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Geology and Origin of the Century Zinc Deposit

Thesis submitted by

Graeme Charles BROADBENT BSc Vic

in 1999

Volume 3. Charts and journal reprint

For the degree of Doctor of Philosophy

in the Department of Earth Sciences

James Cook University of North Queensland

Geology and Origin of Shale-Hosted Zn-Pb-Ag Mineralization at the Century Deposit, Northwest Queensland, Australia

GRAEME C. BROADBENT,[†]

Rio Tinto Exploration, P.O. Box 175, Belmont, Western Australia 6104, Australia

RUSSELL E. MYERS,

Key Centre in Economic Geology, School of Earth Sciences, James Cook University, Queensland 4811, Australia

AND JOHN V. WRIGHT

Hoogstraat 50, 1381 VV Weesp, Netherlands

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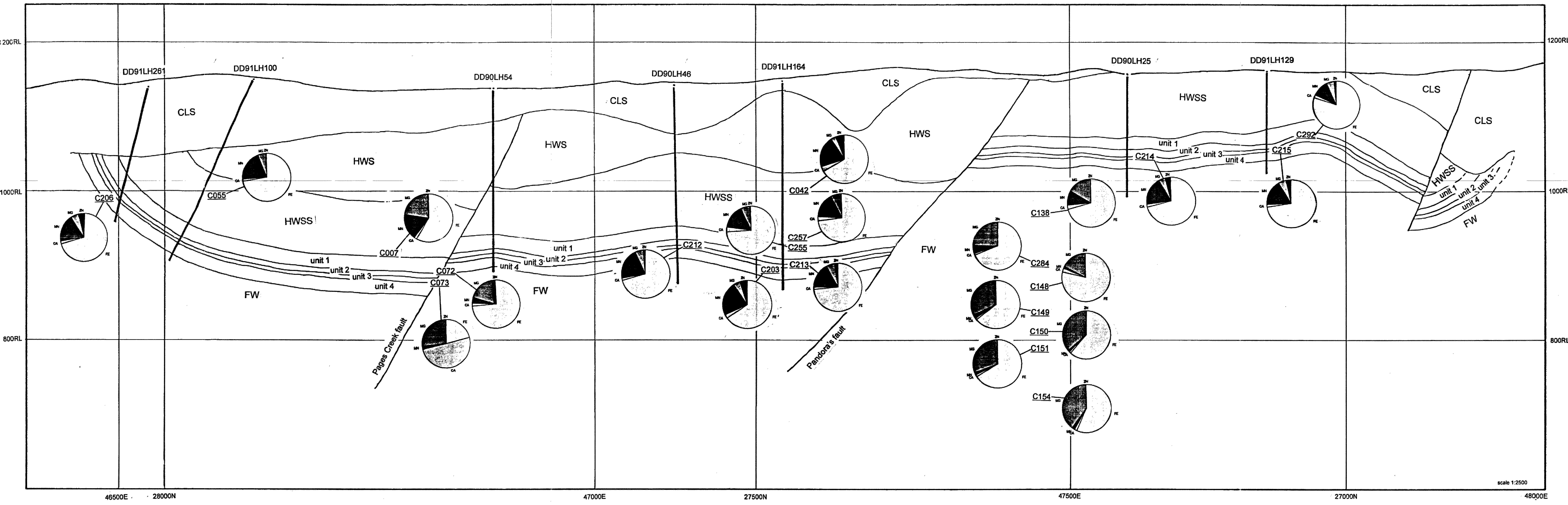
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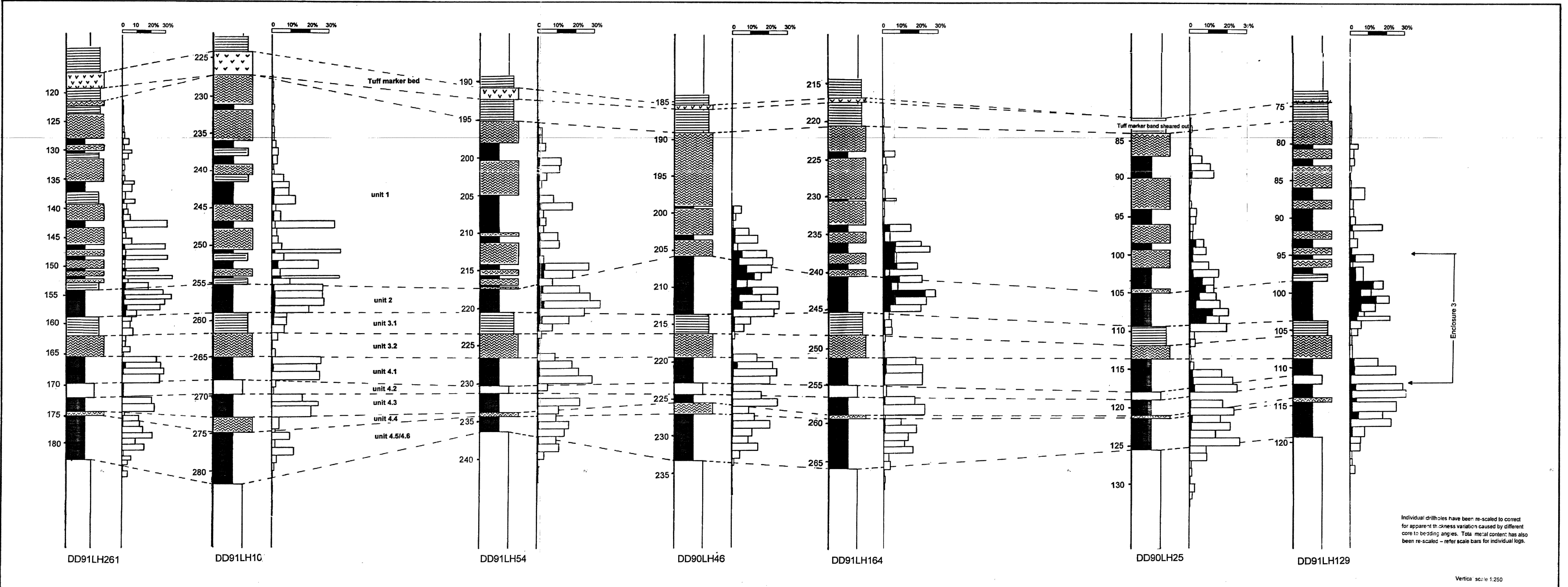
NW **Key:** 0 10% 20% 30% CLS Cambrian Limestone Pie diagram of averaged composition of siderite (all analyses) as determined by microprobe analysis. Analytical data are in Appendix 3. **SE**

- Tuff Marker bed
- thinly bedded siltstones/sand facies
- stylolitic siltstone facies
- shale facies

Zinc % (ore zone intervals only)
Lead %

- HWS Hanging Wall Sandstone
- HWSS Hanging Wall Siltstone
- FW Footwall Sequence

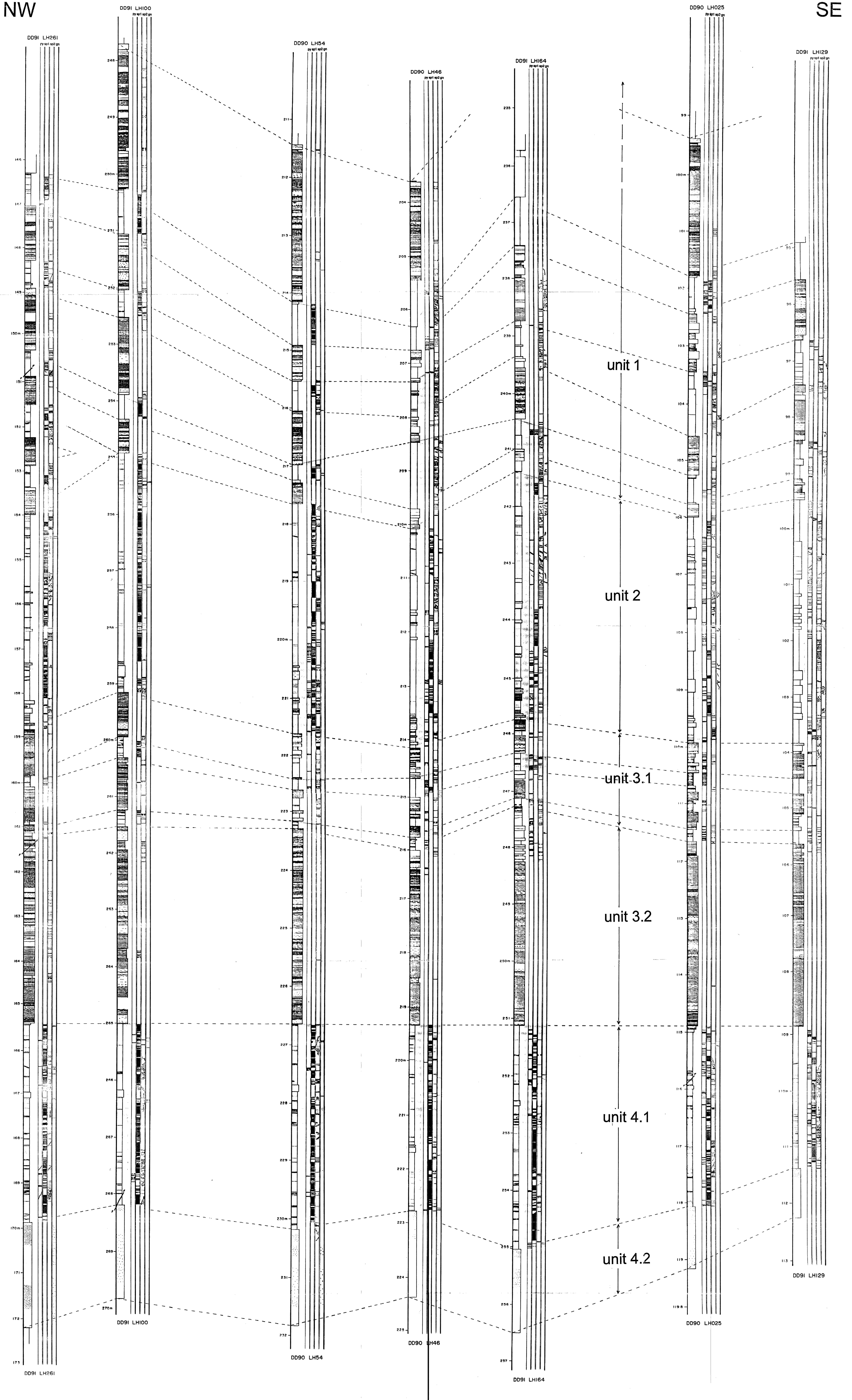
Sample locations for siderite analysis, projected to approximate plane of transect.



Enclosure 2. Century Deposit. Geological cross section and assay profiles, SE-NW transect

NW

SE

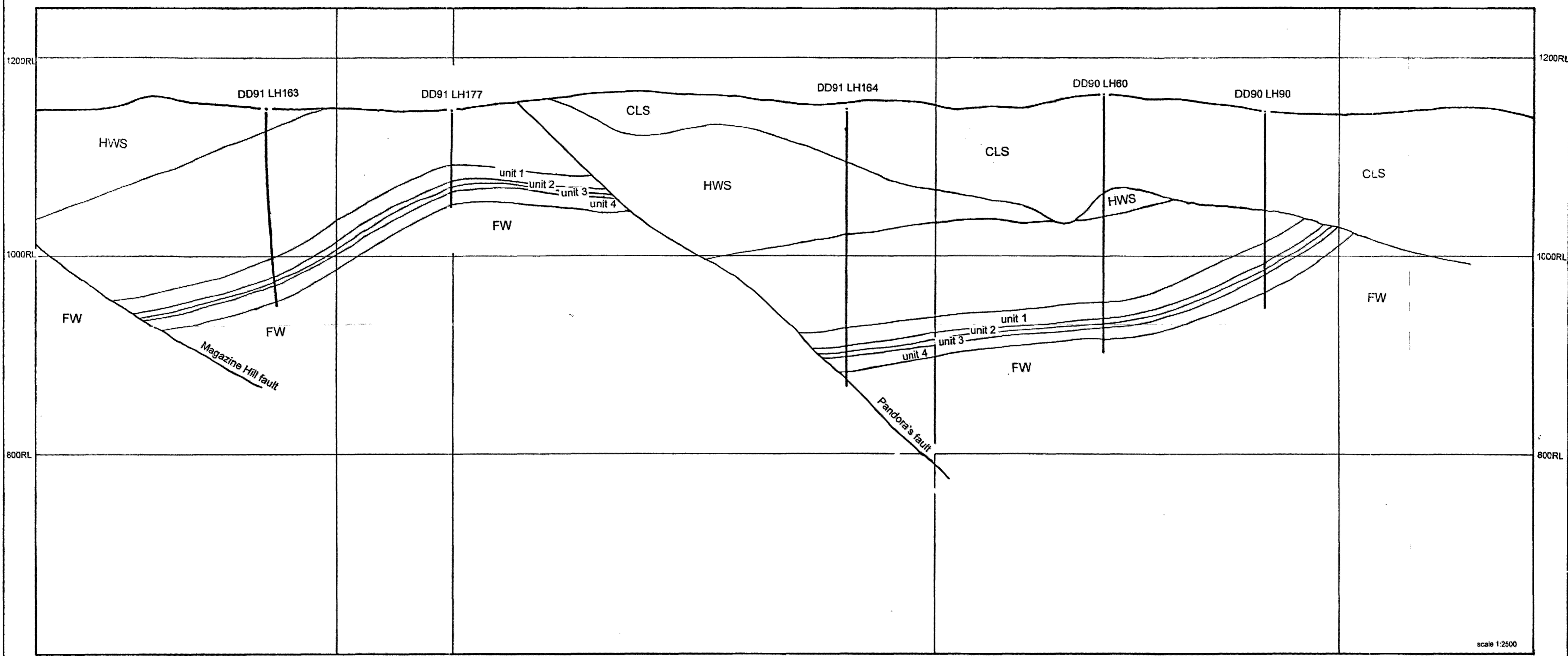


Enclosure 3. Century Deposit. NW - SE detailed core logging transect.

Key:

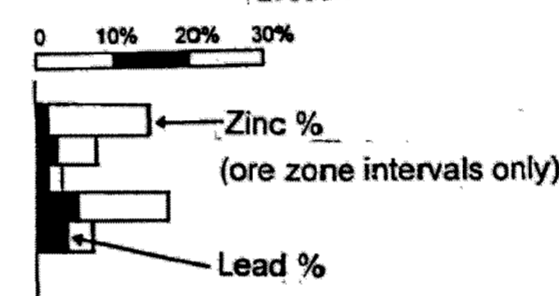
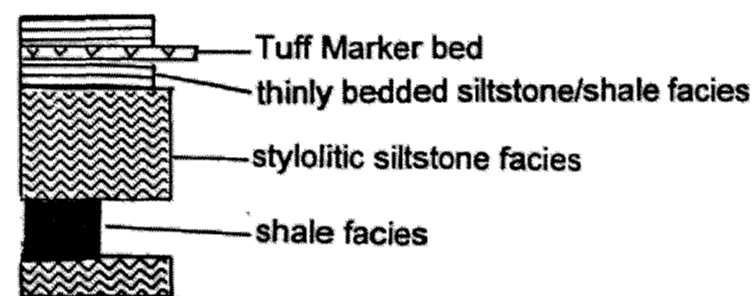
<p>Lithology</p> <ul style="list-style-type: none"> Fine shale partings, 1-3 mm scale Finely bedded silt/shale/shal laminae 3-20mm scale Massive silt beds Intense stylolite development Moderate stylolite development Weak stylolites/undulose bedding, compaction fest res Shears/veins med-coarse silt fine silt silty shale Sediment Grain size 	<p>Siderite Alteration</p> <ul style="list-style-type: none"> Intense dissemination Richly pyritic zones Pyrite rich laminae Discontinuous laminae Transgressive to disseminated Veins and cracks 	<p>Pyrite (py)</p> <ul style="list-style-type: none"> Rich laminae, approaching massive Well developed laminae Sparse discontinuous laminae Atoll texture/replacement fronts 	<p>Grey Carbonaceous sphaerite (sp1)</p> <ul style="list-style-type: none"> Rich laminae, approaching massive Well defined laminae ultrafine grained Discontinuous laminae as disseminated fine (<0.3mm) grains along bedding Disseminated med grained (0.5-1.0mm) bands and patches ("twisty" textures) Coarse (>1.0mm) sugary textured granular aggregates Veins and cracks 	<p>White non-carbonaceous sphaerite (sp2)</p> <ul style="list-style-type: none"> Rich laminae, approaching massive, ultrafine grained Well defined laminae ultrafine grained Discontinuous laminae as disseminated fine (<0.3mm) grains along bedding Disseminated med grained (0.5-1.0mm) bands and patches ("twisty" textures) Coarse (>1.0mm) sugary textured granular aggregates Veins and cracks 	<p>Galena (gn)</p> <ul style="list-style-type: none"> Euhedral crystal dispersed along layering Weak disseminations Bands along layering Irregular replicative masses, stylolite infills, bedding-parallel layers Veins and cracks
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Vertical scale = 1:25. Individual graphic logs have been re-scaled to correct for apparent thickness variation caused by different core to bedding angles. Original drill hole metres are as shown on individual logs.



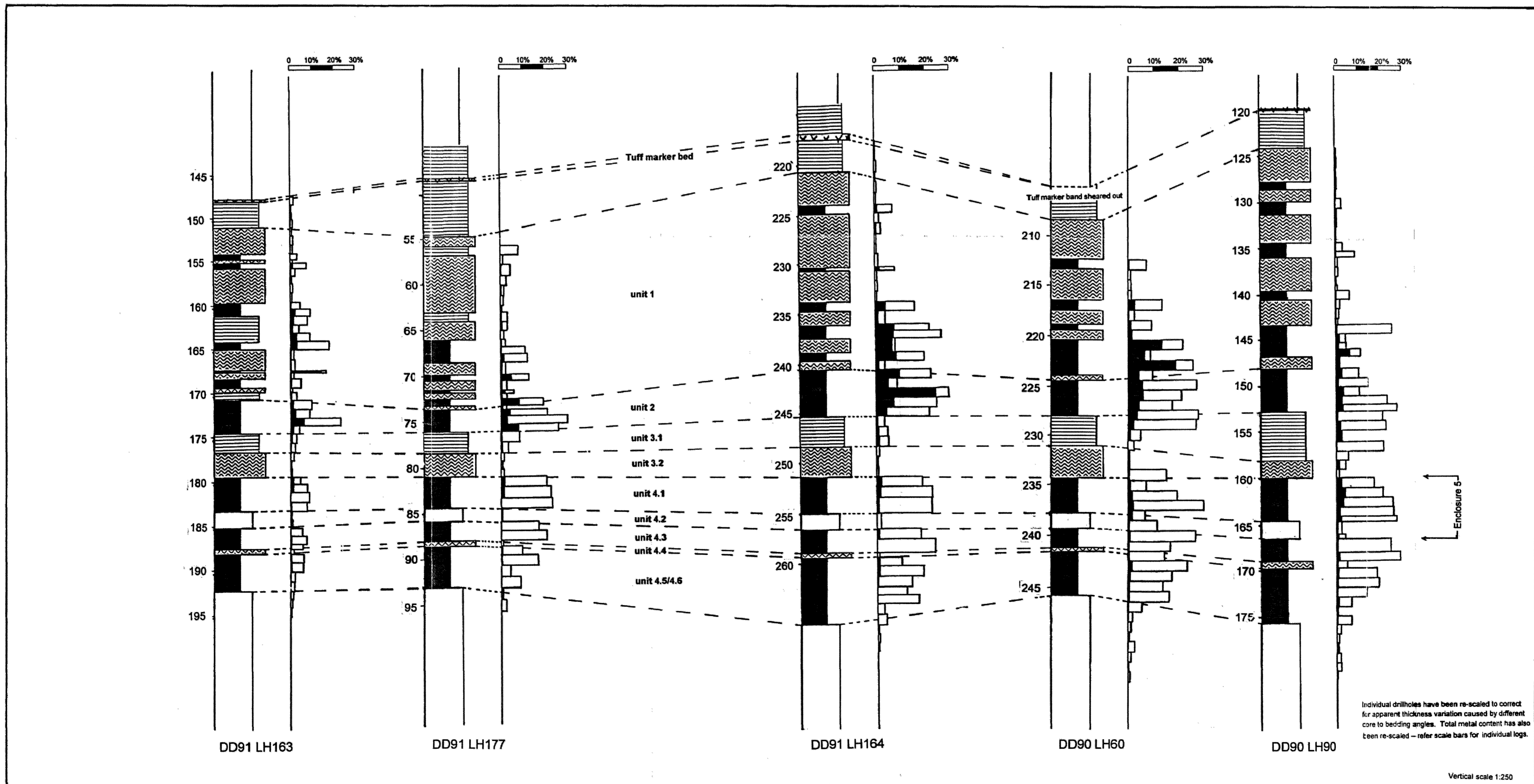
SW

Key:



CLS Cambrian Limestone
HWS Hanging Wall Sandstone
HWS Hanging Wall Siltstone
FW Footwall Sequence

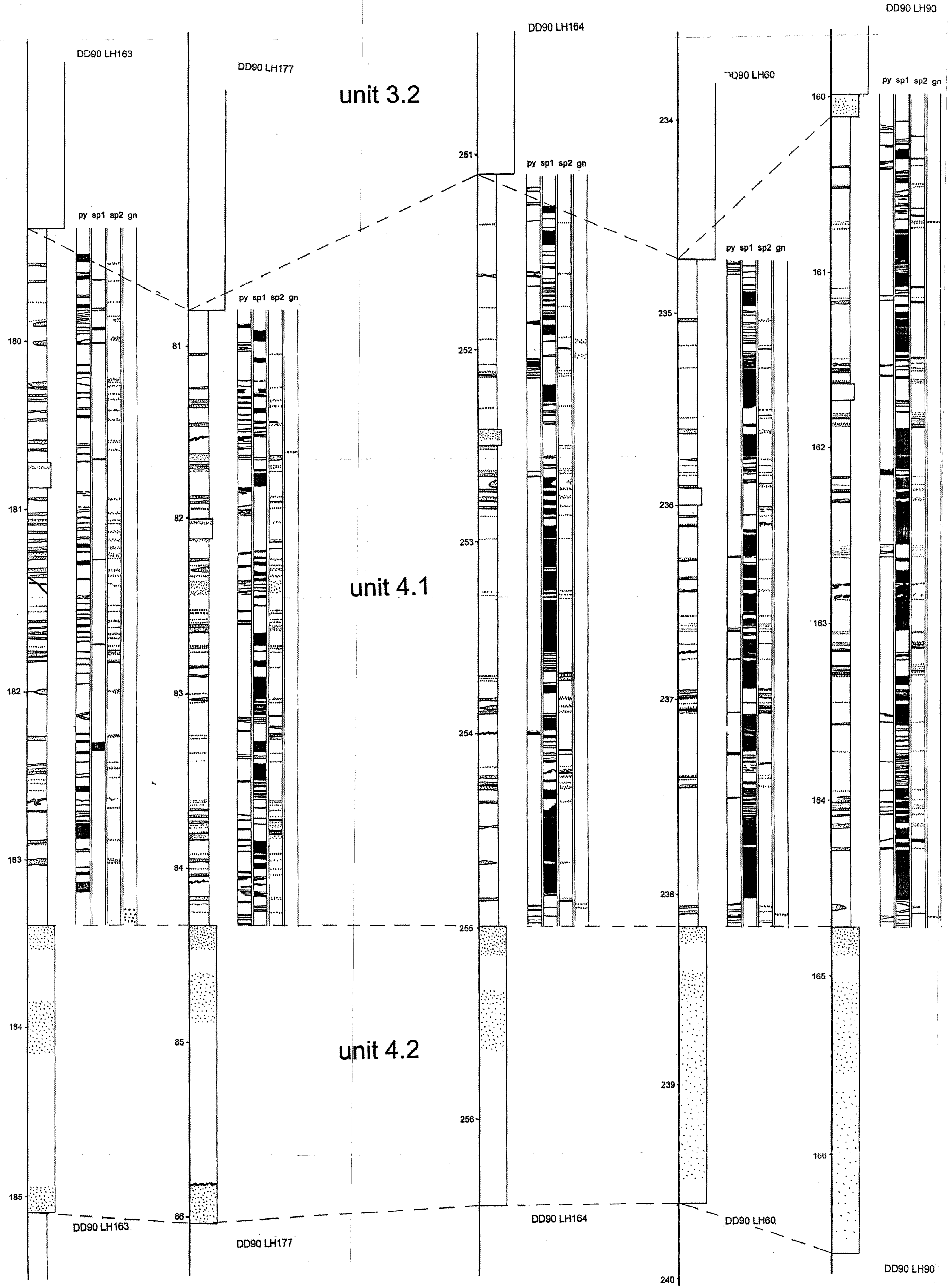
NE



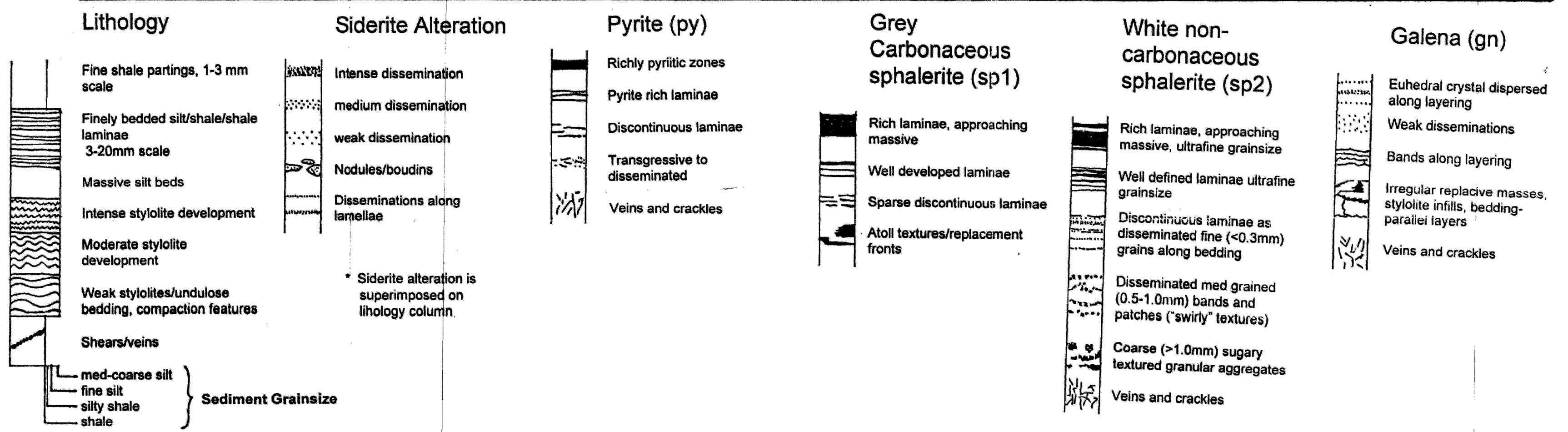
Enclosure 4. Century Deposit. Geological cross section and assay profiles, SW-NE transect

SW

NE



Enclosure 5. Century Deposit NE - SW detailed core logging transect.



Vertical scale = 1:10. Individual graphic logs have been re-scaled to correct for apparent thickness variation caused by different core to bedding angles. Original drill hole metres are as shown on individual logs.