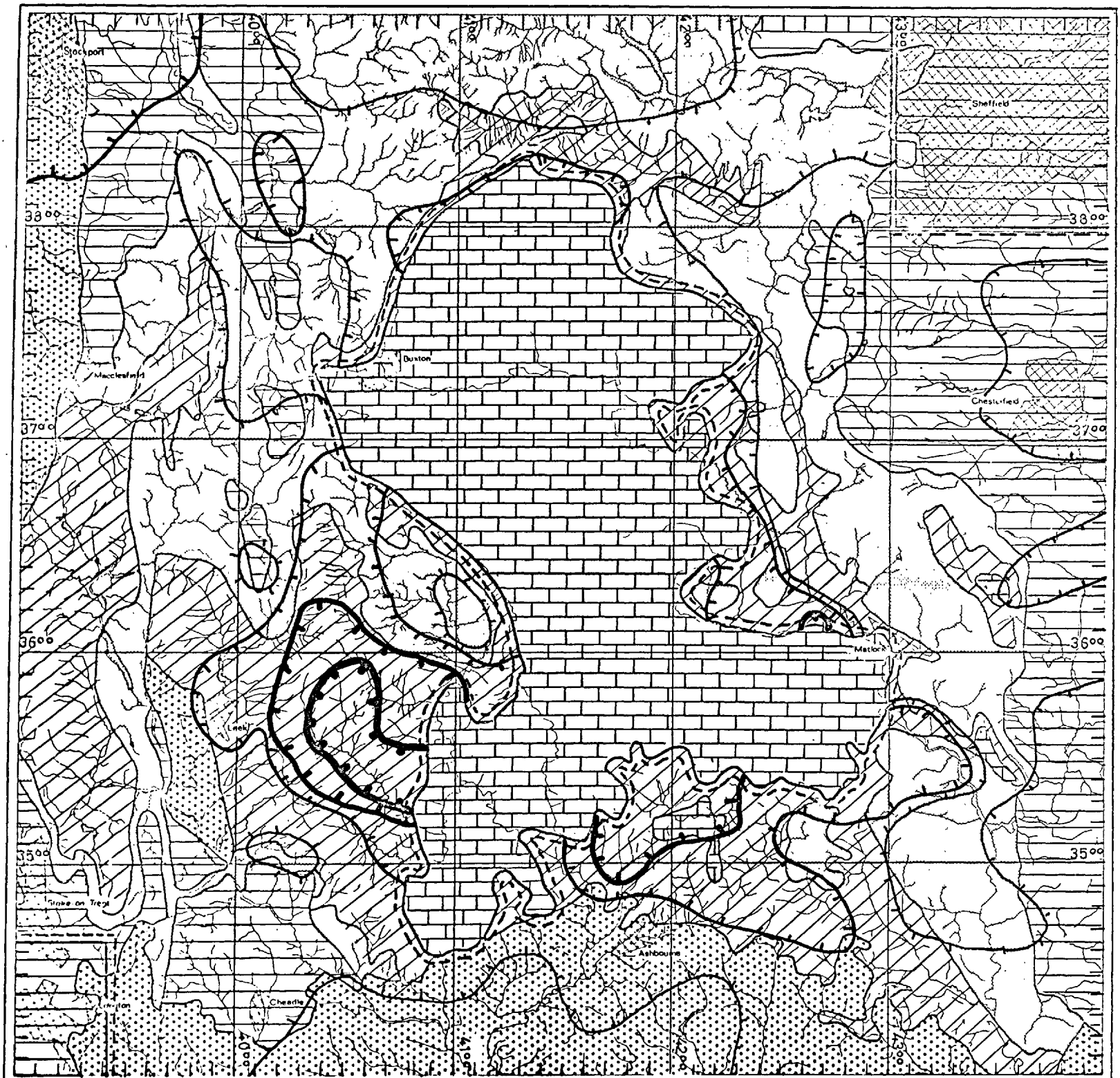
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

FACTOR 3 —MOVING AVERAGE
(Co-Mn-Ni-Fe, negative factor)

- <−2·0
- −1·0 to −1·9
- 0·0 to −0·9
- +0·5 to +0·1

Regional Geochemical Survey for N.E.R.C.
(Institute of Geological Sciences)

FIGURE 193



REGIONAL GEOCHEMICAL RECONNAISSANCE STREAM SEDIMENT SURVEY

DERBYSHIRE

Sampled area

N

0 1 2 3 4 miles

Project 65
May 1967
Applied Geochemistry Research Group
Imperial College, London, S.W.7.

GEOLOGICAL KEY

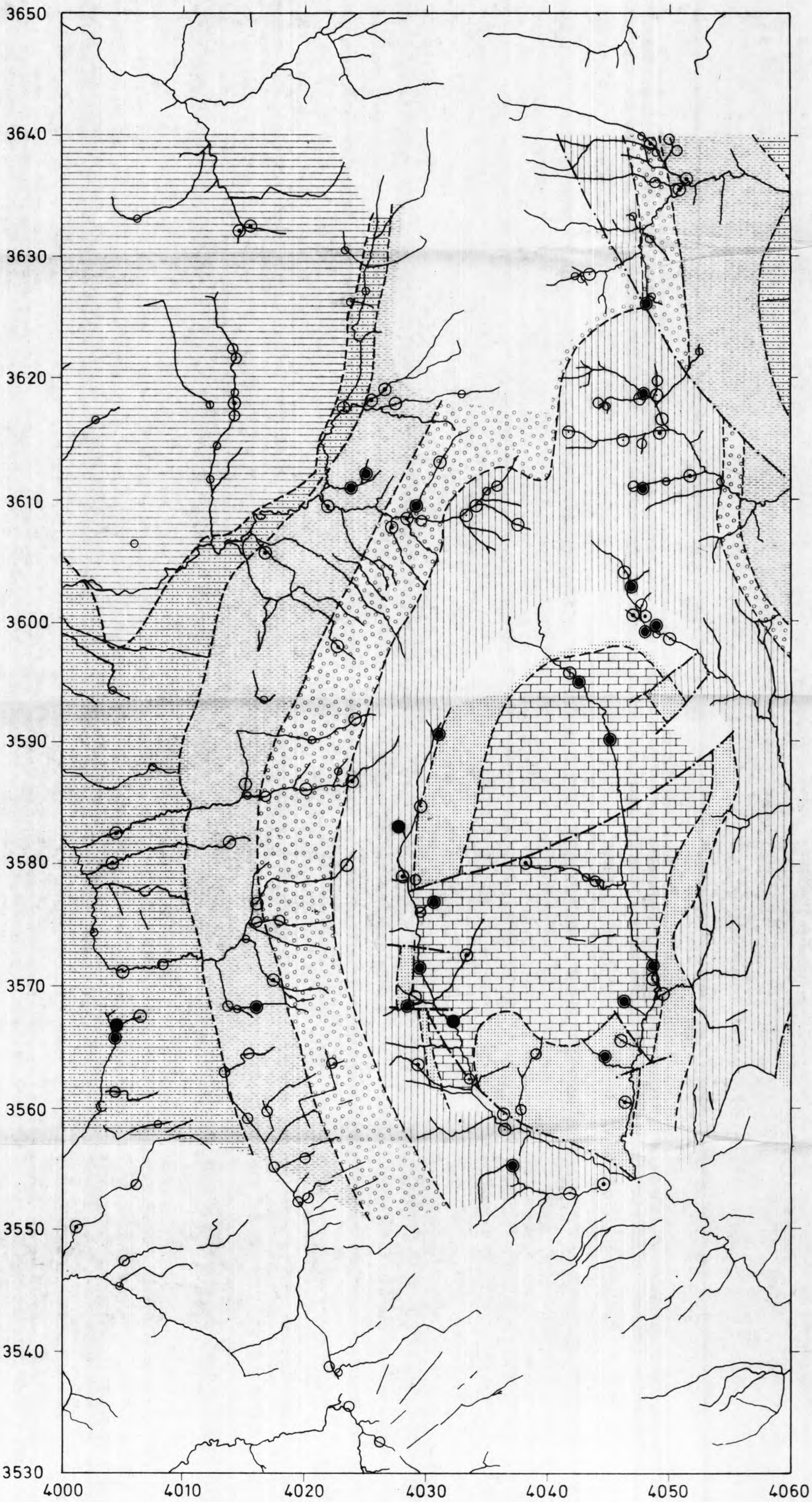
- NEW RED SANDSTONE
- COAL MEASURES
- NAMURIAN WITH MAIN SANDSTONES
- SHALES BELOW MAIN NAMURIAN SANDSTONES
- CARBONIFEROUS LIMESTONE

FACTOR 4 — MOVING AVERAGE
(As-Cu-Mo-V-Ag-Fe-(Ni), positive factor)

- >+2·0
- +1·0 to +1·9
- 0·0 to +0·9
- −0·5 to −0·1

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(Institute of Geological Sciences)

FIGURE 194 THE DISTRIBUTION OF ARSENIC IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

S.U. 7–11 Thick deltaic sandstones and non-marine shales with marine bands

S.U. 6 Shale-grit sandstones with interbedded shales and marine bands

S.U. 5 Shales with thin protoquartzite units

S.U. 4 Shales with interbedded protoquartzites and calcareous siltstones

S.U. 3 Shales and calcareous siltstones

S.U. 2 Non-feldspathic sandstones with shales and calcareous siltstones

S.U. 1 Shales with thin, dark, often bioclastic limestones

Geology unknown

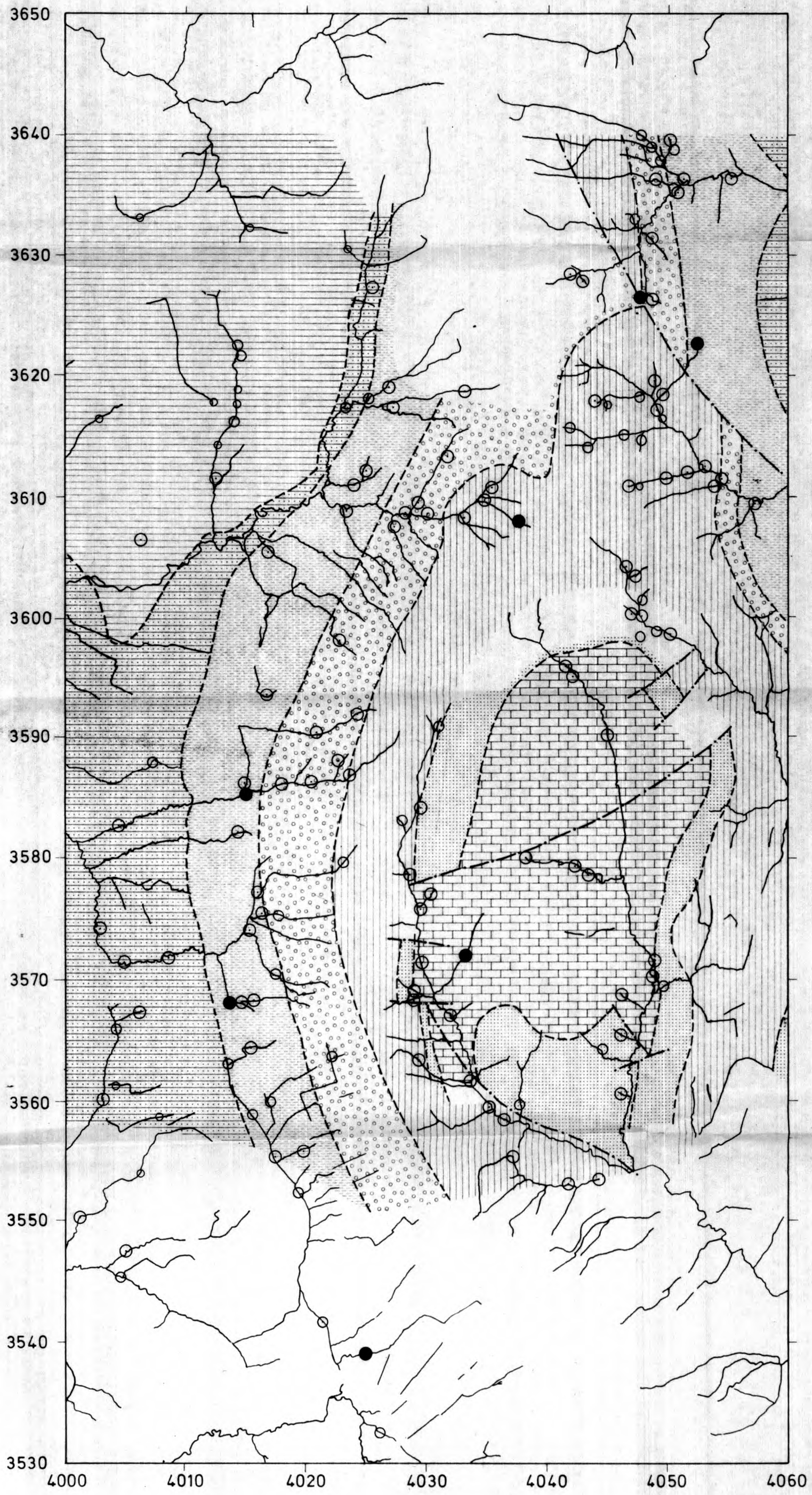
SYMBOL KEY
(concentration in ppm)

- ○ <5
- ○ 5–10
- ⊙ 11–20
- ⊙ 21–50
- ● 51–100
- ● >100

N

0 1/2 1
Miles

FIGURE 195 THE DISTRIBUTION OF CHROMIUM IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

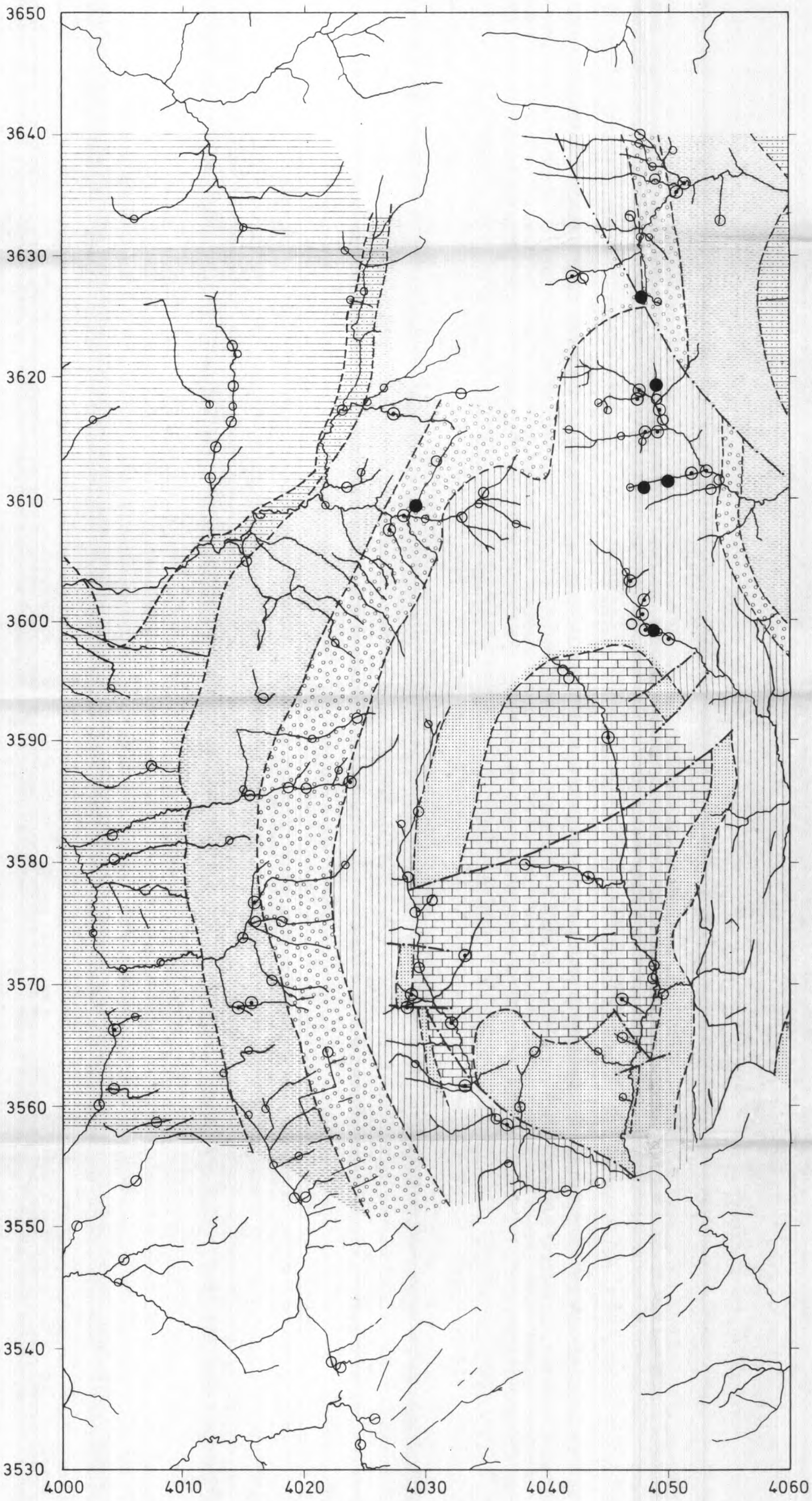
SYMBOL KEY (concentration in ppm)

- ○ <70
- ○ 70–100
- ⊙ 101–150
- ● >150

N

0 1/2 1
Miles

FIGURE 196 THE DISTRIBUTION OF COBALT IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

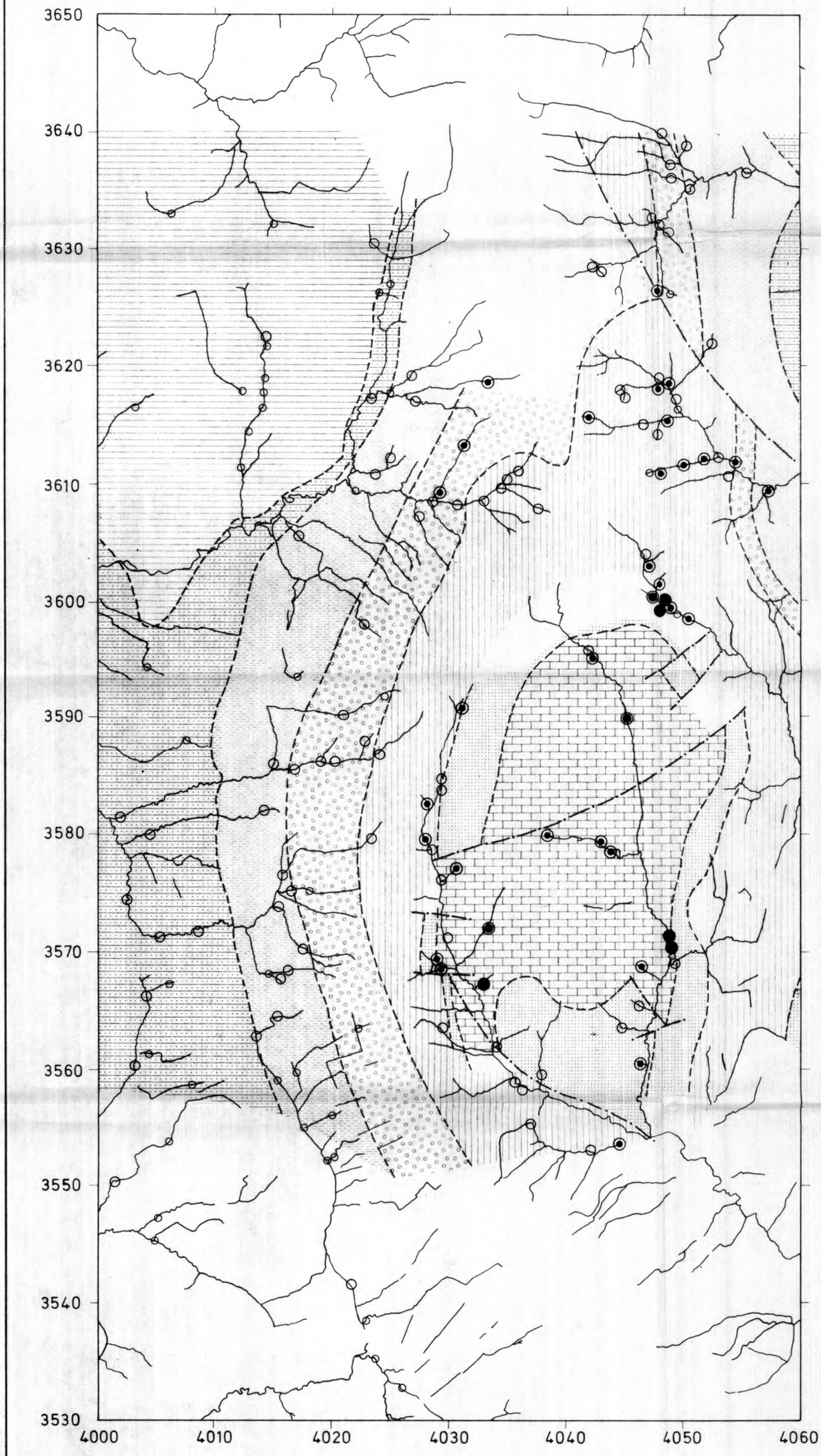
SYMBOL KEY (concentration in ppm)

- ○ <20
- ○ 21–30
- ⊙ 31–70
- ● >70

N

0 1/2 1
Miles

FIGURE 197 THE DISTRIBUTION OF COPPER IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

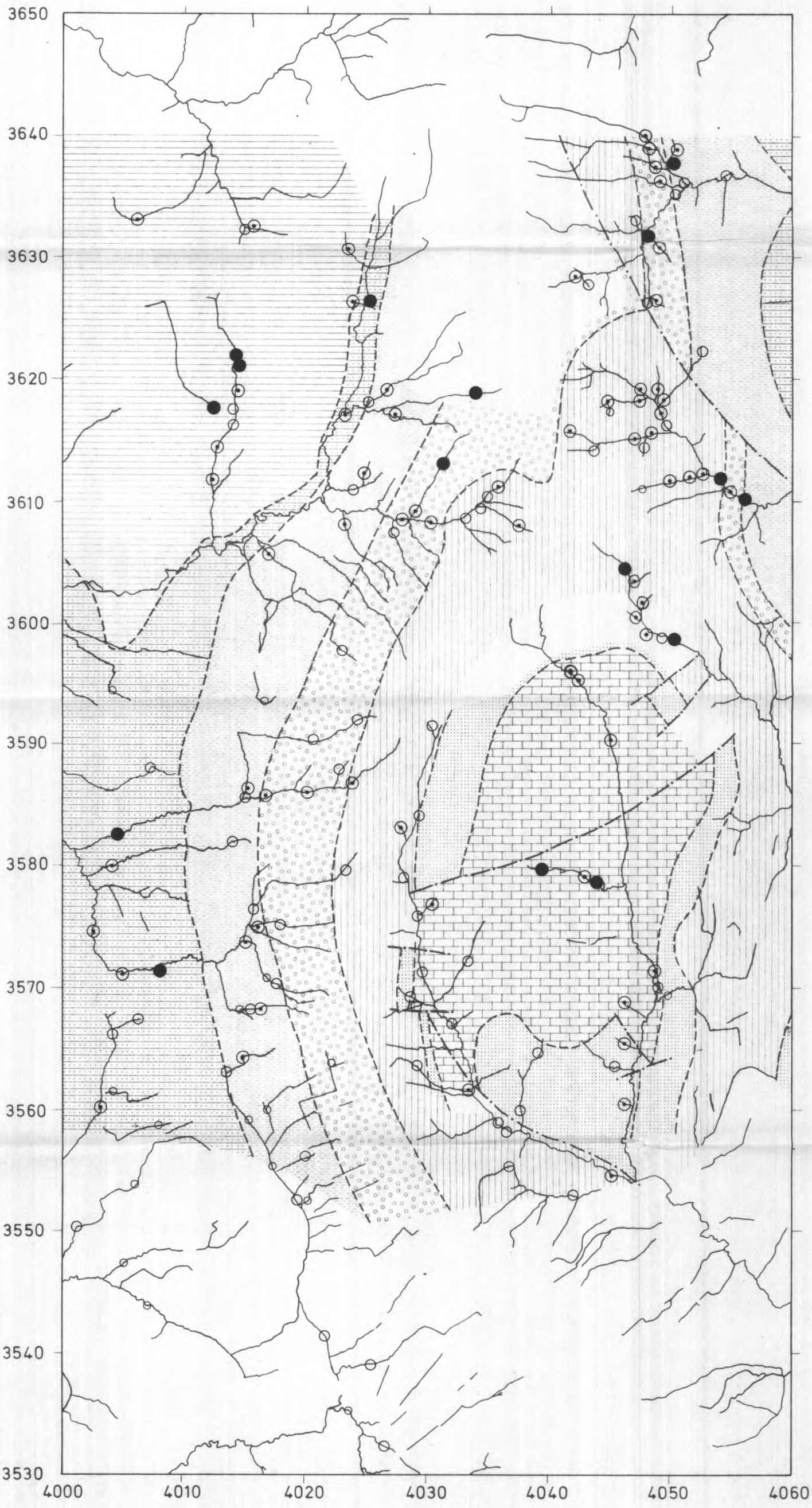
SYMBOL KEY (concentration in ppm)

- ○ <20
- ○ 20–50
- ◉ 51–100
- ◉ 101–200
- ● >200

N

0 1/2 1
Miles

FIGURE 198 THE DISTRIBUTION OF GALLIUM IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

S.U. 7–11	Thick deltaic sandstones and non-marine shales with marine bands
S.U. 6	Shale-grit sandstones with interbedded shales and marine bands
S.U. 5	Shales with thin protoquartzite units
S.U. 4	Shales with interbedded protoquartzites and calcareous siltstones
S.U. 3	Shales and calcareous siltstones
S.U. 2	Non-feldspathic sandstones with shales and calcareous siltstones
S.U. 1	Shales with thin, dark, often bioclastic limestones
	Geology unknown

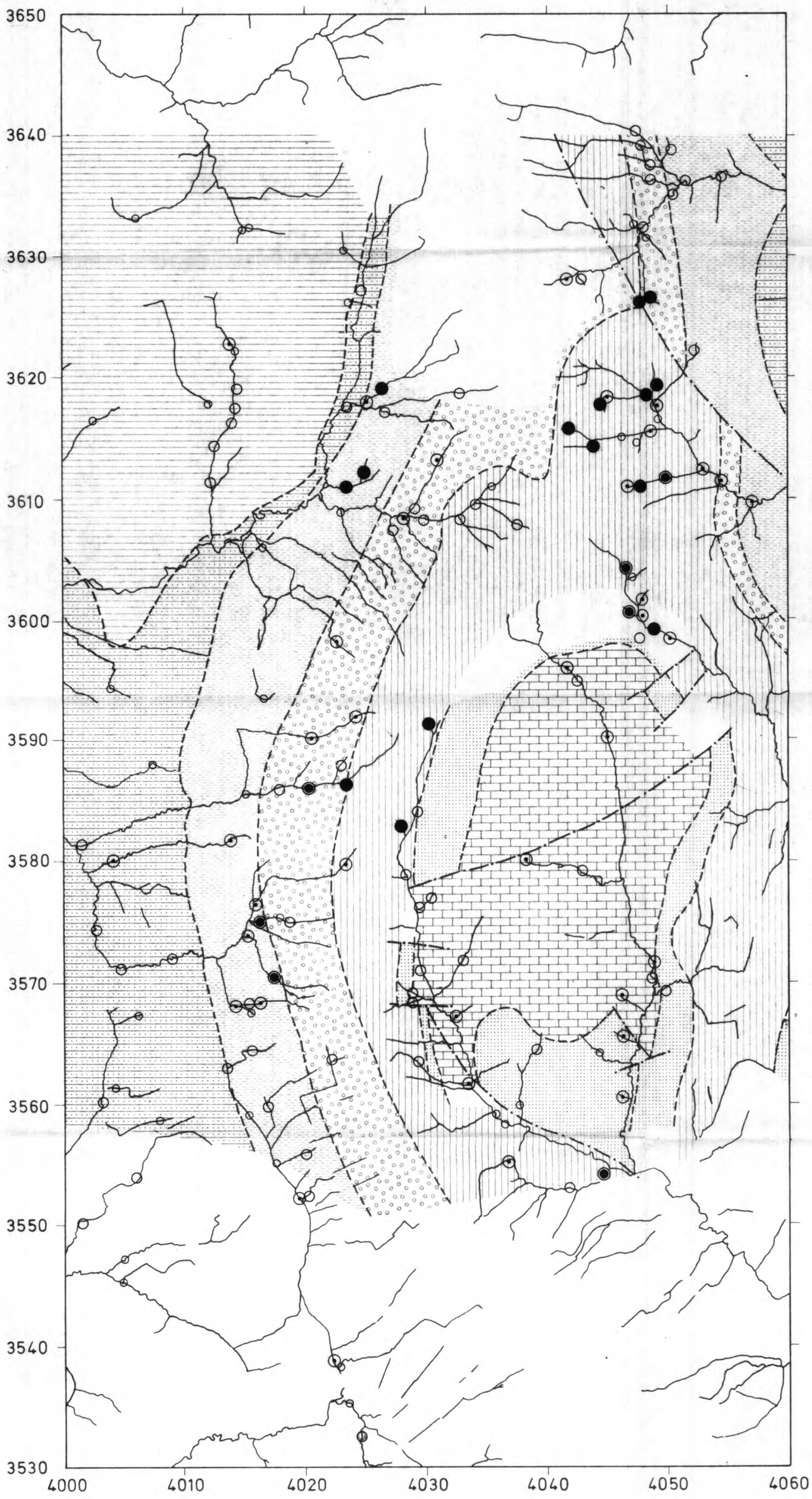
SYMBOL KEY
(concentration in ppm)

- ○ <5
- ○ 5–7
- ⊙ 8–10
- ● >10

N

0 1/2 1
Miles

FIGURE 199 THE DISTRIBUTION OF IRON IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

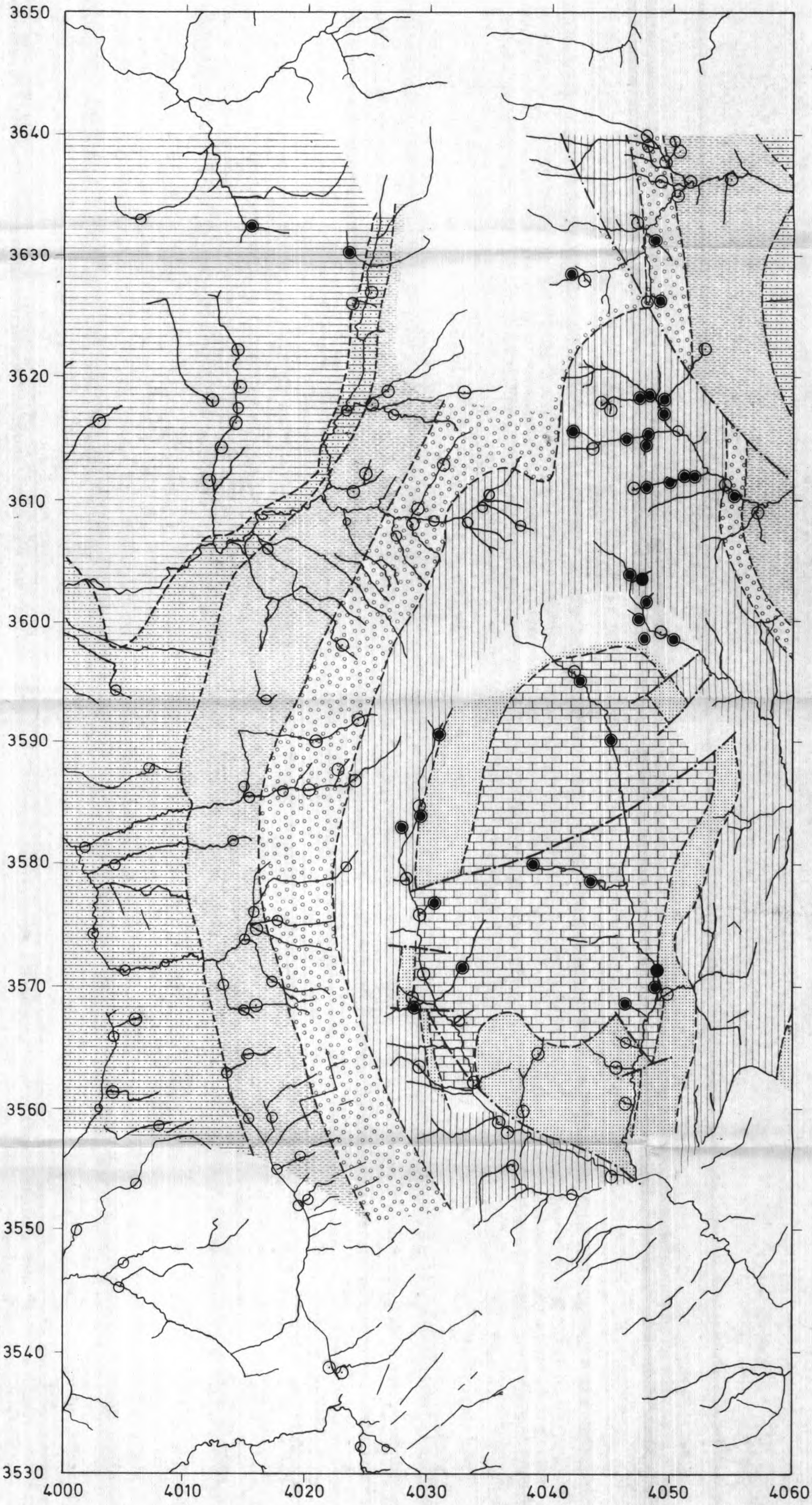
SYMBOL KEY (concentration in %)

- ○ <5
- ⊙ 5 – 10
- ⊙ 11 – 15
- ◉ 16 – 20
- ● >20

N

0 ½ 1
Miles

FIGURE 200 THE DISTRIBUTION OF LEAD IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

S.U. 7–11	Thick deltaic sandstones and non-marine shales with marine bands
S.U. 6	Shale-grit sandstones with interbedded shales and marine bands
S.U. 5	Shales with thin protoquartzite units
S.U. 4	Shales with interbedded protoquartzites and calcareous siltstones
S.U. 3	Shales and calcareous siltstones
S.U. 2	Non-feldspathic sandstones with shales and calcareous siltstones
S.U. 1	Shales with thin, dark, often bioclastic limestones
	Geology unknown

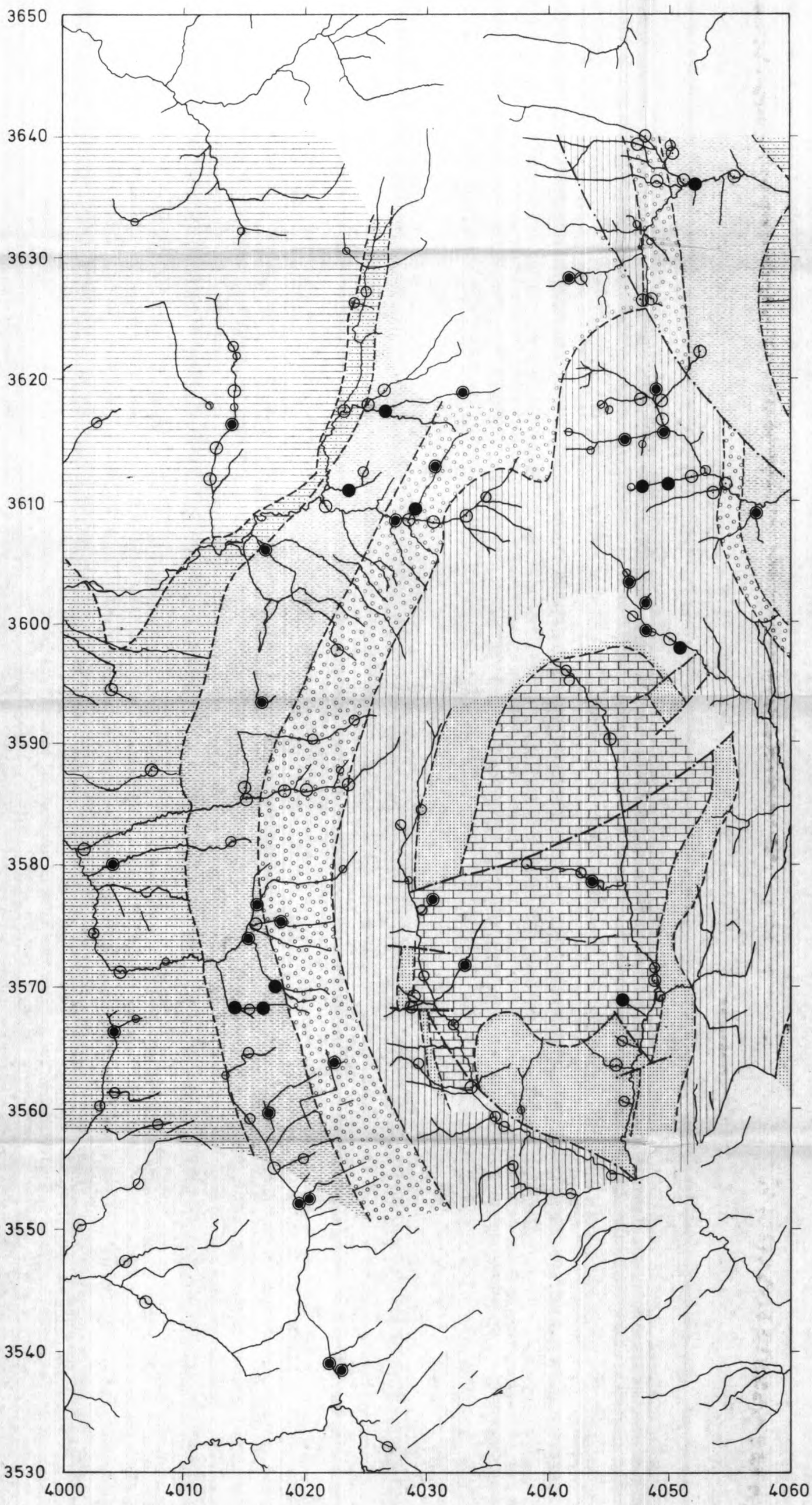
SYMBOL KEY (concentration in ppm)

- ○ <15
- ○ 15–30
- ⊙ 31–70
- ◉ 71–150
- ● >150

N

0 1/2 1
Miles

FIGURE 201 THE DISTRIBUTION OF MANGANESE IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

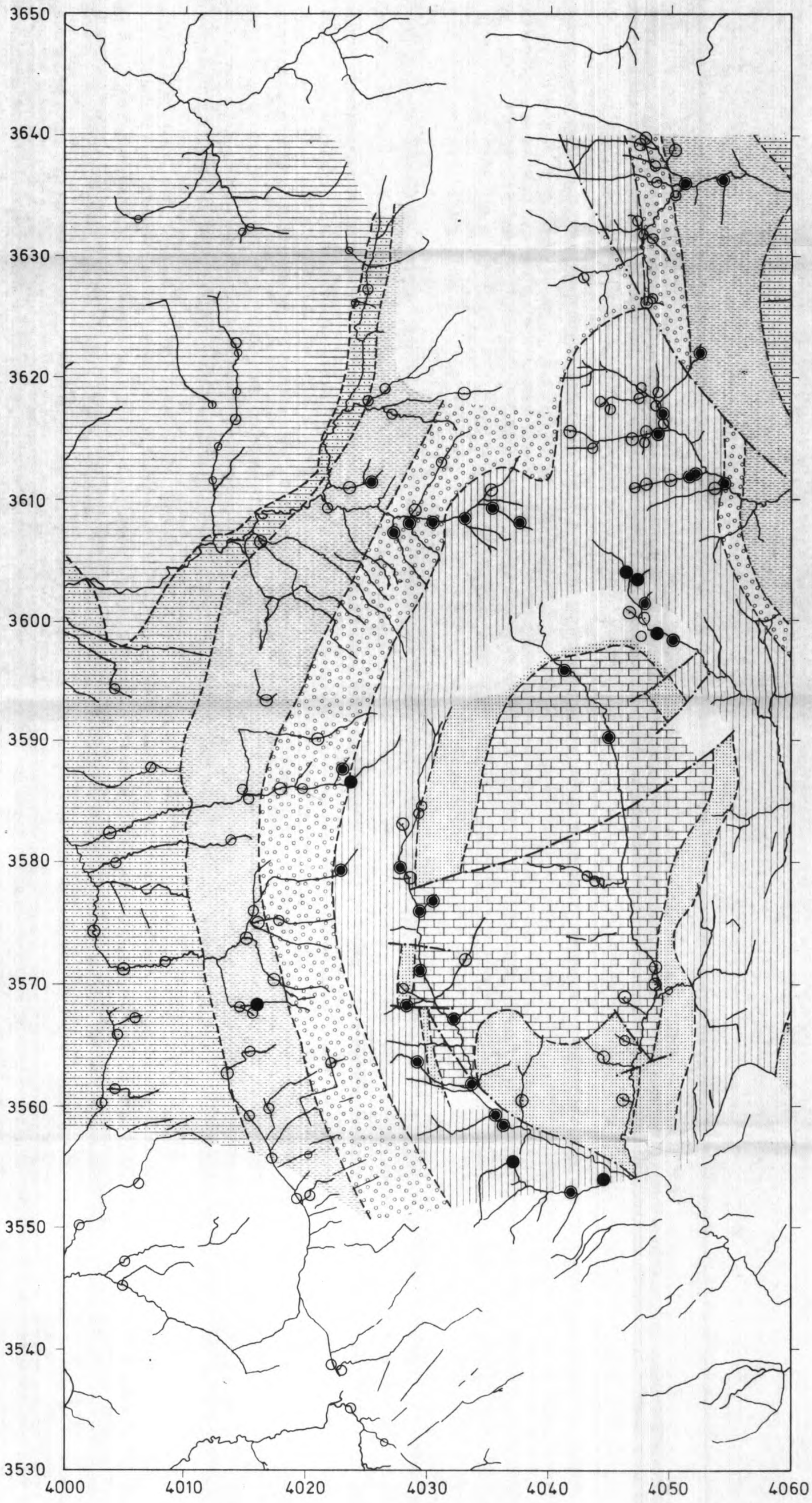
SYMBOL KEY (concentration in ppm)

- < 300
- 300–700
- 701–1500
- 1501–3000
- >3000

N

0 1/2 1
Miles

FIGURE 202 THE DISTRIBUTION OF MOLYBDENUM IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

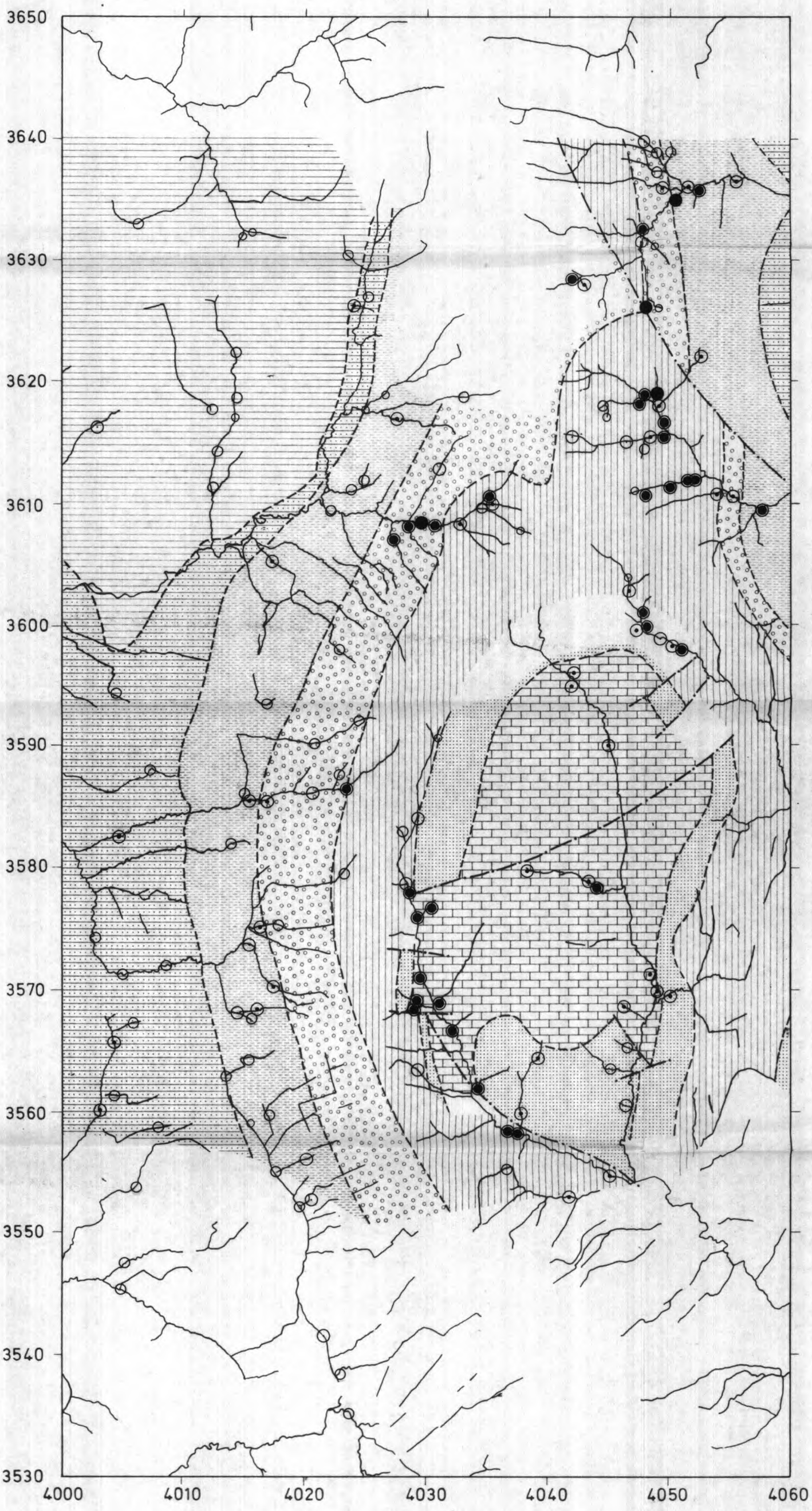
SYMBOL KEY (concentration in ppm)

- ○ <2
- ○ 2–5
- ⊙ 6–10
- ◉ 11–20
- ● >20

N

0 ½ 1
Miles

FIGURE 203 THE DISTRIBUTION OF NICKEL IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

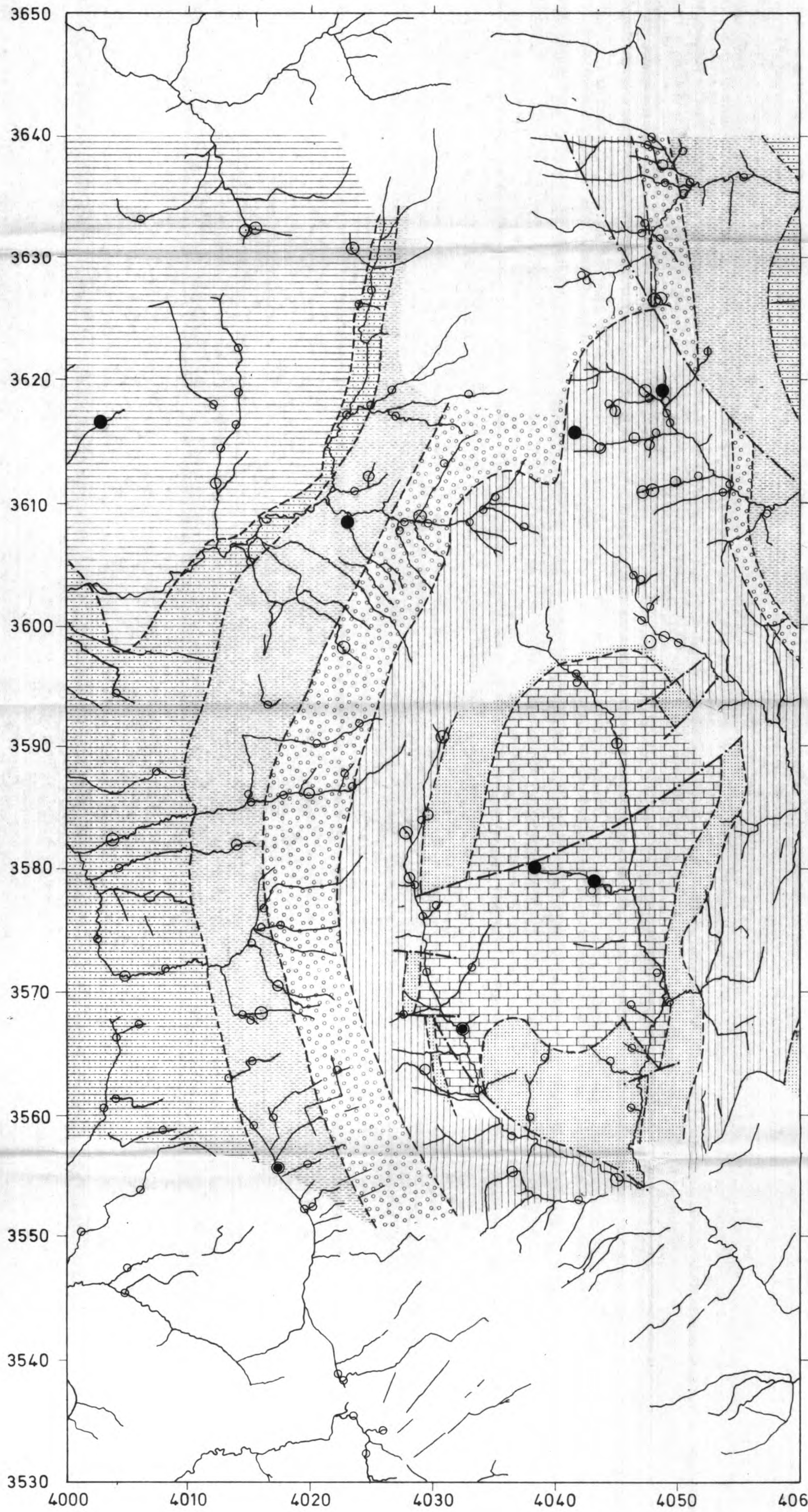
SYMBOL KEY (concentration in ppm)

- ○ <20
- ○ 20—50
- ⊙ 51—70
- ⊙ 71—100
- ◉ 101—200
- ● >200

N

0 1/2 1
Miles

FIGURE 204 THE DISTRIBUTION OF TIN IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

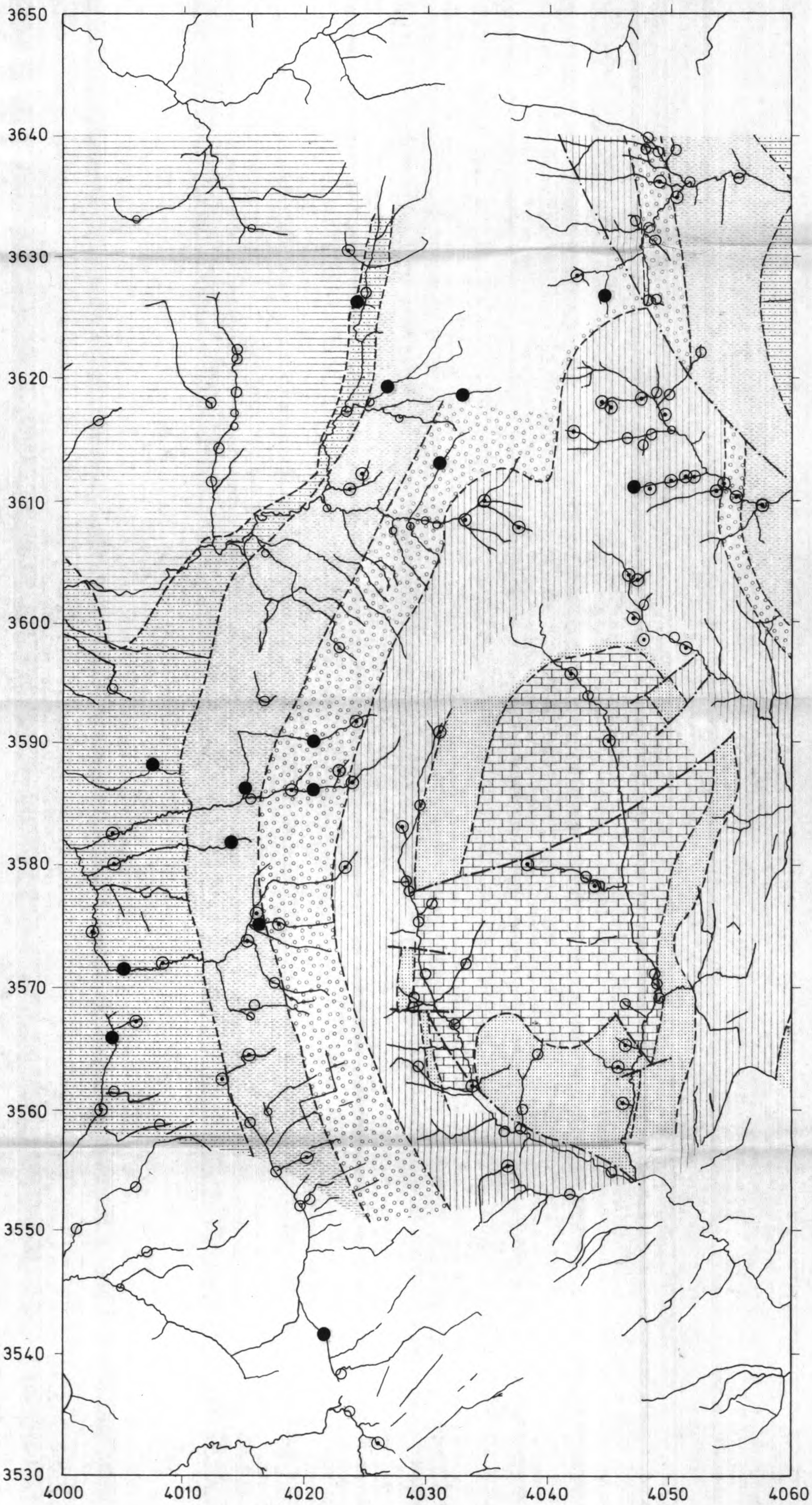
SYMBOL KEY (concentration in ppm)

- <5
- 5 — 7
- 8 — 10
- 11 — 15
- >15

N

0 1/2 1
Miles

FIGURE 205 THE DISTRIBUTION OF TITANIUM IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

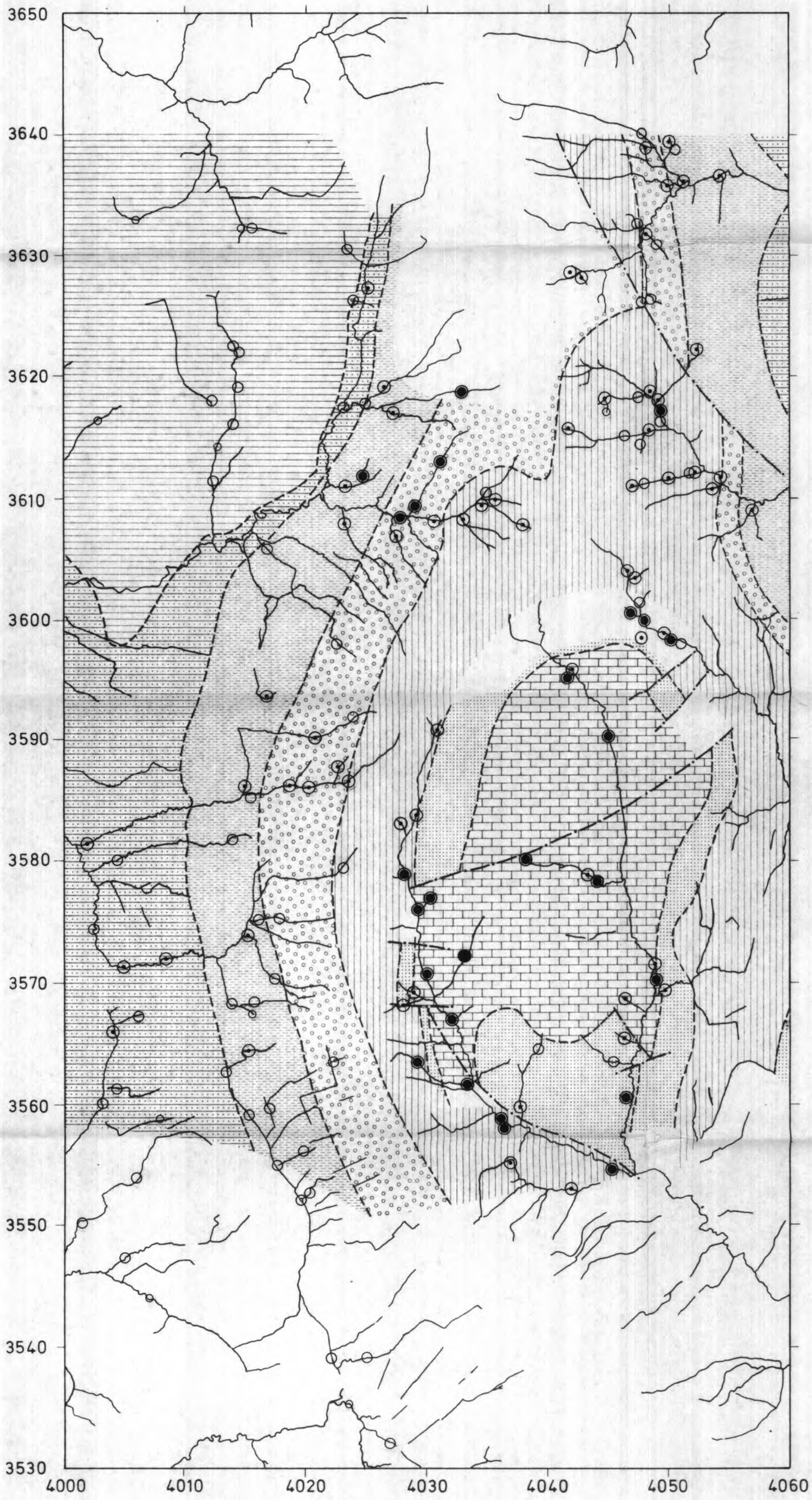
SYMBOL KEY (concentration in ppm)

- ○ <3000
- ○ 3000 – 5000
- ⊙ 5001 – 7000
- ● >7000

N

0 1/2 1
Miles

FIGURE 206 THE DISTRIBUTION OF VANADIUM IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

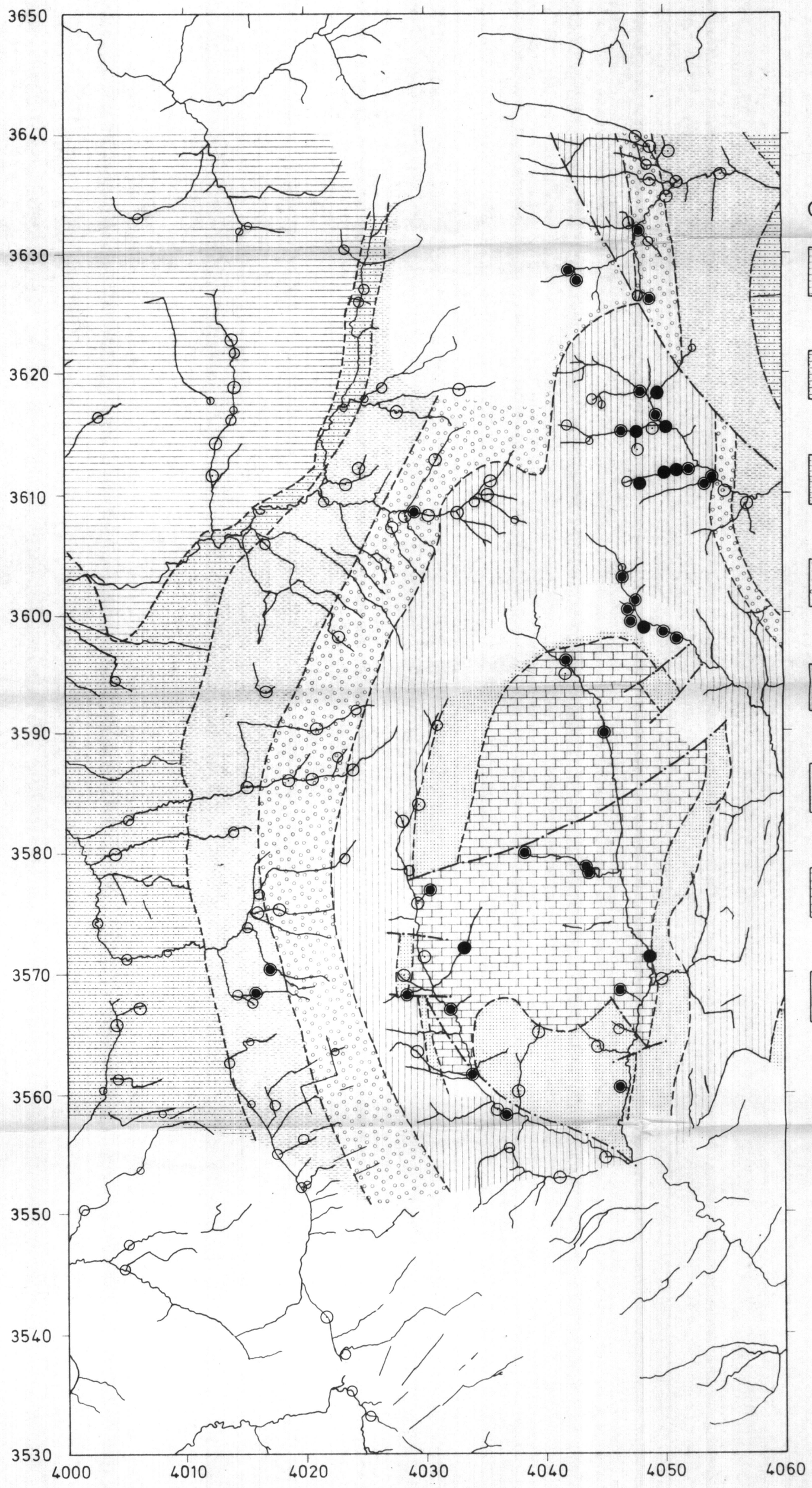
SYMBOL KEY (concentration in ppm)

- ⊙ <70
- ○ 70 –150
- ⊙ 151–300
- ◉ 301–700
- ● >700

N

0 1/2 1
Miles

FIGURE 207 THE DISTRIBUTION OF ZINC IN THE ONECOTE AREA DRAINAGE SEDIMENTS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

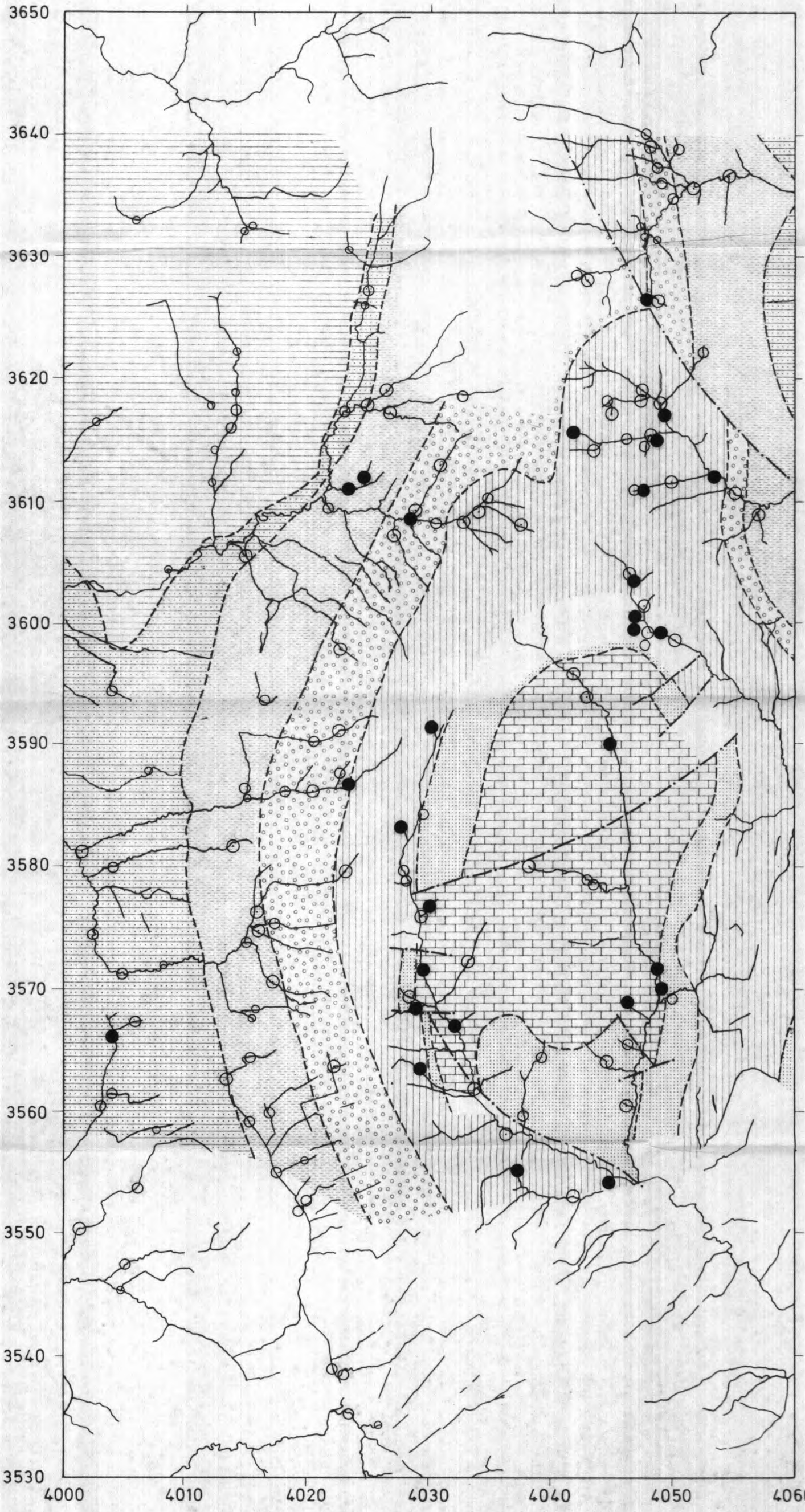
SYMBOL KEY (concentration in ppm)

- ○ <100
- ○ 100 — 200
- ○ 201 — 500
- ◉ 501 — 1000
- ● >1000

N

0 1/2 1
Miles

FIGURE 208 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA
DRAINAGE SEDIMENTS:
FACTOR 1, As – Mo – Fe – Cu – V, POSITIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

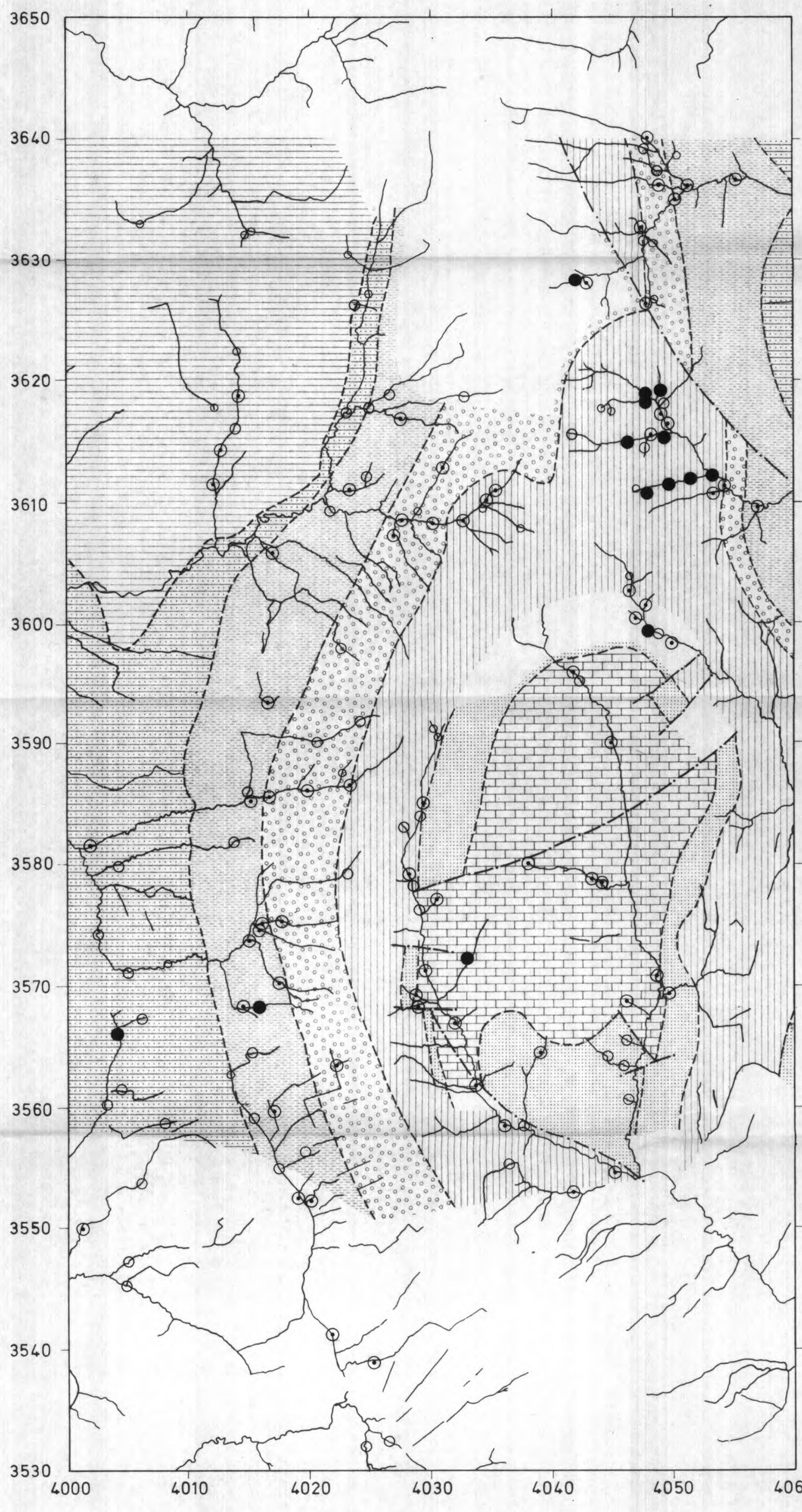
SYMBOL KEY

- ○ <–1
- ○ 0 to –1
- ⊙ 0 to +1
- ● >+1

N

0 1/2 1
Miles

FIGURE 209 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA
DRAINAGE SEDIMENTS:
FACTOR 2, Mn–Co–Ni–Zn, NEGATIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

SYMBOL KEY

- ○ >+1
- ○ 0 to +1
- ⊙ 0 to −1
- ● <−1

N

0 1/2 1
Miles

FIGURE 210 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA
DRAINAGE SEDIMENTS:
FACTOR 3, Cr–V–Mo, POSITIVE FACTOR

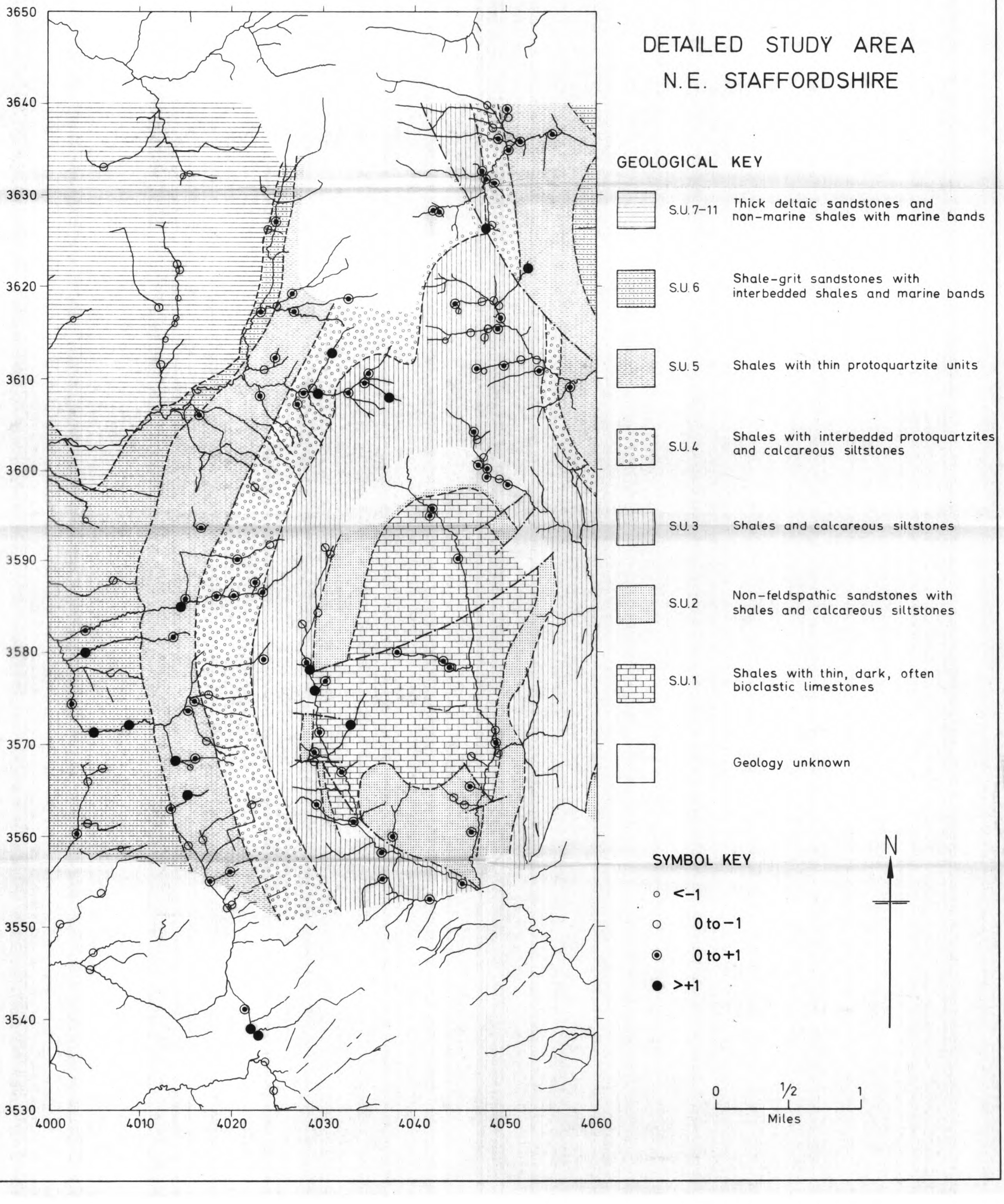
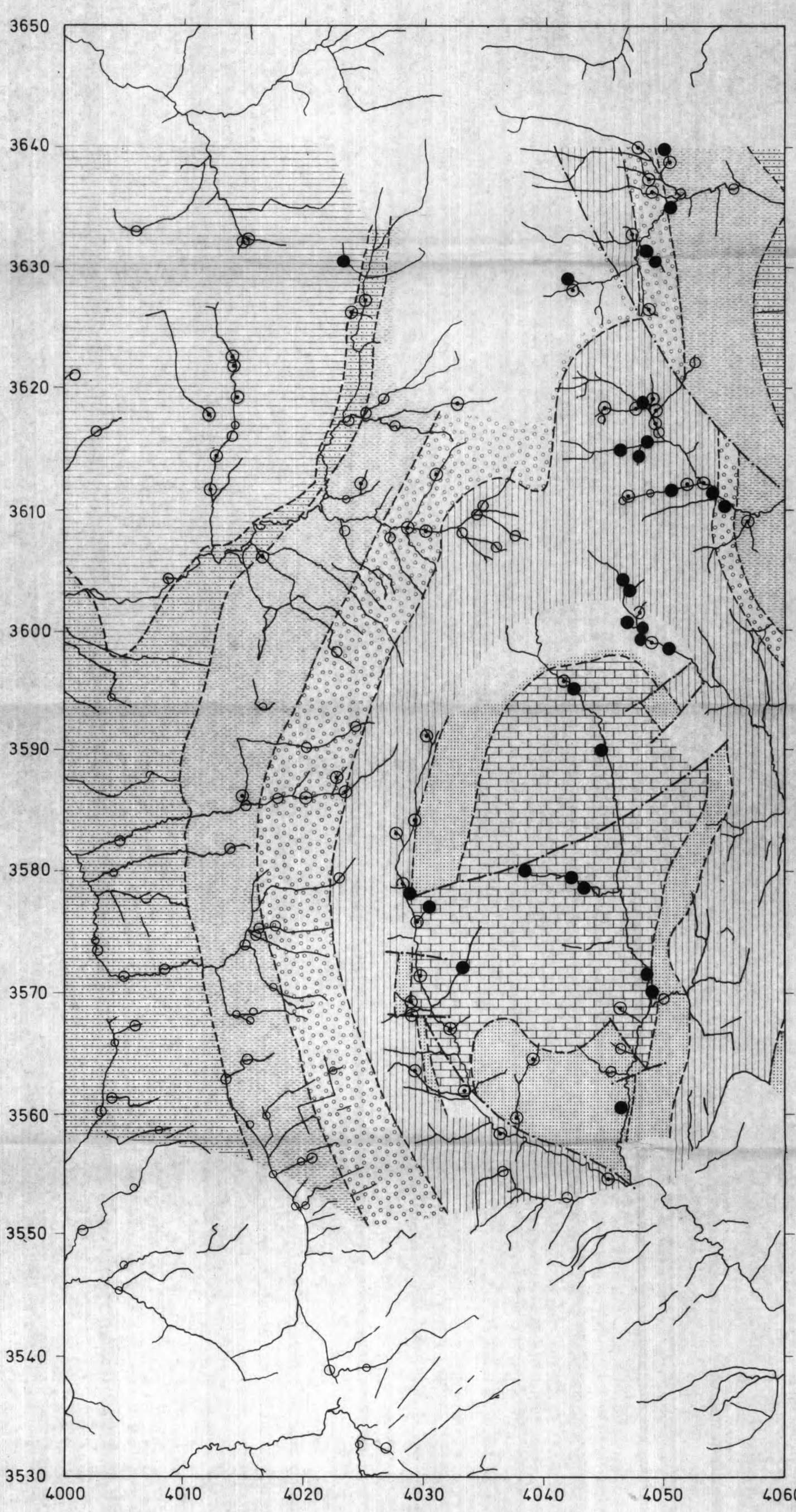


FIGURE 211 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA
DRAINAGE SEDIMENTS:
FACTOR 4, Pb–Ga–Zn–Cu–V, POSITIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

S.U. 7–11 Thick deltaic sandstones and non-marine shales with marine bands

S.U. 6 Shale-grit sandstones with interbedded shales and marine bands

S.U. 5 Shales with thin protoquartzite units

S.U. 4 Shales with interbedded protoquartzites and calcareous siltstones

S.U. 3 Shales and calcareous siltstones

S.U. 2 Non-feldspathic sandstones with shales and calcareous siltstones

S.U. 1 Shales with thin, dark, often bioclastic limestones

Geology unknown

SYMBOL KEY

○ <–1

○ 0 to –1

⊙ 0 to +1

● >+1

N

0 1/2 1
Miles

FIGURE 212 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA
DRAINAGE SEDIMENTS:
FACTOR 5, Ti—Fe—Ga, NEGATIVE FACTOR

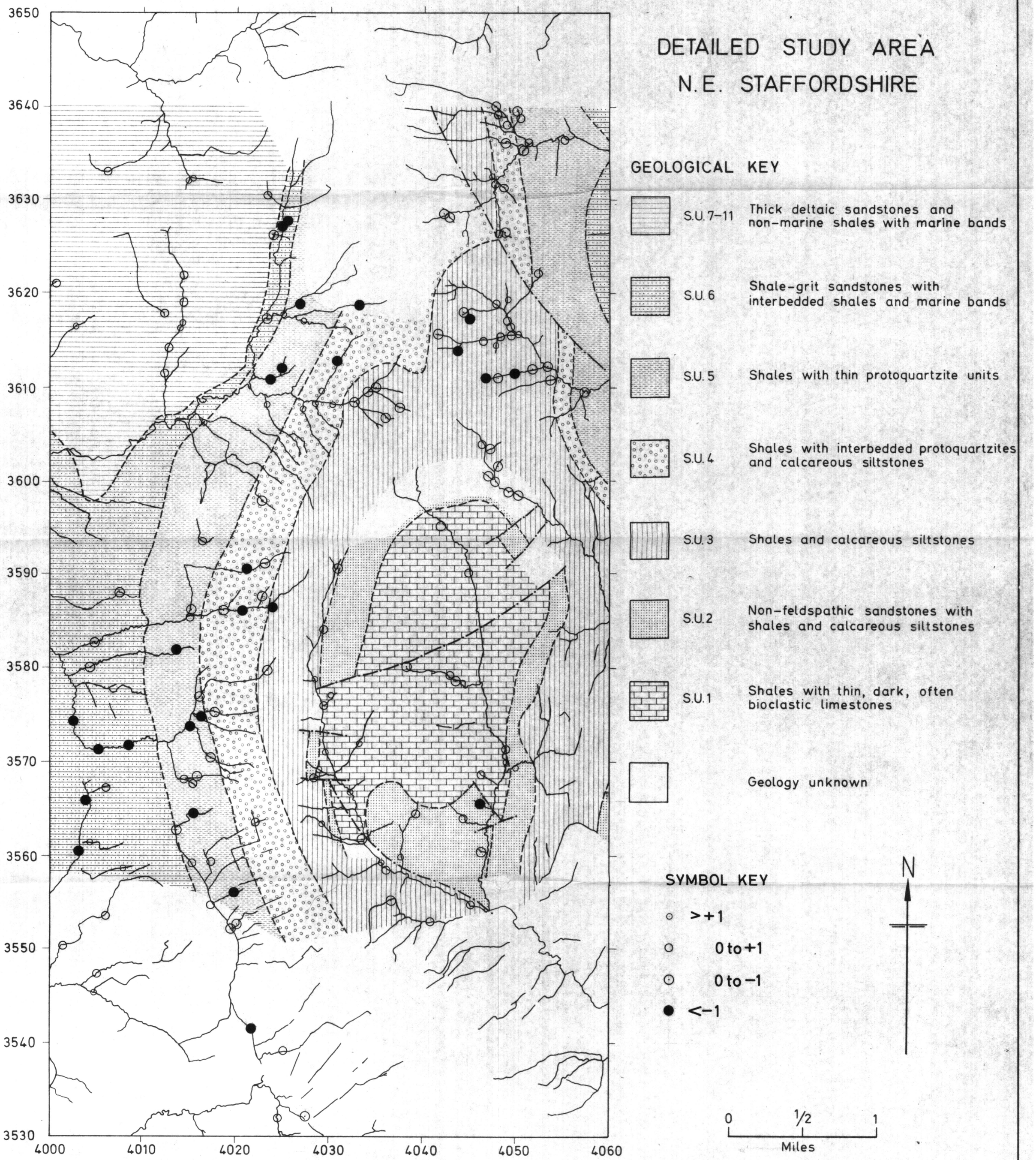
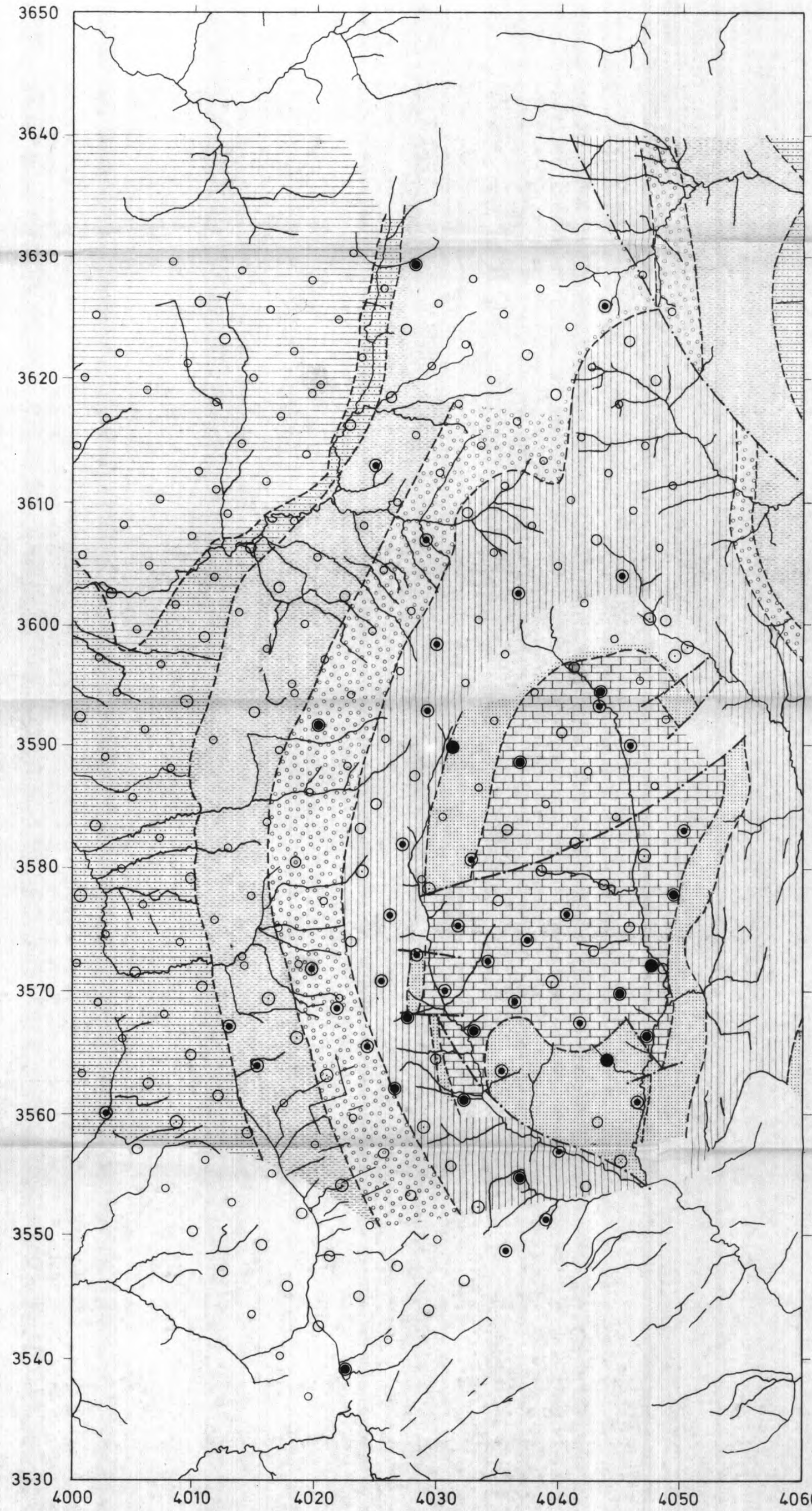


FIGURE 213 THE DISTRIBUTION OF ARSENIC IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

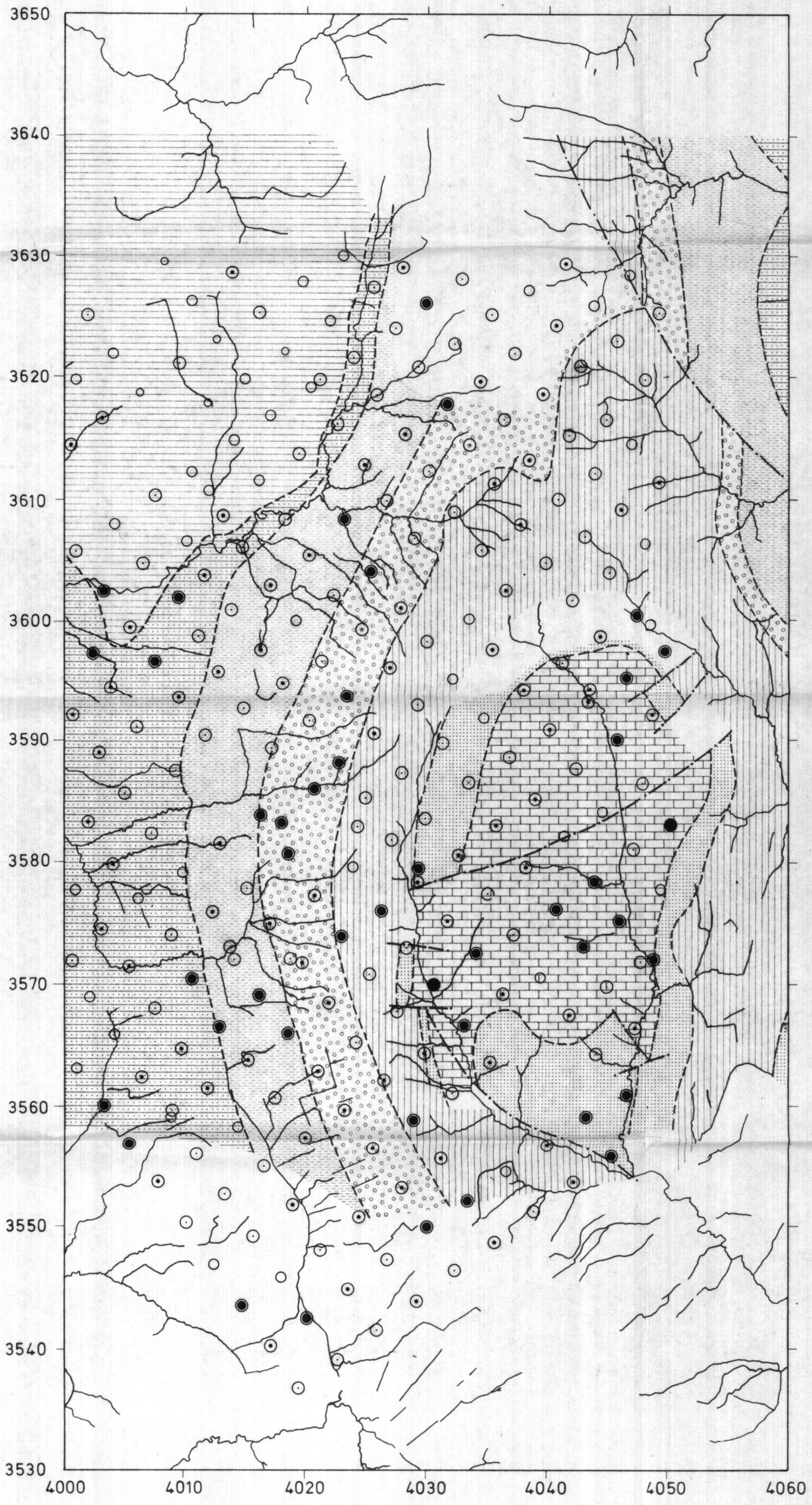
SYMBOL KEY
(concentration in ppm)

- <5
- 5 – 10
- 11 – 20
- 21 – 50
- 51 – 100
- >100

N

0 1/2 1
Miles

FIGURE 214 THE DISTRIBUTION OF CHROMIUM IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

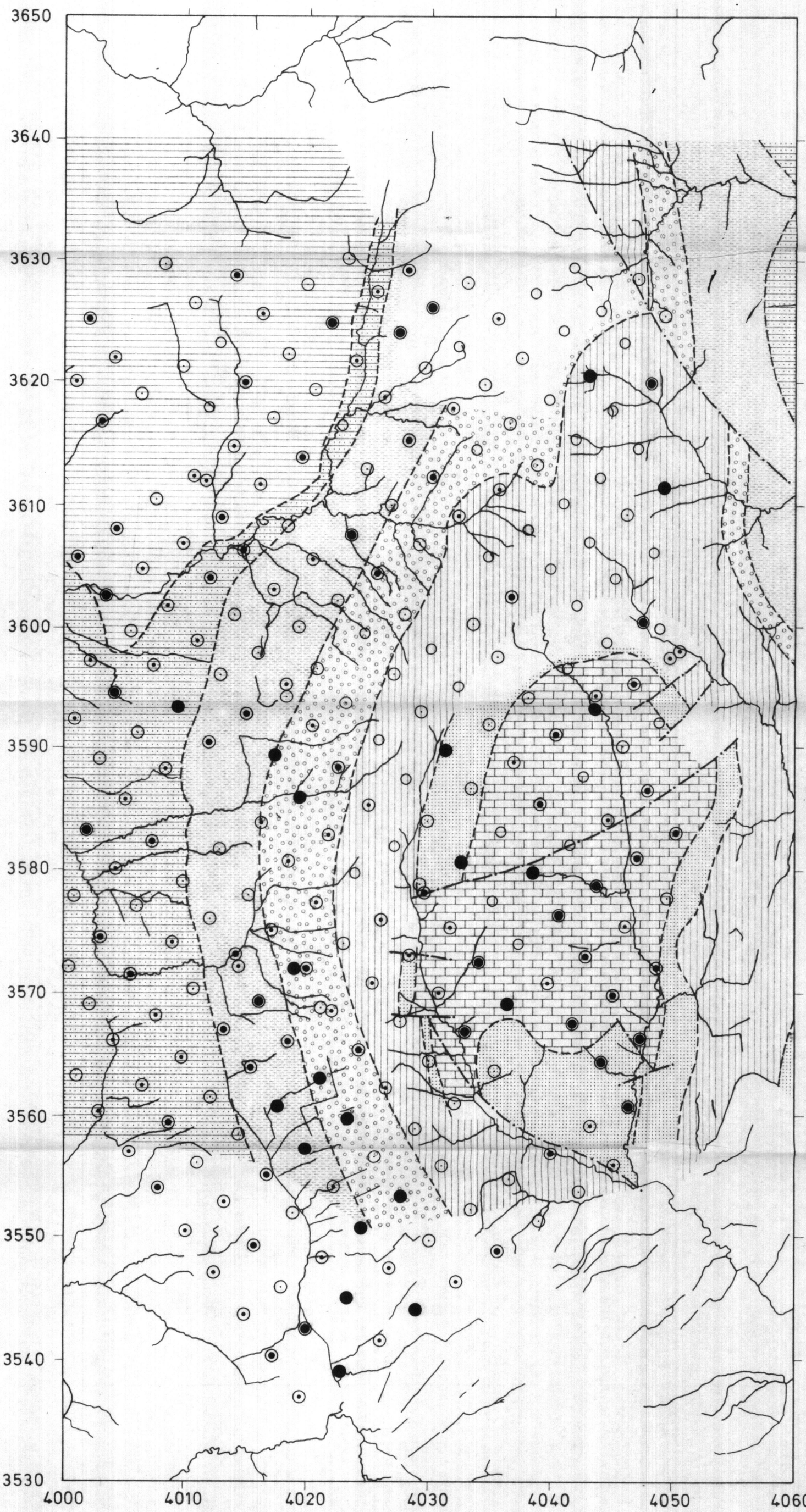
SYMBOL KEY
(concentration in ppm)

- ○ <70
- ○ 70 – 100
- ⊙ 101 – 150
- ⊙ 151 – 200
- ◉ 201 – 300
- ● >300

N

0 1/2 1
Miles

FIGURE 215 THE DISTRIBUTION OF COBALT IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

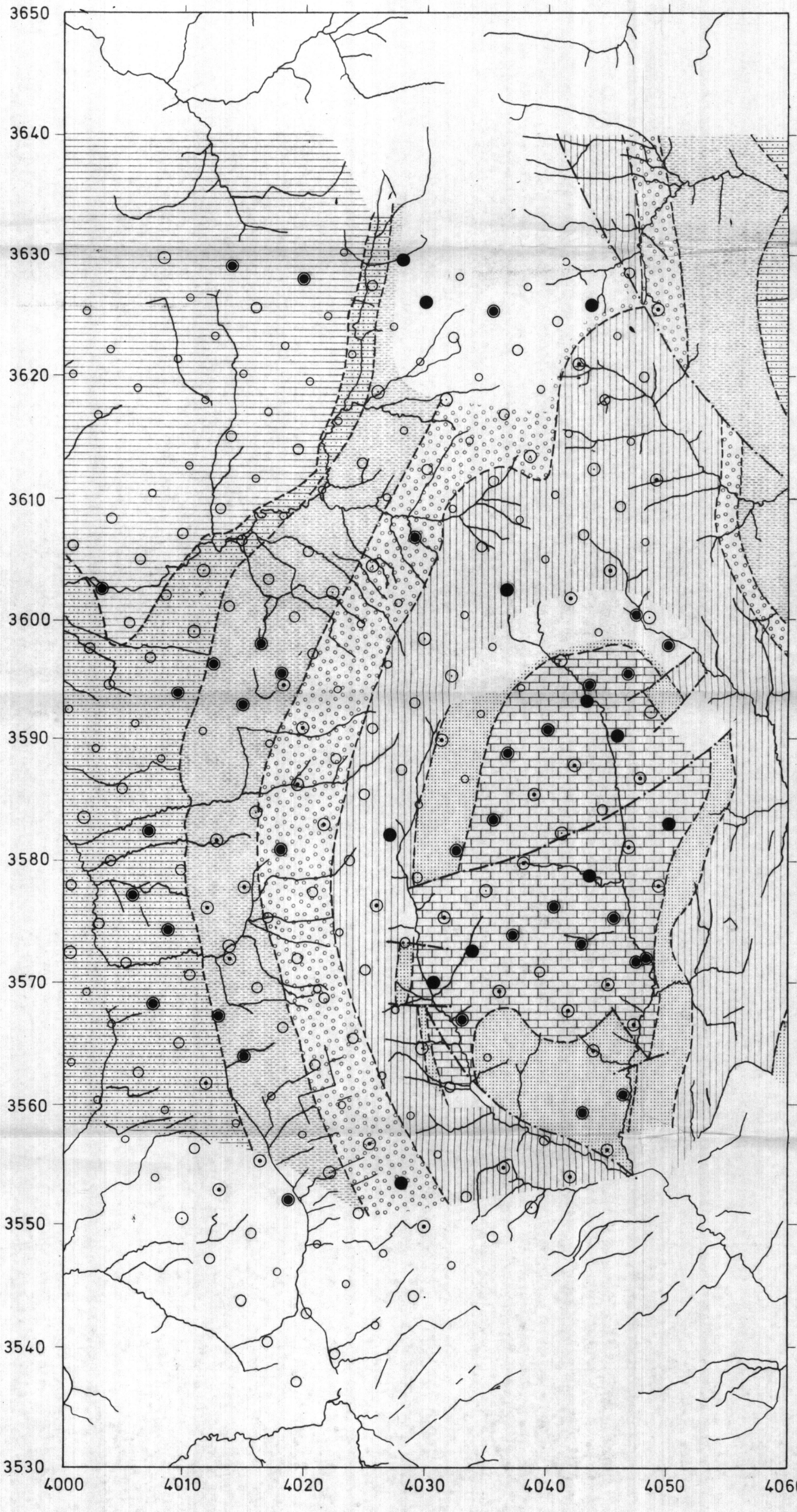
SYMBOL KEY
(concentration in ppm)

- <5
- 5 – 7
- 8 – 10
- 11 – 15
- 16 – 20
- 21 – 30

N

0 1/2 1
Miles

FIGURE 216 THE DISTRIBUTION OF COPPER IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

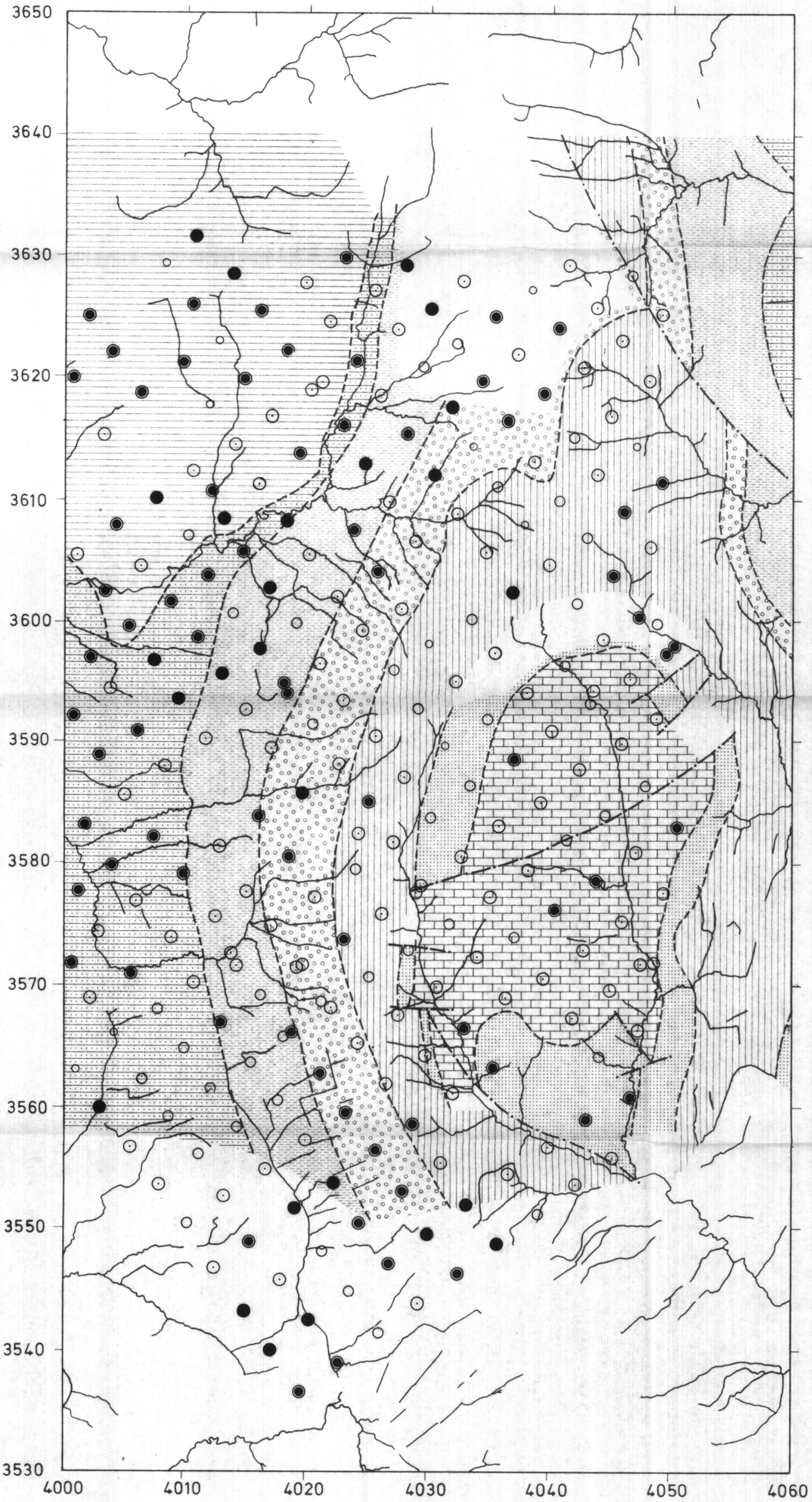
SYMBOL KEY
(concentration in ppm)

- <3
- 3 – 7
- 8 – 15
- 16 – 30
- 31 – 70
- >70

N

0 ½ 1
Miles

FIGURE 217 THE DISTRIBUTION OF GALLIUM IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

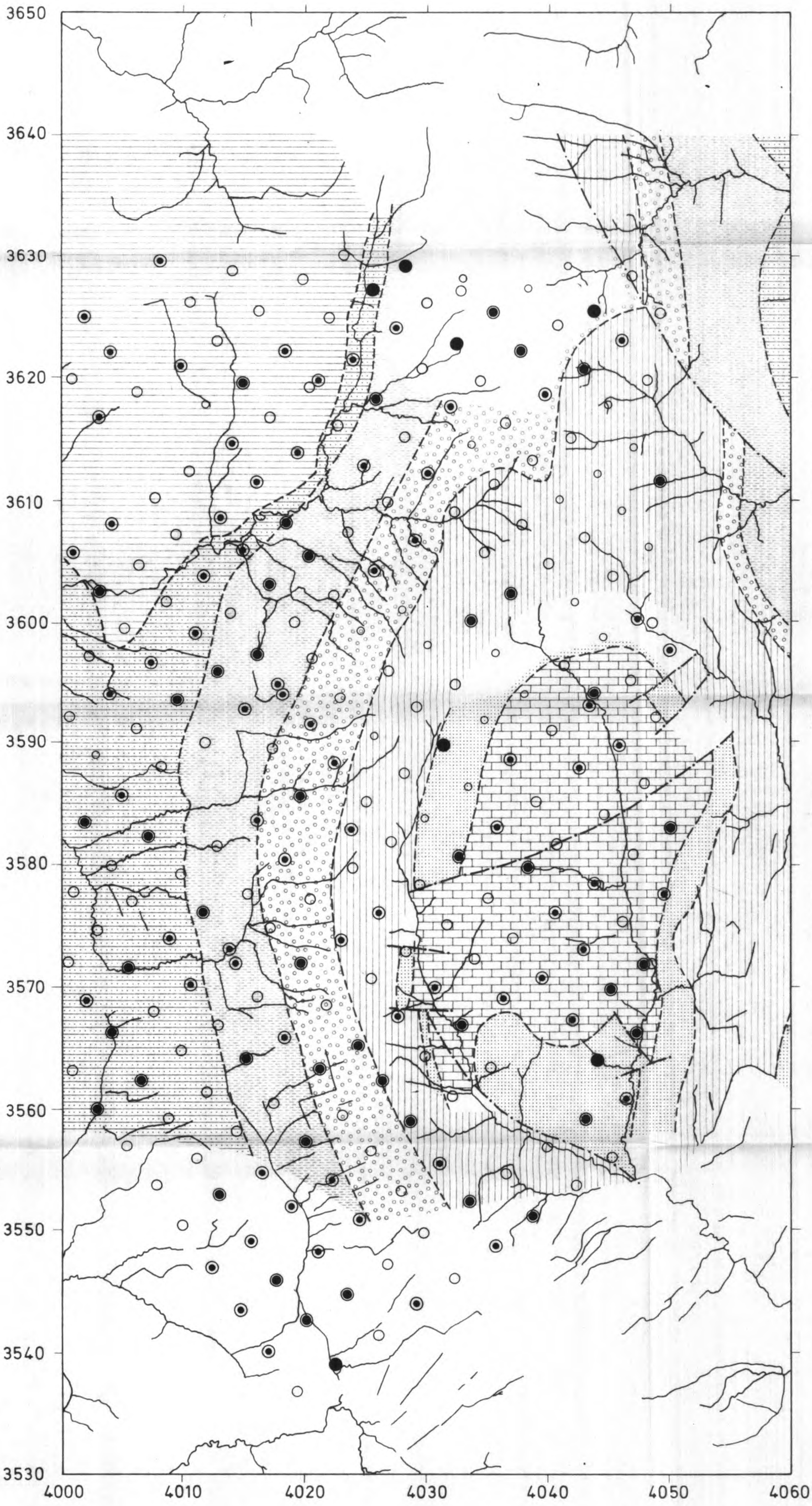
SYMBOL KEY (concentration in ppm)

- < 7
- 7 — 10
- 11 — 15
- 16 — 20
- 21 — 30

N

0 1/2 1
Miles

FIGURE 218 THE DISTRIBUTION OF IRON IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

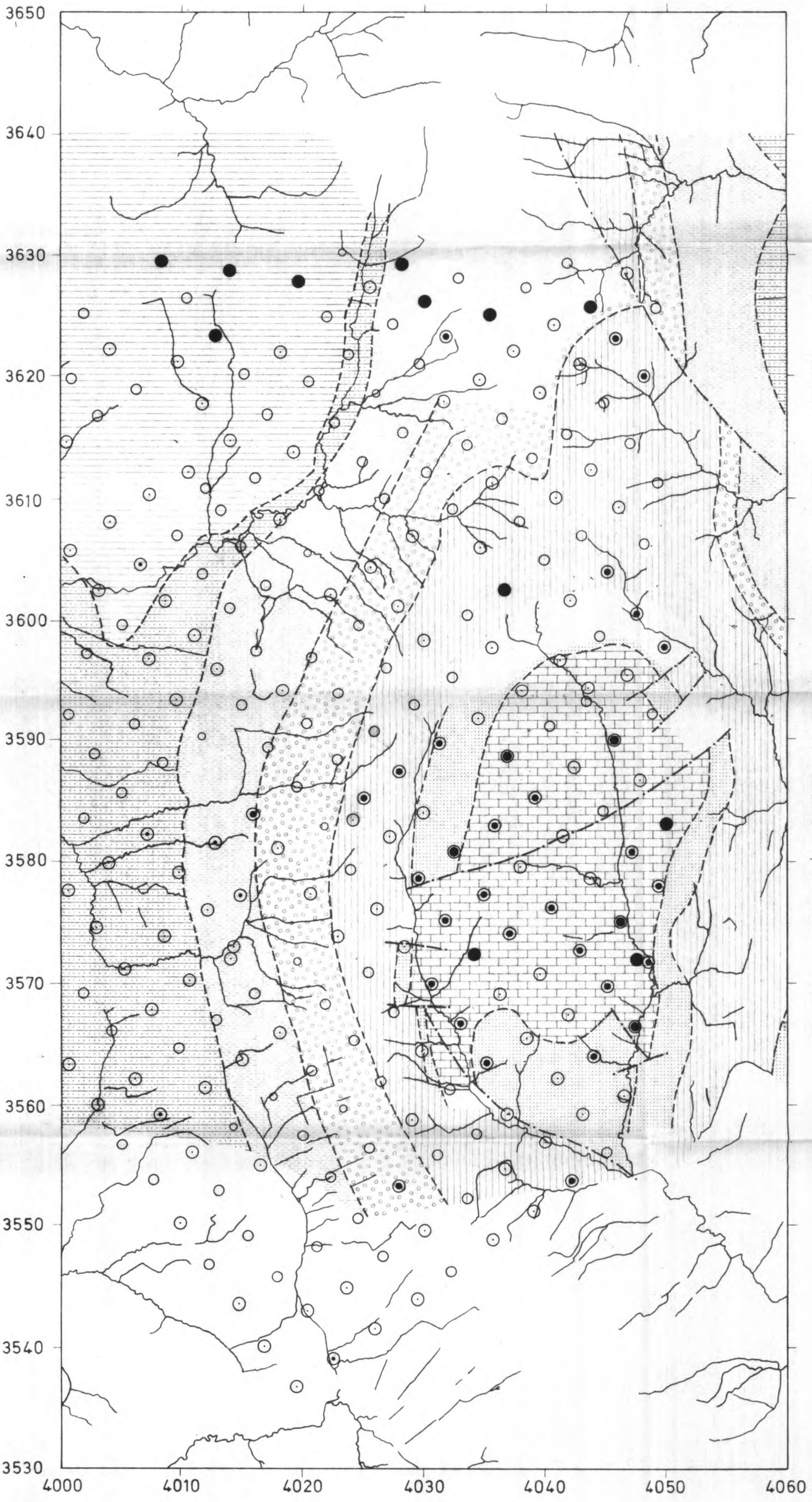
SYMBOL KEY
(concentration in %)

- <3
- 4 – 5
- 6 – 7
- 8 – 15
- >15

N

0 1/2 1
Miles

FIGURE 219 THE DISTRIBUTION OF LEAD IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non–marine shales with marine bands
- S.U. 6 — Shale–grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales, with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non–feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

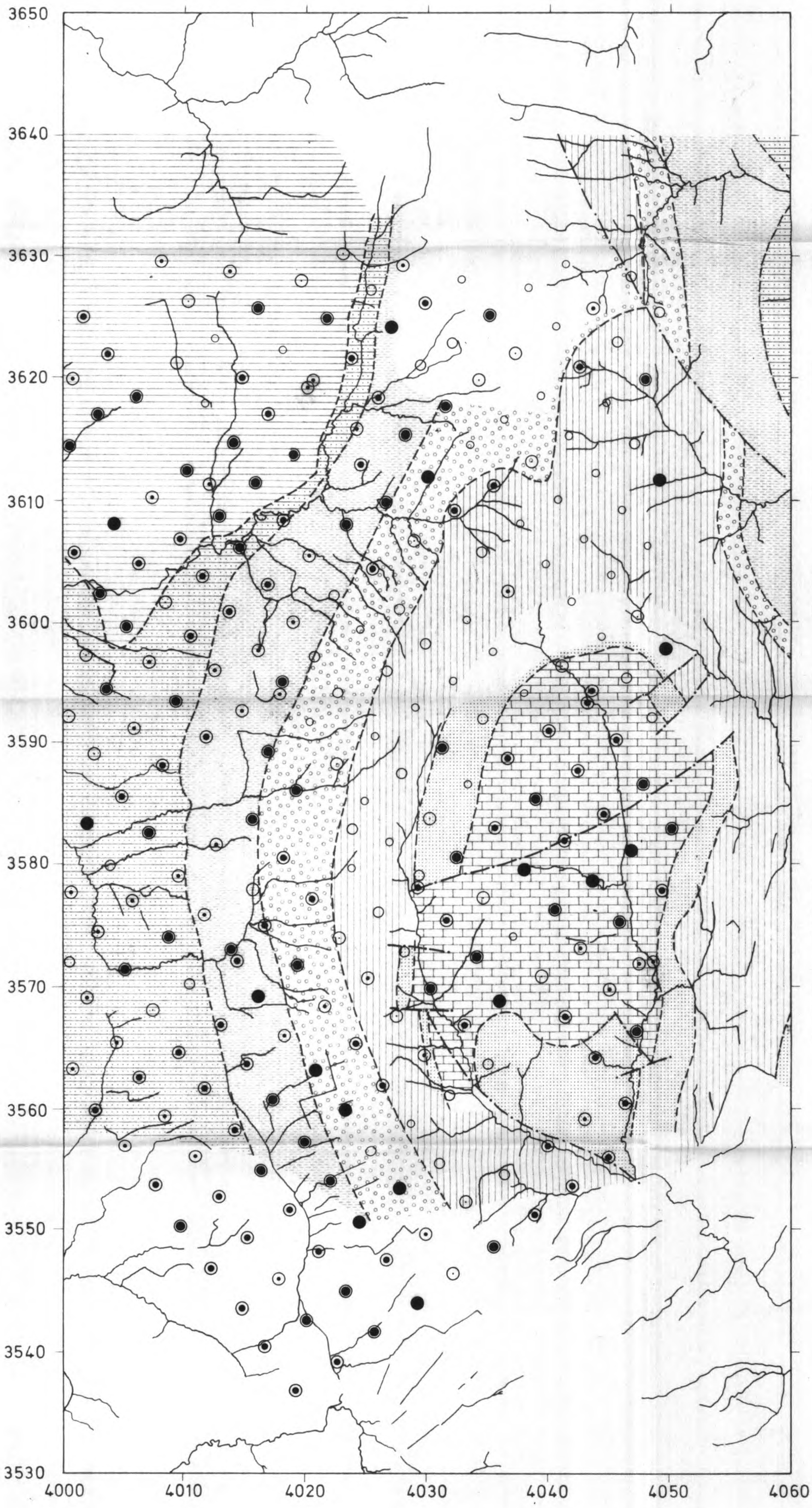
SYMBOL KEY (concentration in ppm)

- <15
- 15 – 30
- 31 – 70
- 71 – 150
- 151 – 300
- >300

N

0 1/2 1
Miles

FIGURE 220 THE DISTRIBUTION OF MANGANESE IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

SYMBOL KEY (concentration in ppm)

- <50
- 50 – 100
- 101 – 200
- 201 – 500
- 501 – 1000
- 1001 – 2000
- >2000

N

0 1/2 1
Miles

FIGURE 221 THE DISTRIBUTION OF MOLYBDENUM IN THE ONECOTE AREA SOILS

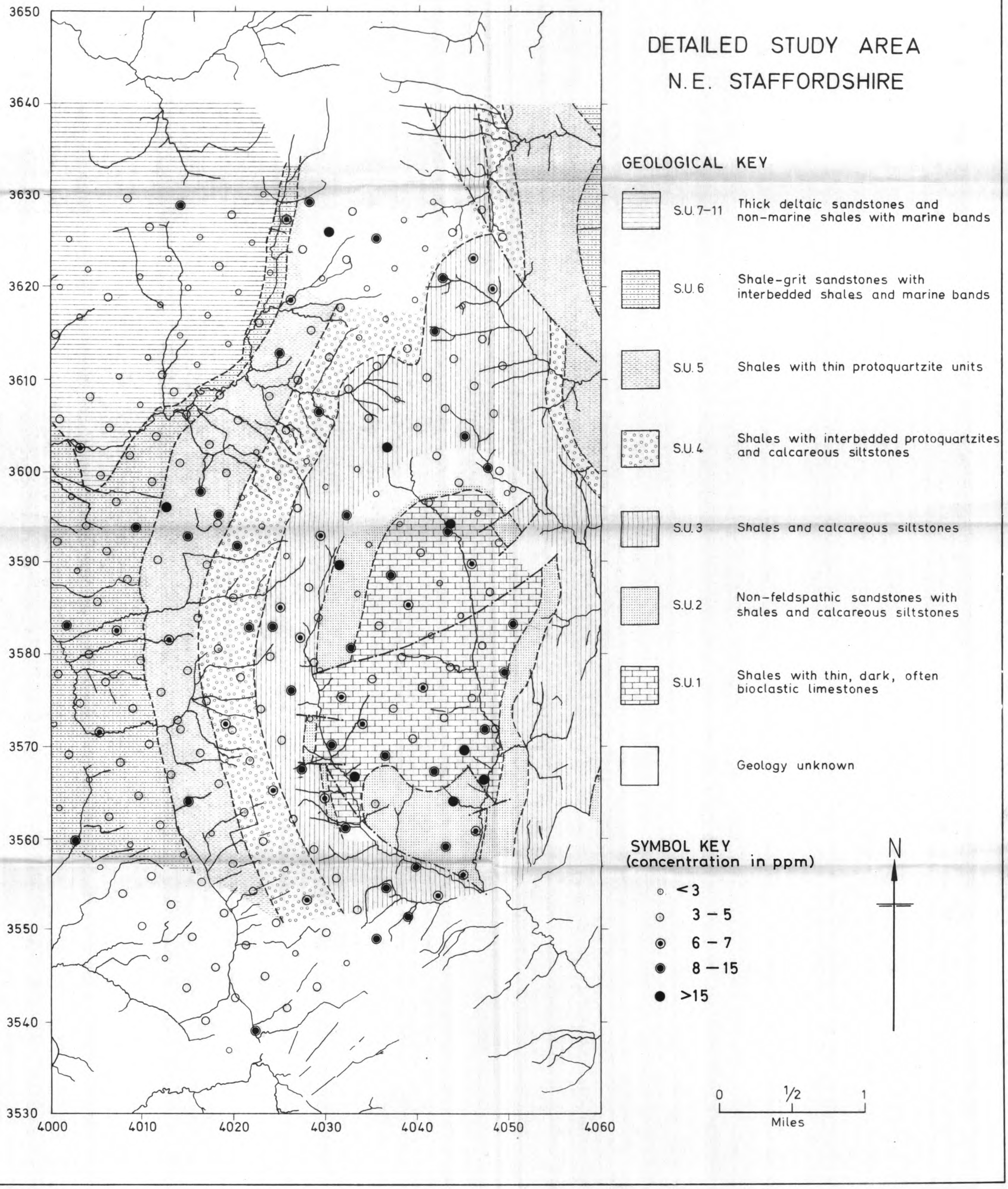


FIGURE 222 THE DISTRIBUTION OF NICKEL IN THE ONECOTE AREA SOILS

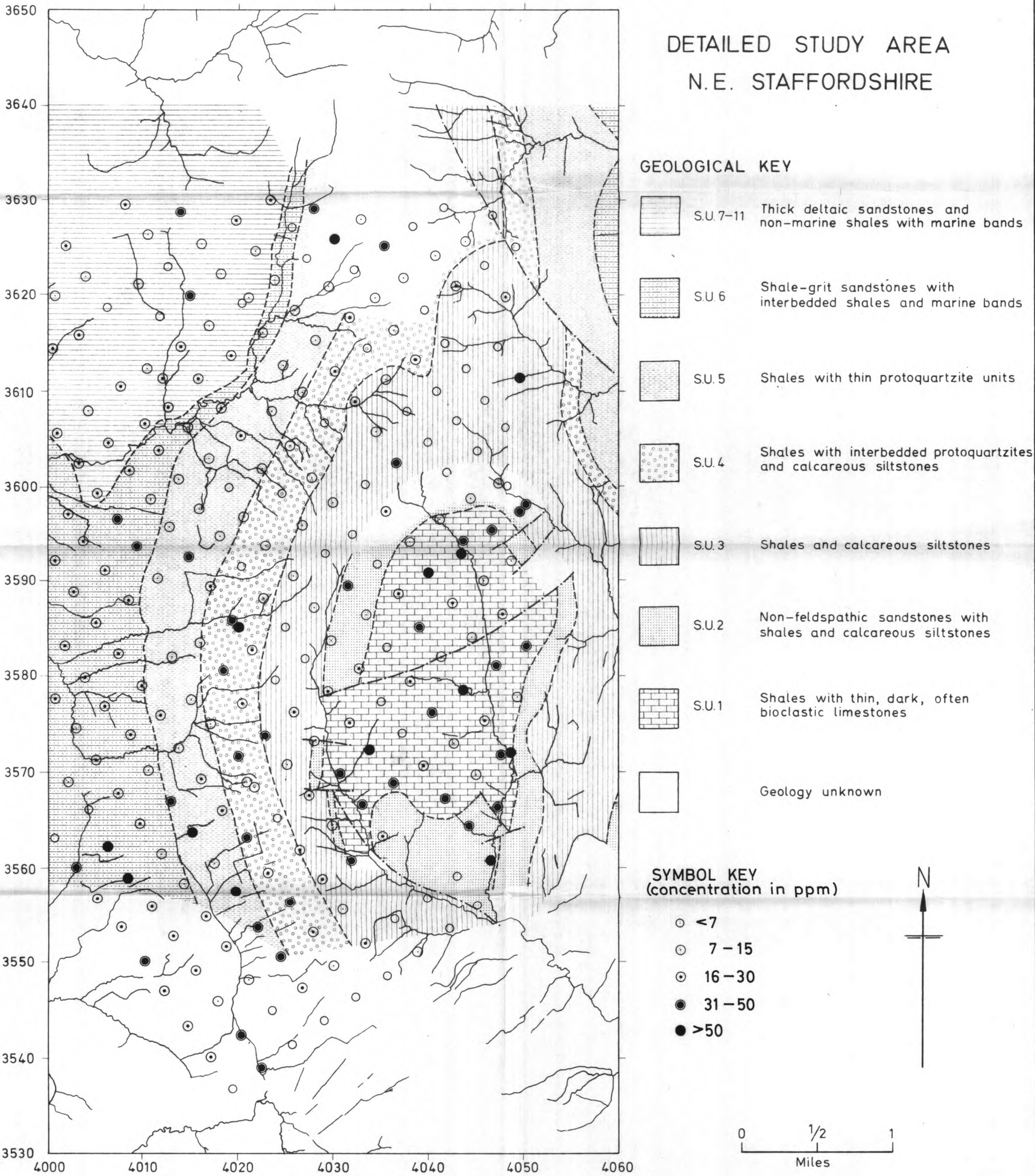
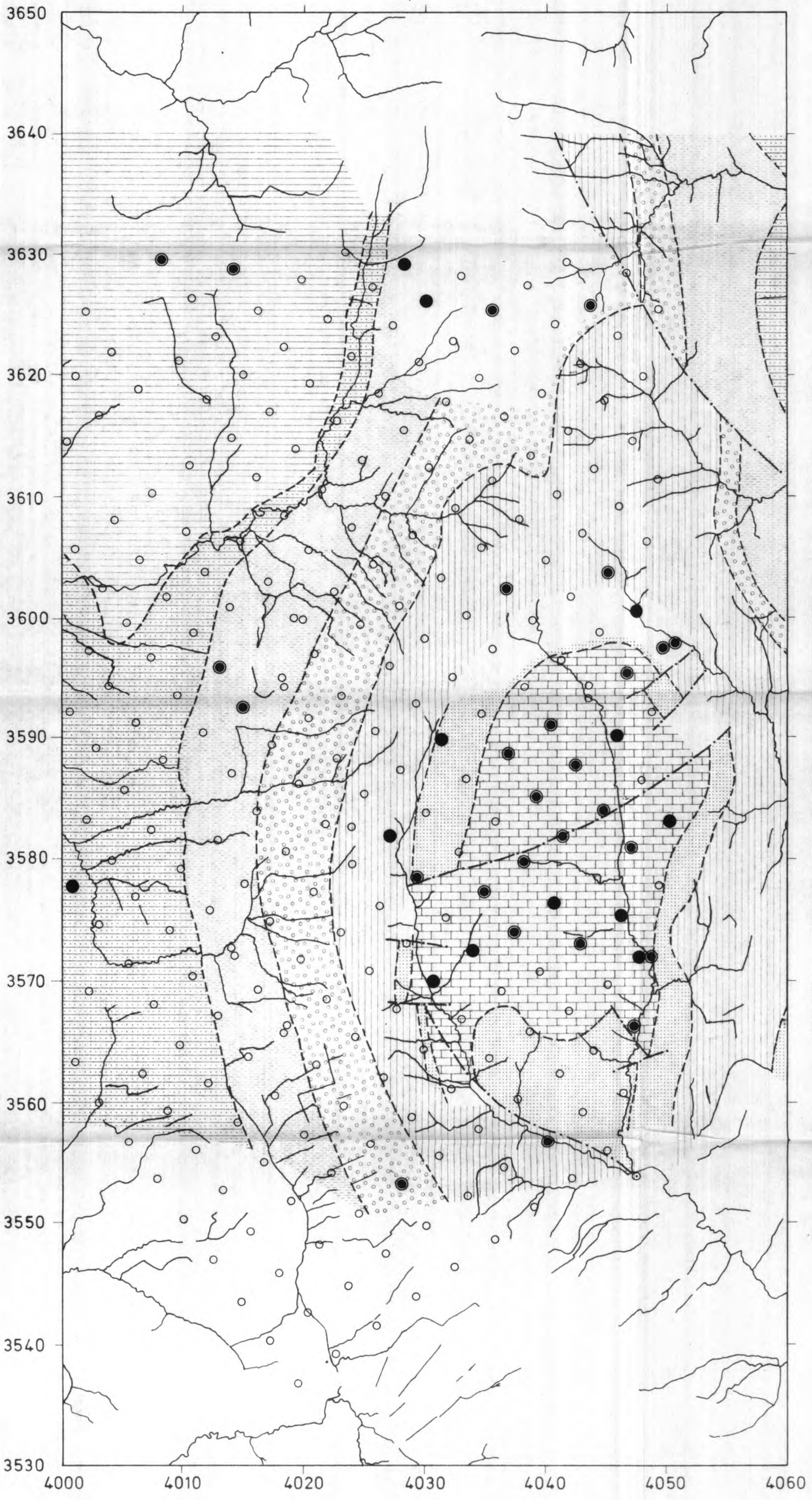


FIGURE 223 THE DISTRIBUTION OF SILVER IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

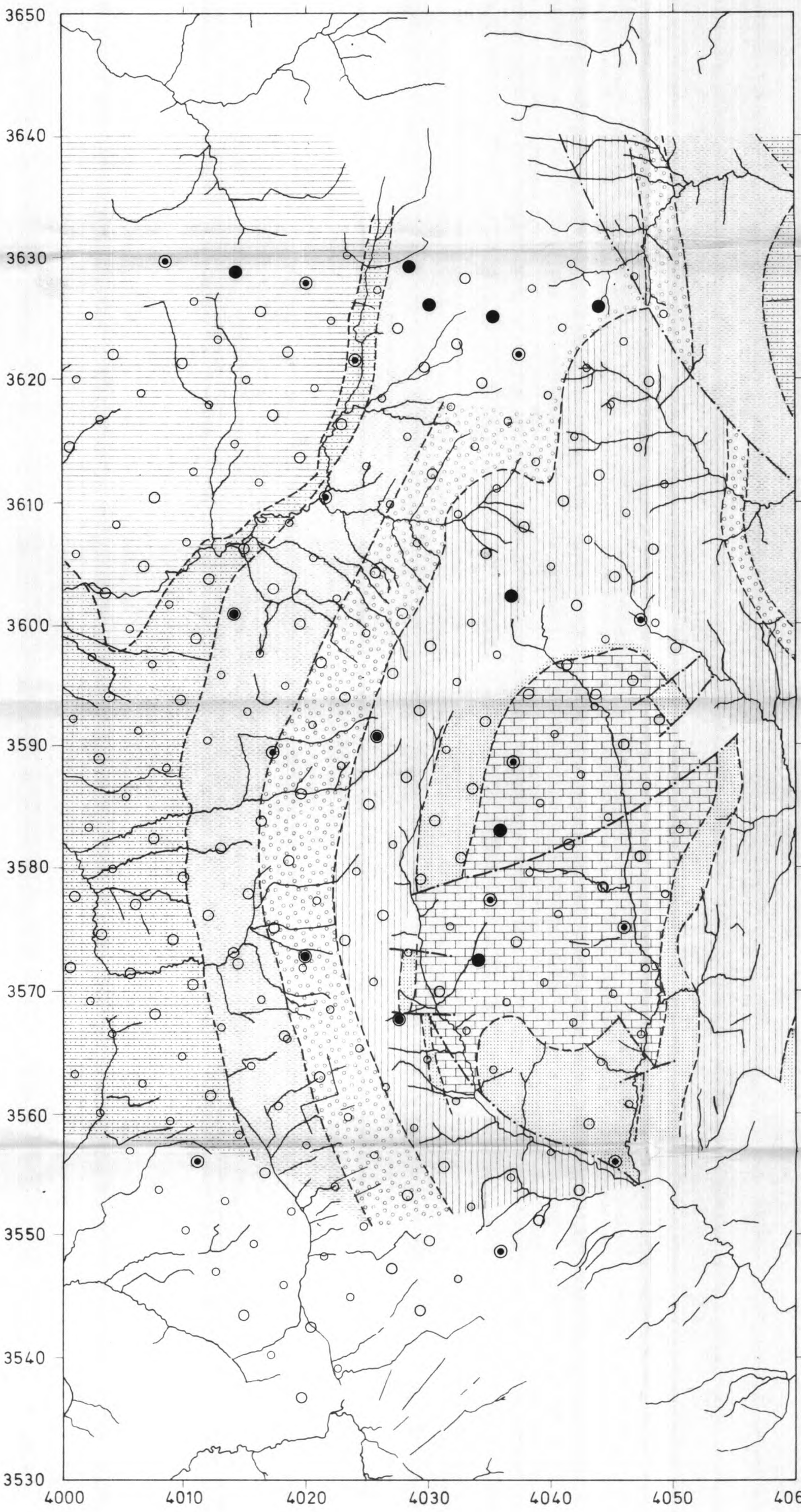
SYMBOL KEY
(concentration in ppm)

- ○ <1
- ◉ 2–5
- ● >5

N

0 1/2 1
Miles

FIGURE 224 THE DISTRIBUTION OF TIN IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

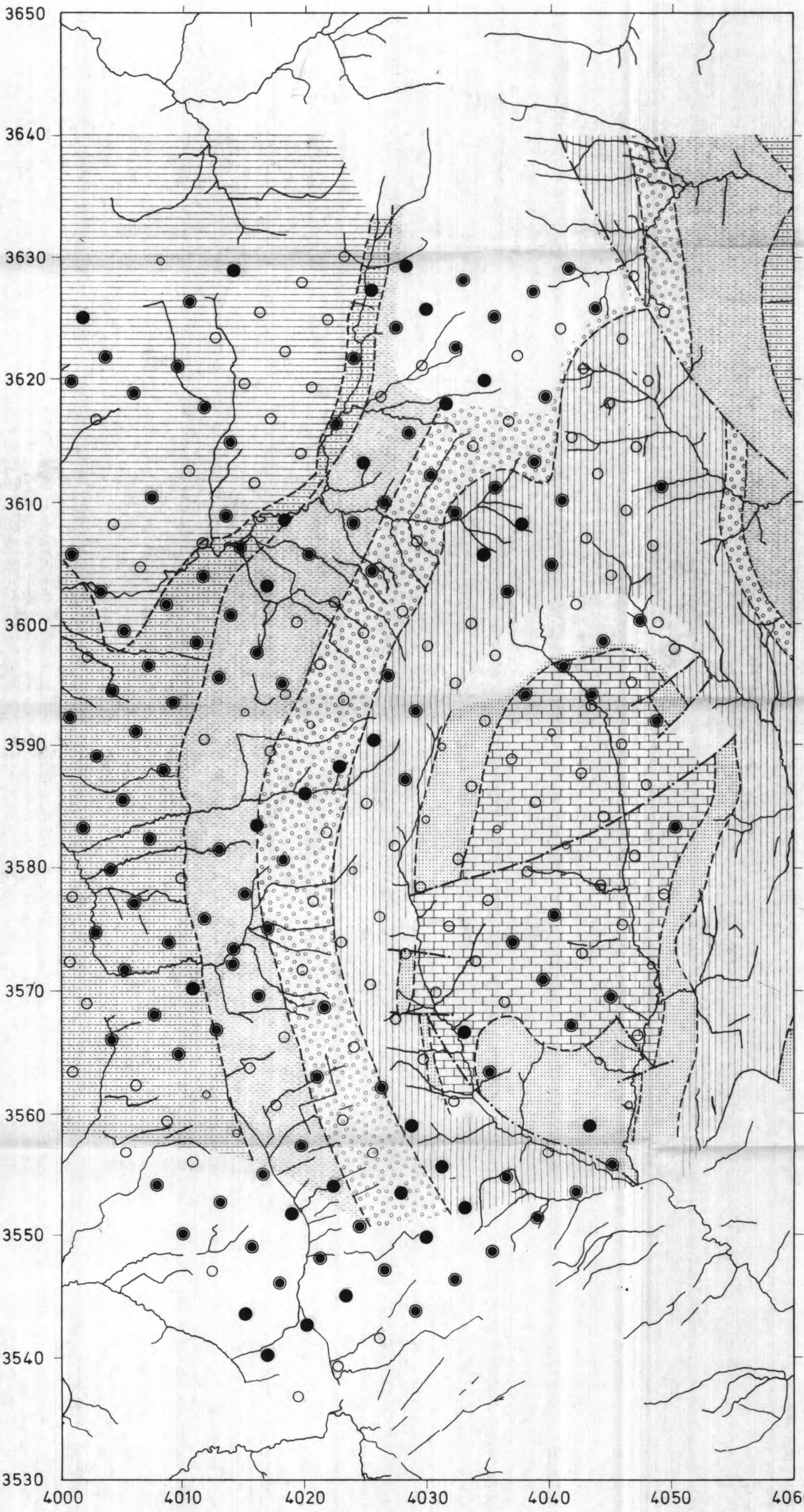
SYMBOL KEY (concentration in ppm)

- <5
- 5 – 7
- 8 – 15
- 16 – 30
- >30

N

0 1/2 1
Miles

FIGURE 225 THE DISTRIBUTION OF TITANIUM IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

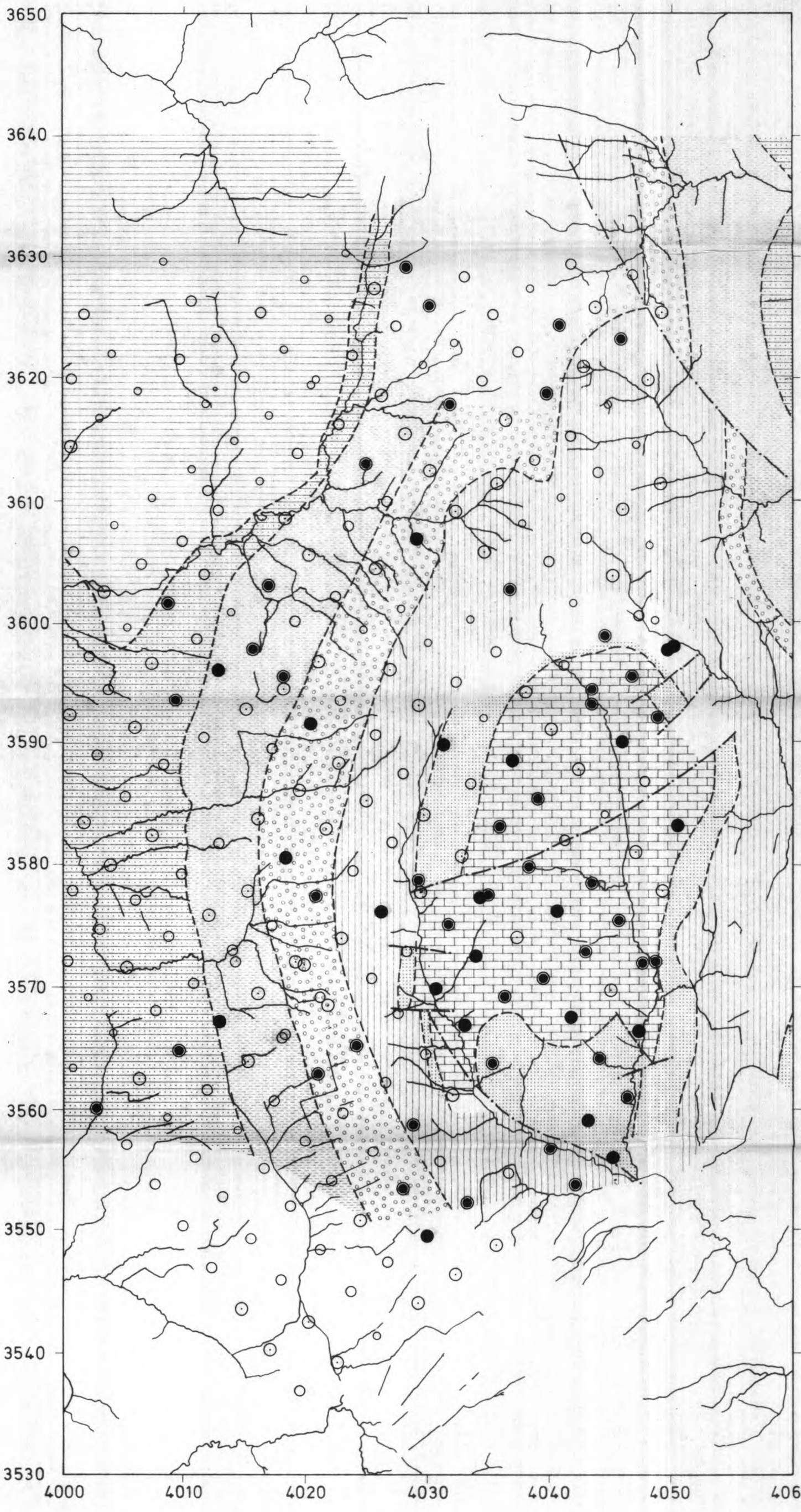
SYMBOL KEY
(concentration in ppm)

- ⊙ < 5000
- ⊙ 5000 – 7000
- ◉ 7001 – 10 000
- ● > 10 000

N

0 1/2 1
Miles

FIGURE 226 THE DISTRIBUTION OF VANADIUM IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

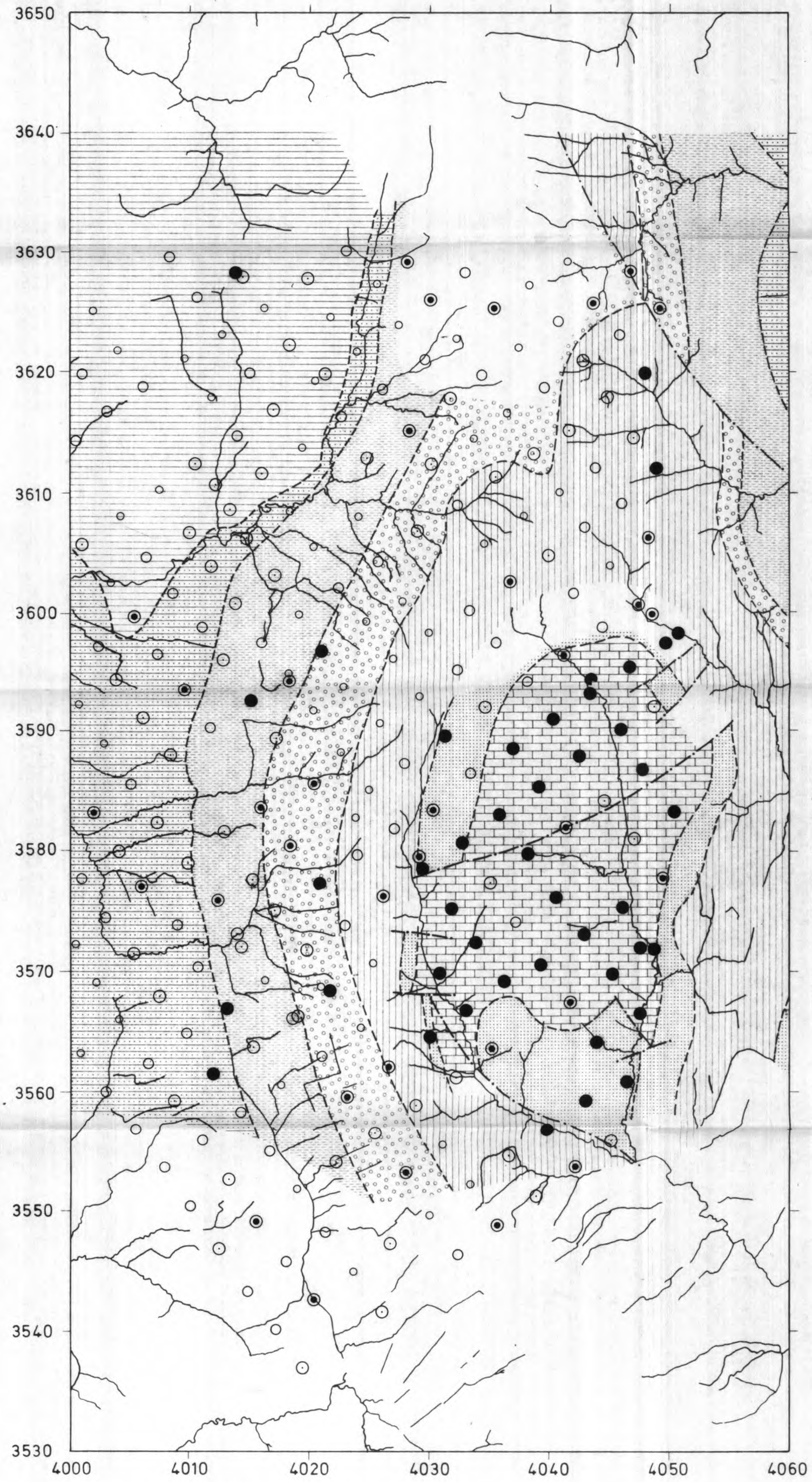
SYMBOL KEY (concentration in ppm)

- <30
- 30 – 70
- 71 – 150
- 151 – 300
- 301 – 700
- >700

N

0 1/2 1
Miles

FIGURE 227 THE DISTRIBUTION OF ZINC IN THE ONECOTE AREA SOILS



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

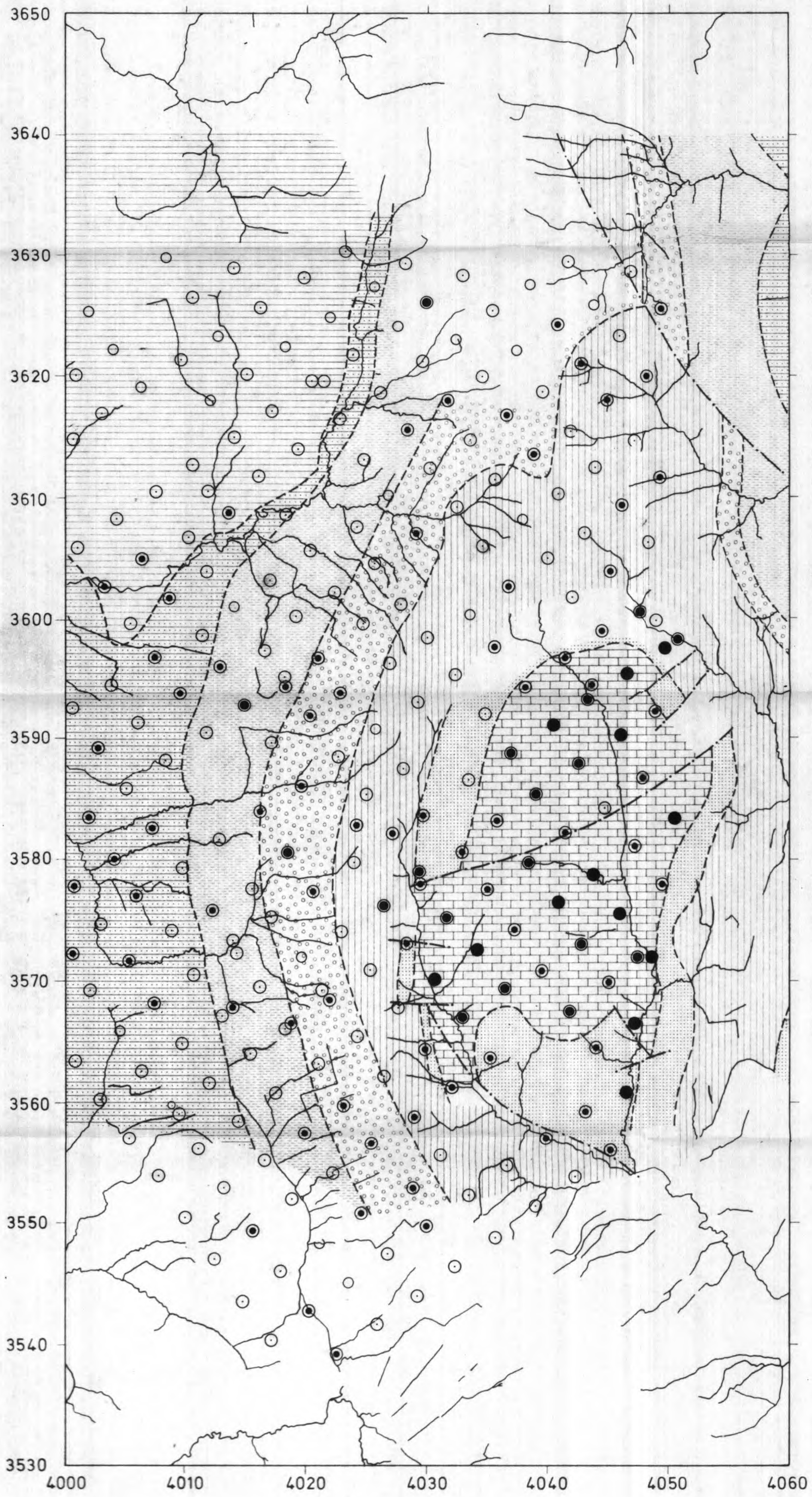
SYMBOL KEY
(concentration in ppm)

- <50
- 50 – 70
- 71 – 100
- 101 – 150
- >150

N

0 ½ 1
Miles

FIGURE 228 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA SOILS: FACTOR 1, Zn–V–Cr–Cu–Ag–Ni, POSITIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

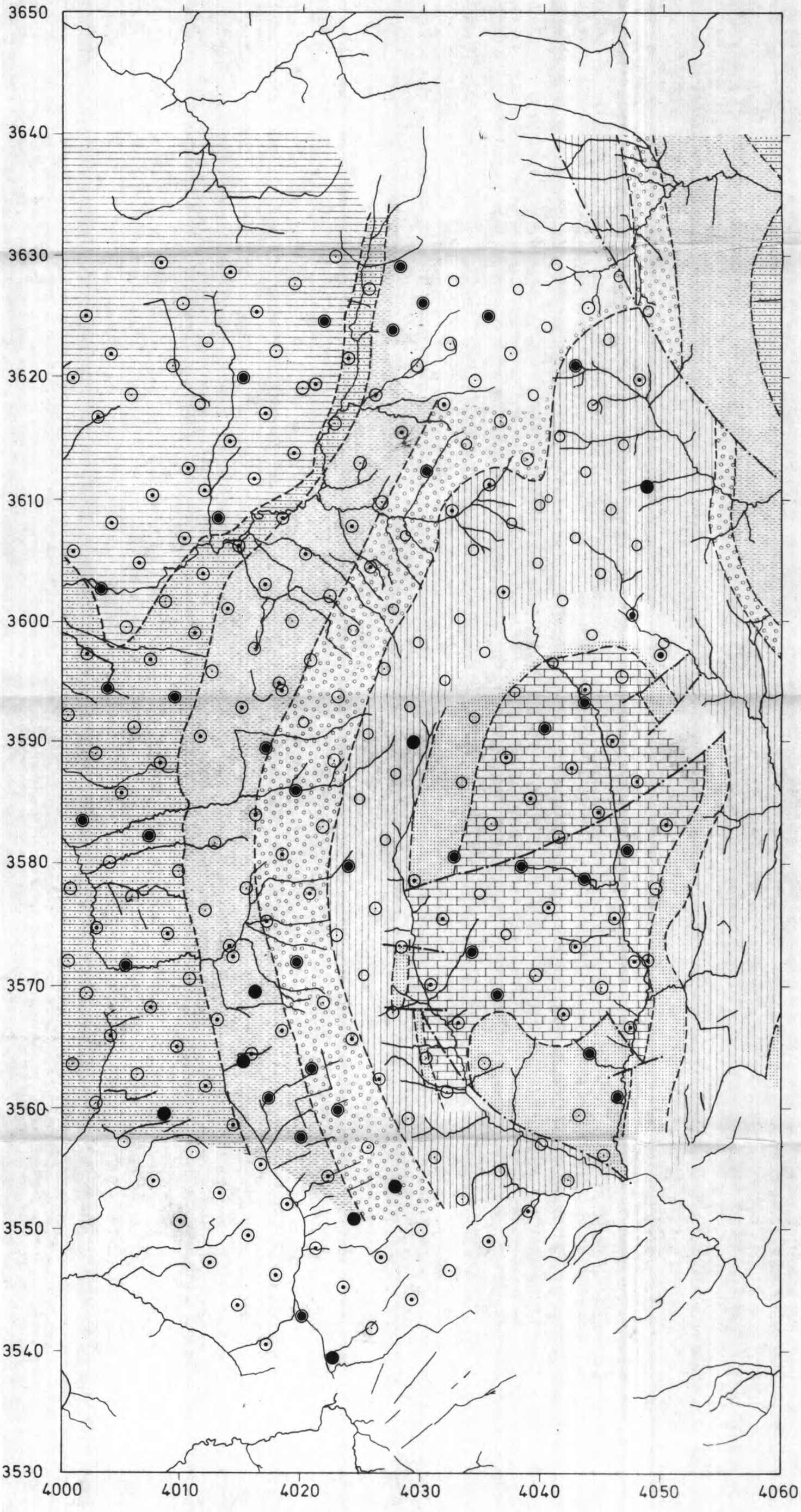
SYMBOL KEY

- ○ <– 2·00
- ○ –1·99 to 1·00
- ○ –0·99 to 0·00
- ◉ 0·01 to 0·99
- ◉ 1·00 to 1·99
- ● >2·00

N

0 1/2 1
Miles

FIGURE 229 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA SOILS: FACTOR 2, Mn – Co – Ni – Fe, POSITIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

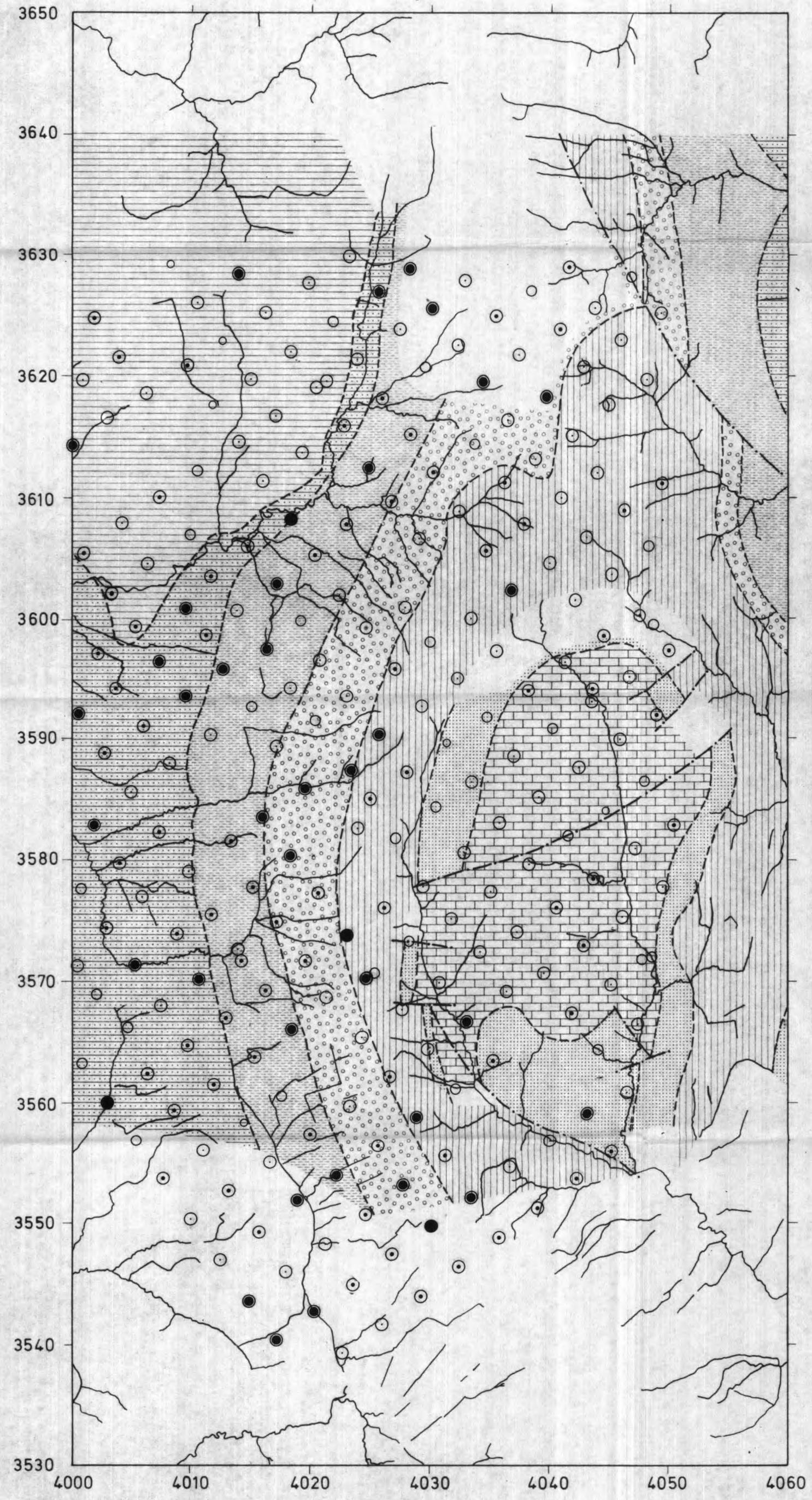
SYMBOL KEY

- <–2·00
- –1·99 to –1·00
- –0·99 to 0·00
- 0·01 to 0·99
- 1·00 to 1·99
- >2·00

N

0 1/2 1
Miles

FIGURE 230 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA SOILS: FACTOR 3, Ti–Ga–Cr–V, NEGATIVE FACTOR



DETAILED STUDY AREA ,
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

S.U. 7–11	Thick deltaic sandstones and non–marine shales with marine bands
S.U. 6	Shale–grit sandstones with interbedded shales and marine bands
S.U. 5	Shales with thin protoquartzite units
S.U. 4	Shales with interbedded protoquartzites and calcareous siltstones
S.U. 3	Shales and calcareous siltstones
S.U. 2	Non–feldspathic sandstones with shales and calcareous siltstones
S.U. 1	Shales with thin, dark, often bioclastic limestones
	Geology unknown

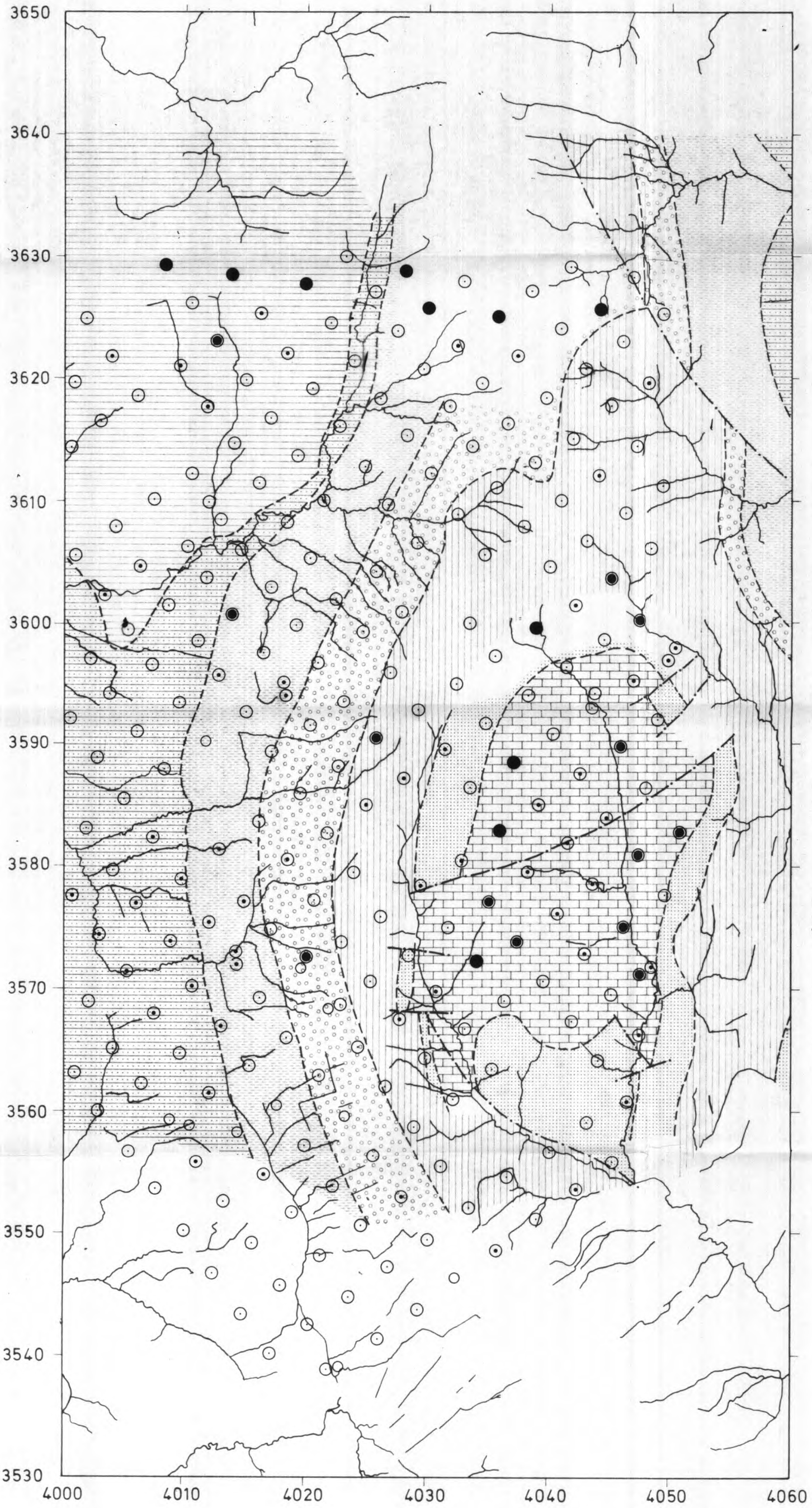
SYMBOL KEY

- ○ >2·00
- ○ 1·99 to 1·00
- ○ 0·99 to 0·00
- ⊙ 0·01 to –0·99
- ● –1·00 to –1·99
- ● <–2·00

N

0 1/2 1
Miles

FIGURE 231 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA SOILS: FACTOR 4, Sn–Pb–Ag–Cu, NEGATIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

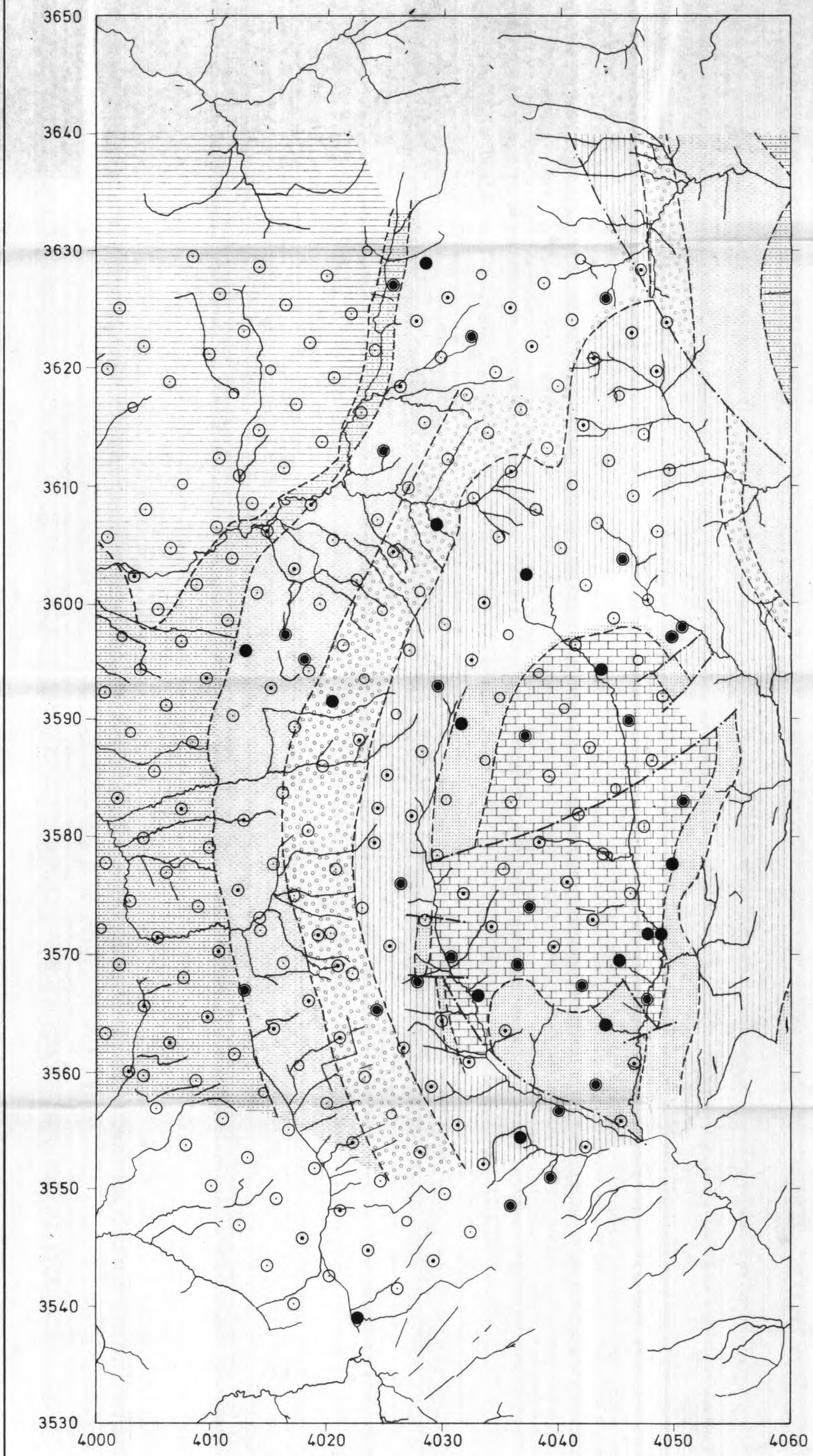
SYMBOL KEY

- >2·00
- 1·99 to 1·00
- 0·99 to 0·00
- −0·01 to −0·99
- −1·00 to −1·99
- <−2·00

N

0 1/2 1
Miles

FIGURE 232 THE DISTRIBUTION OF FACTOR SCORES IN THE ONECOTE AREA SOILS: FACTOR 5, As—Mo—Fe—V, NEGATIVE FACTOR



DETAILED STUDY AREA
N.E. STAFFORDSHIRE

GEOLOGICAL KEY

- S.U. 7–11 — Thick deltaic sandstones and non-marine shales with marine bands
- S.U. 6 — Shale-grit sandstones with interbedded shales and marine bands
- S.U. 5 — Shales with thin protoquartzite units
- S.U. 4 — Shales with interbedded protoquartzites and calcareous siltstones
- S.U. 3 — Shales and calcareous siltstones
- S.U. 2 — Non-feldspathic sandstones with shales and calcareous siltstones
- S.U. 1 — Shales with thin, dark, often bioclastic limestones
- Geology unknown

SYMBOL KEY

- ○ >2·00
- ⊙ 1·99 to 1·00
- ⊙ 0·99 to 0·00
- ⊙ −0·01 to −0·99
- ◉ −1·00 to −1·99
- ● <−2·00

N

0 1/2 1
Miles